



OREGON'S 100-YEAR WATER VISION

Full Summary Report



Document Description and Context

In early 2018, state agencies began working more formally together to better coordinate investments in built and natural water infrastructure. Recognizing a need for a more widespread collaborative effort that included communities, local and federal agencies, tribal governments and others, the 100-Year Vision document, was drafted to begin the conversation around how Oregon can strategically plan for, prioritize, and invest in water infrastructure. The 100-Year Water Vision is intended to provide high-level goals and operating principles that will help guide Oregon into the future.

An early draft of the 100-Year Water Vision was developed and presented to stakeholders in the summer of 2019. That fall, Governor Kate Brown directed her natural resource agencies to gather feedback on the early draft. State agencies utilized a variety of resources to engage with Oregonians across the state to refine the Vision, raise awareness, and listen to the unique water challenges and data needs of local communities and stakeholders. They also received feedback on how individuals and organizations would like to continue to engage in future conversations around water. The state hosted events in communities and on the web, gave formal presentations to state boards, commissions, and councils, and received letters from governmental and nongovernmental organizations about the Water Vision.

The state hosted 7 in-person and 1 virtual community conversation, where participants were able to provide feedback on the Water Vision document, reflect on their communities needs and challenges around water, and identify how they would like to be engaged. An online web survey was also created so those who were not available for community conversations could share their thoughts. More data related, full-day technical workshop was held to provide as space for water managers to talk about the current management they are trying to answer, and the data they need to do so.

Partnerships outside of the state were also critical in gathering feedback. Oregon Consensus, the state's public policy dispute resolution and collaborative governance program, conducted an independent and neutral assessment of the Vision. Interviews of a representative cross section of individuals, organizations, and government representatives who have an interest in water, were conducted to evaluate thoughts on the draft Vision and ideas about investments in Oregon's water future.

The feedback received should be viewed in context of the types of participants who self-selected to join these early conversations. The ideas expressed in this document are summaries of the feedback received during the outreach and engagement efforts this fall.

Table of Contents

Document Description and Context	1
Introduction	3
Outreach Methods and Feedback Processing	3
Executive Summaries and Recommendations.....	7
Engagement Summary: Feedback from Outreach and Engagement	7
Water Vision Phase II Overall Process Recommendations	15
Water Vision Document.....	19
Updated Water Vision.....	20
Original Water Vision	25
Community Engagement and Feedback	27
Community Conversation Series.....	27
Community Conversation Agendas.....	28
Community Conversation and Web Survey Summary.....	36
Engagement with Sovereign Federally Recognized Tribes	81
Overview	81
Overarching Themes	81
Oregon Consensus Targeted Stakeholder Interviews.....	93
Outreach with Boards, Commissions, and Councils.....	111
Discussion Summaries and Formal Letters	111
Formal Letters from Outside Organizations	123
Conversation Notes and Formal Letters	123
Technical Workshop.....	171
Technical Workshop Agenda	171
Technical Workshop Summary	173
Understanding the Current Condition and Future Needs for Water in Oregon.....	186
Raw Note Summaries.....	210
Community Conversation Meeting Summaries.....	210
Website Survey Summary	317
Technical Workshop Meeting Summary	407



Introduction

In early 2018, state agencies began working more formally together to better coordinate investments in built and natural water infrastructure. Recognizing a need for a more widespread collaborative effort that included communities, local and federal agencies, tribal governments and others, the 100-Year Vision document, was drafted to begin the conversation around how Oregon can strategically plan for, prioritize, and invest in water infrastructure. The 100-Year Water Vision is intended to provide high-level goals and operating principles that will help guide Oregon into the future.

Outreach Methods and Feedback Processing

Outreach Methods

During the fall and winter of 2019, the Governor's Natural Resources Office and state agencies listened, learned, and gathered information about the 100-Year Water Vision and its associated goals and problem statements. The objectives for this fall included:

- Refine the vision, problem statement and goals as appropriate from feedback received;
- Building on the Integrated Water Resources Strategy (IWRS), increase understanding of available data and gaps in data related to current surface and groundwater condition, as well as built and natural water infrastructure conditions and needs;
- Building on the IWRS, increase identification of priority data needs for effective built and natural water infrastructure decision-making;
- Increased knowledge of current state and federal funding available for water system investments and funding gaps; and
- Increased awareness by water leaders of the context around the 100-Year Water Vision and its goals, including examples.

This fall, individuals and organizations across Oregon were offered a variety of ways to engage with the 100-Year Water Vision in person and online:

- **SHARE YOUR THOUGHTS:** Oregonians responded to the Water Vision at OregonWaterVision.org by filling out a 3-question survey. This platform engaged over 320 participants.
- **COMMUNITY CONVERSATIONS:** Conversations (eight total) held across Oregon and available via webinar for those unable to join in person engaged over 400 participants, and allowed water leaders to share, learn, and discuss the Vision's 4 major goal areas (Health, Safety, Environment, and Economy), learn from local water case studies, provide feedback on challenges and share their vision of success for Oregon's water future.
- **TECHNICAL WORKSHOP:** More than 150 of those who use water data and information to plan, manage and make decisions about water, gathered to help state agencies better

define what we know and gaps in knowledge around natural and built water infrastructure, current surface and groundwater condition, and funding.

- **INTERVIEWS:** The State partnered with the Oregon Consensus to conduct neutral interviews with 78 individuals from 50 organizations who have an interest in Oregon’s water future, as well as tribes and local governments. Interviewees helped better understand challenges and opportunities related to Oregon’s Water Vision and provided suggestions to ensure the Vision adequately and equitably reflects the diverse interests of Oregonians.
- **TRIBAL ENGAGEMENT:** The State conducted individual meetings with 7 of the 9 federally recognized tribes in Oregon. Each tribe discussed their individual water challenges, and evaluated the 4 major goals and problem statements highlighted in the Water Vision. Members of the other 2 tribes participated in interviews or informal conversations.
- **FORMAL LETTERS:** Some organizations and individuals submitted formal letters via email about the Water Vision, and the engagement process moving forward.
- **INFORMATIONAL PRESENTATIONS:** When invited, staff gave informational presentations, and collected feedback about the Vision at organizational meetings, primarily for state boards, commissions and task forces.

Moving forward, outreach and communication with Oregonians across the state will continue to be a core principle of the 100-Year Water Vision.

Analyzing the Information



Throughout the outreach and engagement process, participants provided feedback about how adequately the 100-Year Water Vision connected with their personal relationship to water.

Participants were asked to reflect on whether the 4 goals of “Health, Economy, Environment, and Safety” were sufficient in addressing the current and future needs of Oregonians across the state. They were also asked to evaluate how the 6 problem statements, focusing primarily on modern water supply, resilient built and natural infrastructure, upgraded water systems, data, community capacity, and funding, connected with the challenges that participants saw in their communities. Participants provided feedback on their vision of future success for Oregon’s water future. They also shared their perspectives on what a successful process would look like for future phases of Water Vision work.

During the Technical Workshop, participants were asked to discuss the key water management questions they needed to answer, and what data they needed in order to address those questions. Breakout groups further discussed the current conditions of, and relevant data and information gaps in the following subject areas:

- Water availability and use
- Water quality
- Environment
- Future trends
- Funding and finance

Collectively, over 4,100 individual comments about the 100-Year Water Vision were collected to help inform next steps for the process.



Each of the over 4,100 individual comments about the Vision goals and problem statements, as well as data gaps and needs, were sorted into high level subject areas. These included topics such as environment, water supply, community needs, and policy. From there, each comment was further sorted into a more specific, secondary topic, such as groundwater supply, or cold water habitat for fish.

This sorting process was cross checked by several parties, in order to ensure that the true nature of the comments was adequately captured.



Following the sorting process, the secondary topics were summarized in a series of narratives, and high level themes that transcended that multiple subject areas were extracted. Themes such as equity, education, external pressures like climate change and community growth, and the balance of tension between local and state needs, emerged as common threads that formed the foundation of challenges and needs across the state.

Stakeholder Interviews

Oregon Consensus, the state’s public policy dispute resolution and collaborative governance program, conducted an independent and neutral assessment. The objective was to interview a representative cross section of individuals, organizations, and government representatives who have an interest in water. Interviews focused on their views about the draft vision and their ideas about investments in Oregon’s water future. They discussed what the big concerns are and how best to address multiple ecological, economic, and social needs. They also discussed what a pathway forward might look like, including advice to the state about their role in the effort. Oregon Consensus interviewed 78 individuals from 50 organizations. The full report, including in-depth methodology, from Oregon Consensus can be viewed at www.OregonWaterVision.org.

Updating the Water Vision

After gathering extensive feedback from a variety of sources, and the individual comments were analyzed for important themes, the state drafted language for the refined 100-Year Water Vision. The figure below displays the steps taken by the state to translate the feedback received into a new 100-Year Water Vision document.





Executive Summaries and Recommendations

This section contains a high-level summary of the feedback received by the state during the outreach and engagement efforts (community conversations, online web survey, and technical workshop), and the associated process recommendations for moving the Water Vision forward.

Engagement Summary: Feedback from Outreach and Engagement

In the fall of 2019, state agencies asked communities across Oregon to share their water challenges, needs, and visions of success as a part of defining Oregon's 100-Year Water Vision.

While each community had unique and specific discussions, common trends arose around the ways people and communities use, interact with, and value water. Below is a summary of the feedback received from seven in-person community conversations, a virtual conversation, a website feedback link, and a technical water data workshop. This executive summary is not intended to be comprehensive. A full summary can be found at www.OregonWaterVision.org.

In addition to these avenues, feedback was received from interviews, letters, and meetings with the nine federally recognized tribes in Oregon. Oregon Consensus has provided an independent summary of the interviews as a separate document. It is available, along with more detailed summaries and other feedback received, at www.OregonWaterVision.org. Information received from all sources was used to update the Oregon's 100-Year Water Vision document and develop recommendations for next process steps.

Feedback by the numbers

- 8 Community conversations
 - 1 Website survey
 - 1 Technical workshop
 - 8 Locations across the state
 - 850 Participants engaged
 - 4,000 Individual comments
-

The feedback process - community conversations and web feedback

Seven in-person and one virtual community conversations were organized to A) provide opportunities for Oregonians around the state to identify water challenges and what success looks like, and B) provide feedback for the Vision document. Meetings were held in Gresham, Tillamook, Bend, Ontario, La Grande, Albany, Central Point, and a virtual session. Local water leaders helped get the word out, information was provided at www.OregonWaterVision.org, and through a number of water group listservs. A web feedback option was also provided with similar questions to those asked during the community water conversations. Outreach for both conversations and web feedback was broad, but not complete. Participants in the conversations tended to be those individuals whose paid or volunteer work had a nexus to water infrastructure or ecosystem management, so they were generally more informed about water challenges and opportunities. While translation, childcare, and stipends were available, conversations were held during the day and work week, which limited the ability of people

working outside water sectors to participate fully. The feedback received should be viewed in context of the types of participants who self-selected to join these early conversations.

Water & Infrastructure Feedback Summary

Across all Oregon communities and in the web feedback, participants said that they face increasing challenges around water. Whether concerns were water management, availability, clean water, funding, strategic planning, or community capacity, participants noted a growing need for Oregonians to pay attention to, and act to address water needs in their communities.

External forces impact water use and water availability

Communities and web feedback highlighted a suite of external forces that will impact the state's ability to manage water, and increase the need for investments in ecosystems, and built and natural water infrastructure. These forces directly impact both instream needs for fish and wildlife, and needs for agriculture, economic growth, and development. All of this indicates the need for innovative and collaborative solutions – now and in the long term.

- 1) Climate change has placed immense pressure on the predictability of when water is available by reducing snowpack and shifting rainfall patterns. This results in both increased droughts and flooding, and risk of catastrophic wildfires that threaten habitat and community water supplies. These changes impact community safety, water supply for agriculture and other industries, timing and availability of water instream for fish during key migration periods, among other impacts.
- 2) Population impacts were identified differently depending on the community. In some places, providing new water infrastructure to accommodate population growth and associated housing needs was a major concern. In areas impacted by seasonal tourism, concerns were raised about how to build sustainable water systems for populations that could change ten-fold between summer and winter. In rural areas, communities with decreasing populations are facing significant replacement costs for aged infrastructure, but with a shrinking ratepayer base.
- 3) While many funding sources exist for water, current funding is not always coordinated or strategic. And, Oregon's water infrastructure and ecosystems suffer from a lack of investment that dates back fifty or more years. The combination of missing and uncoordinated investment lead to chronic challenges just to keep systems current, with no room to invest strategically for Oregon's water future.

Conserving water, using it efficiently, and reusing it

Communities expressed a need to focus first on conservation and reuse as the top priorities when considering how to manage limited water supplies. Participants talked a lot about water efficiency as a strategy for A) making current water supplies go further, and B) creating additional water in stream, and for agriculture and other business uses.

Oregon’s built water infrastructure is aging, and natural infrastructure is under-utilized

Participants identified a suite of built infrastructure challenges in their communities that need investment, ranging from aging dams, drinking water and wastewater pipes, levees, irrigation systems, to tide gates, and septic systems.

At the same time, communities recognized they have not fully realized or invested in the benefits that natural infrastructure

provides to keep water clean and available, including wetlands, forests, riparian zones, and floodplains, that can all filter and store water naturally.

“We need to recognize the legacy of previously management and the impacts it has on quality and quality today.” –community conversation participant

Modernizing built systems, and restoration of natural systems, are

necessary steps forward across Oregon. Finally, communities identified that investments made in the past fifty or one hundred years may have had unintended consequences that impact water quality, quantity, and habitat today. Learning from those lessons will be important for future investments.

Ecosystems are an important, but under-recognized part of the water conversation

Participants noted that Oregon has also underinvested in ecosystems, which are key to healthy water, fish, and wildlife, and support the state’s recreation and fishing industries, and are

“Sustainable fisheries and vibrant wildlife habitats set within the context of our communities and economy.” –community conversation participant

culturally important to sovereign tribes. By promoting instream flows and modernizing infrastructure like dams and tide gates to be fish-friendly, communities recognized they can preserve cold water habitat for

native fish, while also promoting water-based recreational opportunities. Invasive species also pose huge threats to water and habitat quality, and were of high concern for a suite of stakeholders.

Communities recognize safety as an important piece of the water conversation

Natural disaster preparedness and resilience was of concern in virtually every community—especially for significant earthquakes. Oregon needs backup water supplies if a primary source fails, adequate water for fighting wildfires during the fire season, and adequate stores during times of drought. Flood management was also discussed. Development in floodplains and wetlands removes natural infrastructure that would normally store water and prevent flooding, and puts lives and property in harm’s way. Ultimately, investments in emergency preparedness and resiliency can help mitigate some of these problems, and make communities safer along the way.

Water is a limited resource. Useful and usable information is needed to begin discussions about balancing interests

Understanding current water availability, use, and quality for all basins across the state was identified as important to ensure interests are balanced for the variety of competing needs. Details are provided in the technical workshop summary that follows. Communities made clear that they need access to the best available information in a useful format to effectively make decisions. An integrative data sharing platform, with accurate state, federal, and local information on water availability, use, quality, climate change projections and impacts, and watershed conditions for every basin was identified as a critical, but missing, tool.

Oregon needs to ramp up investments, not just for projects, but for strategic planning, information, and community capacity

To solve our water problems, Oregonians must be willing to invest. Every community voiced that Oregonians have become disconnected from their water, and do not truly value it. Because

“We need to think about the whole system from beginning to end. You can’t do this work by doing one small project at a time.” –community conversation participant

projects require public funds, having a population that supports investments in built and natural infrastructure and ecosystem health is critical. In coordination with local, state and federal partners, and tribes, communities noted that Oregon can do better to educate people about

their water, and garner support for public investments.

Communities consistently noted that a lack of funding for strategic planning and community capacity limit successful water planning, particularly for smaller communities. In addition, participants also identified concerns around a lack of funding for infrastructure maintenance, data collection, monitoring, and long-term sustainability.

Process Feedback Summary - A quality, coordinated process is important for Oregon’s water future

Moving forward, a variety of process suggestions were made. Ensuring an inclusive and equitable process was highlighted in all conversations.

Balancing interests amongst diverse water users (e.g., municipal, agriculture, environment, industrial,

recreation, fish, and human use) was identified as a foundational principle. In every conversation, the importance of connecting the Vision with the Integrated Water Resources Strategy (IWRs) was raised. Participants recognized that extensive work has gone into both processes, and wanted to ensure that the time and effort they have invested was well spent.

“Success is communities working together using cross-sector integrated approaches to planning, education, and management of water for the future.” –community conversation participant

Tribes are sovereign nations, and their role in Oregon’s water future is key

Every community highlighted the importance of engaging with tribes and tribal members. As sovereign nations, not only do tribes have unique treaty rights related to water, land, and food, but many also manage systems that provide water to their members. Participants also highlighted the culture connections and uses of water. Continuous formal consultation and informal conversations between individual tribes and the state must continue to be a priority.

All Oregonians need to be actively engaged in water decisions to develop effective, locally based solutions

Participants recognized inclusion looks different in every community. Giving everyone space to be heard will be important moving forward. Historically, rural, low-income communities, communities of color, and others have been disproportionately impacted by water quality and quantity issues. These communities may need specific support to increase their capacity to engage in processes, obtain funding, or implement water projects.

Participants recognized that who gets to influence water decisions matters. There was a lot of interest in making sure water planning, investments, and other types of decisions were inclusive. Inclusion meant engaging A) tribes, B) communities who have historically and in the future might be disproportionately impacted by decisions, and C) current water interests such as agriculture, energy, recreation, environment, tourism, and industrial water users.

Regional approaches and flexibility will be needed to address Oregon’s diverse water conditions and needs... and a statewide framework is also necessary

Across the state, participants emphasized the need for regional approaches and flexibility to adapt to different conditions and water uses in each region. There was strong encouragement for systems that allowed regional prioritization of water projects and innovative approaches that reflect regional differences.

At the same time, there was also a recognition that a statewide framework and protections need to exist around water quantity and quality. This included protecting

Without collaboration and regional flexibility for innovative solutions, Oregonians will miss opportunities for cost-effective solutions to meet our future water needs.” –virtual conversation feedback

existing water rights, and enforcing existing rules and laws, and non-point source protections. In each conversation, participants identified the need to ensure the Vision was adaptable to changing conditions, lessons learned, new science, and other local or statewide conditions.

Policy was broadly discussed, but not necessarily agreed on

Generally, communities discussed the need for staff and resources to consistently enforce current water quality and quantity regulations. However, while water-related policy challenges were raised in every community and in web feedback, there was not general consensus about which policies needed to stay or change. Policies raised included ground and surface water

rights, land use laws and local land use planning, and nonpoint source regulations like the Forest Practices Act and Agriculture Water Quality Management Act.

Participants in every community, and the web survey, highlighted the need for local flexibility in implementing water policies to balance interests with limited water supplies, reuse water, move it to places it is most needed, or to conserve in new and different ways.

Creating a culture of water

All communities highlighted that an informed, supportive, and empowered population is central to any community-based solution, and participants said they did not feel Oregonians generally were concerned about or aware of the state's water challenges. For a community to invest in water, they must first be aware of water issues that they and other communities face. Community specific resources for conservation and efficiency must be available to homeowners, land owners, and irrigators to help them use water more efficiently. Finally, the importance of technical education in community colleges and trade schools to ensure a qualified water workforce was also highlighted.

Technical Workshop Executive Summary

Farmers, municipalities, and other water users need access to real-time information about water availability, and analysis of long-term precipitation trends to plan their water use. Environmental groups need to understand instream needs for fish. Farmers and ranchers need to understand shifting water needs for food and fiber production. Communities, industrial water users, and storm and wastewater treatment plant operators need to know how current and emerging contaminants can be identified, treated, and managed to enhance water quality. These are just a few of the examples provided at the technical workshop regarding data and information needs to more strategically plan for and invest in Oregon's water future.

On November 14th, 2019, over 100 participants from local governments, environmental and agricultural groups, agencies, and others gathered to discuss the current water infrastructure and ecosystem *management questions* they are actively working to solve, and the *data and information* they need to answer those questions. Specific feedback is provided in the technical workshop summary and raw meeting notes available at www.OregonWaterVision.org.

How should information be provided to be useful?

Oregon's water managers are making decisions each day about how to advance health, economy, environment, and safety. Many of those decisions require information that is created from high quality, current, and usable data. Participants were interested in a better understanding of which data and information is available, and a clear articulation of how reliable that data is. There was also interest in getting higher resolution and more real-time foundational data for things like hydrology, weather patterns, and hydrogeology.

Water managers clearly identified that they want water information to be current, high quality, transparent, accessible, and usable. There is a desire that Oregon have more integrated water

data that are accessible at a regional level for the purpose of enabling Oregonians to make smart water decisions that keep our communities thriving for the next 100 years.

Overall, water managers were interested in ways to build a more integrated water information framework to make existing water data more usable as information. Questions around managing water data and information included:

- Are there better ways to provide and present information to support water planning;
- What are some indicators water managers can use, both for their own tracking and also for reporting to a statewide level (e.g., for WA's salmon recovery efforts); and
- Where are there duplications of effort and opportunities to consolidate data collection and sharing across agencies?

Data and information gaps

Participants were asked to discuss what information their community needed to answer community specific management questions. Participants almost unanimously agreed that all data should be in real-time, standardized, and available across all of Oregon's basins. Some of the particular data and information gaps include:

Water availability, quality, and the environment

Water managers expressed the need for a variety of potentially integrated data sets. Understanding the condition of our current water supplies, i.e. surface and groundwater budgets, natural infrastructure storage capacity, snowpack and precipitation levels, current water usage and demand, is critical data for communities.

Water quality data, as well as overall watershed health data is needed for every basin in the state. Communities need to know specific land use activities within a watershed, how those activities impact instream flows and species/habitat needs.

Communities also need to know best management practices for drinking and wastewater treatment, conservation and reuse, and enhancing public support for water investments. Similarly, water managers need regulatory certainty for water quality and environmental standards for long-term planning.

Future trends

Climate and population models were widely discussed, and both have wide sweeping impacts on a suite of other future trends. Climate change will ultimately have an impact on water quality and quantity, as well as community resiliency in the face of natural disasters. It is critical that communities have a holistic understanding of these impacts.

Similar to climate models, accurate population models, are needed to plan for sustainable development and growth. Increasing populations will ultimately require housing, land use, and economic development.

Funding and finance

Ultimately, participants identified four major needs for funding and financing water projects: a full inventory of current resources available, strategies for using funding more equitably and efficiently, expansion of current funding sources for future expenditures, and investment prioritization strategies.

Integrative data platform

Across all of the breakout sessions, there were a number of identified gaps that pointed more toward a need for an integrated data platform for water information in Oregon. This was a specific concern for small and rural communities who often lack the capacity to do their own data collection and analysis. Some of those particular gaps included:

- Decision support tools, compatible with GIS, for predictive water planning;
- Integrative models that combine the seasonality of snowpack, rainfall, instream flows and uses to predict water availability statewide;
- High quality, accessible, public, statewide, real-time, and basin-specific data that has been accumulated, standardized, and aggregated across state agencies in a way that is accurate, accessible, and affordable;
- Agency agreements for coordinated data collections and analysis;
- A tool that harmonizes state, federal, and private sector data to understand climate adaptation and the connectivity between all water users and the ecosystem; and
- Stable funding for the maintenance of a tool like this.

Water Vision Phase II Overall Process Recommendations

Throughout the fall and winter, staff received extensive feedback on what a future process related to the 100-Year Water Vision should look like. That feedback can be found in the community engagement and feedback summary, the interview summary, and individual feedback, available at www.OregonWaterVision.org. That information forms the basis for these recommendations.

This document provides a broad summary of the approach that will be taken for the next phase of this work, if funded in the 2020 Legislative Session. It is not designed to be a comprehensive timeline or detailed process document. Rather, it highlights the approaches and principles to be followed. Details are being finalized and will be provided following the legislative session.

Feedback was clear that a fully inclusive process, with a strong cross-sector of people from tribes, local governments, agriculture and other businesses, environmental justice communities, health advocates, environmentalists, and urban and rural communities all represented, is the only way to ensure success, both for the next phase, and for communities to plan their water futures together. All participants must have both the opportunity to participate and access to resources if needed. That tenant will form the basis of the process moving forward.

Based on feedback from the fall, Governor Brown has already announced the formation of a Water Future Advisory Council following the 2020 Legislative Session, contingent on funding. She has also announced the objectives outlined below. The Water Future Advisory Council will provide oversight for the process, and other group processes will be established in coordination with partners to work on specific objectives. Additional details and timelines will be provided following the 2020 Legislative Session.

Phase II Outcomes and Objectives

The state received a diversity of feedback on what the focus of next steps in the process should entail. These ranged from a full overhaul of Oregon's water rights, land use laws, and water quality laws, to focusing only on investments in water infrastructure.

The next phase will address two key outcomes: 1) improving funding coordination and increasing funding available in both the short and long term for built and natural water infrastructure and ecosystems, and 2) developing and investing in the public engagement, governance, information, and capacity systems needed to ensure communities can strategically plan for, design, and implement water investments. With those two outcomes in mind, the next phase will focus specifically on the following objectives:

Community Capacity: Recommend approaches to help communities engage individuals equitably, and expand capabilities to strategically plan for and implement actions to pursue their water futures.

Water Investment Governance: Recommend a framework for local, regional, and statewide governance that will lead to state-supported, regionally appropriate approaches to prioritize water investments with a focus on ensuring all individuals are represented.

Water Funding: Recommend approaches to increase funding coordination, identify early investment needs and funding gaps, and new funding sources that support community water planning, implementation, innovation, and evaluation.

Engaging Oregonians: Recommend approaches to help Oregonians better understand the vital importance of water, the water challenges we face, and the need for all of us to work together and support strategic water investments.

Data and Information Systems: Recommend data needs, tools, and information delivery systems that will help local communities and funders better understand current water and infrastructure conditions, and future water trends, to inform strategic decision-making at all levels.

The process will not focus on policy or statutory changes, except those recommended as a part of the advisory council process to advance the objectives outlined above.

While the process will highlight broad-scale investment opportunities for the 2021 legislative session, the next phase is not intended to prioritize individual community project investments. Rather, the process will help to establish a state and regional framework for how investments should be strategically coordinated and prioritized.

Coordination with Integrated Water Resources Strategy and House Water Committee

Throughout the fall, participants wanted a better understanding of the connection between the 100-Year Water Vision, the Integrated Water Resources Strategy (IWRS), and the House Water Committee, as they are all important and require investment of time and resources for stakeholders, elected officials, and staff.

With respect to work between the House Water Committee and the state agencies working on water, both branches of government play a key role, operating in a coordinated and collaborative fashion. While specific initiatives may vary based on legislative or agency needs, the work of agencies and the focus of the House Water Committee provide an opportunity to collaboratively elevate the importance of this critical community, environment, and economic issue.

Regarding the connection between the IWRS and the 100-Year Water Vision, the IWRS is the state's foundational blueprint for water. The Vision is the catalyst to invest strategically in Oregon's water future, using the IWRS as the foundation, and carrying forward many of its recommended actions. Staff in agencies working on both the IWRS and the Water Vision are committed to ensuring work and feedback provided through both processes is coordinated and clear, and not duplicative. As an example, the IWRS has a required update to be completed in 2022. The update process will be initiated in the near future. All input received through the Vision process in the fall will be provided to support the next IWRS update.

Short- and Long-Term Approach

To continue to build on the strong momentum begun this fall, the process must lead to real-world successes in both the short and long terms. As an example, providing good information for effective decision-making and investing in strategic projects for communities and projects in the

short term is important. Giving all communities access to the resources to plan more strategically, and developing governance systems that allow for regional prioritization has long-term benefits. Public engagement, community capacity, and governance are long-term needs that will also benefit from short-term investments. While the next phase will not end with the 2021 Legislative Session, it will identify strategic funding needs in that session. The process will also identify a framework to achieve large-scale investments for the 2023 session and beyond.

Principles

The principles below are provided in the updated 100-Year Water Vision, but bear repeating here, as they form the commitments that will be followed throughout Phase II and beyond. These principles were identified throughout the fall, and many are similar to those in the IWRS.

Balancing Interests: Water is an essential but limited resource. We recognize there is not enough water to meet every ‘want.’ We will seek to balance interests across all of our water goals, and recognize the best solutions should address multiple uses. (*IWRS Principles - Balance, Sustainability, Interconnection/Integration*)

State Framework with Regional and Local Flexibility: Water challenges and opportunities vary greatly from region to region across the state. Successful strategic solutions and investments will build on flexible approaches that respect regional differences. These approaches should be both supported and bounded by a state framework, grounded in current water law, with clear policies to define the direction. (*IWRS Principles - Science-Based, Flexible Approaches, Implementation, Facilitation by the state*)

Tribal Sovereignty: Oregon’s water future is best implemented when we work in partnership with the sovereign tribes in Oregon, respecting both treaty rights and tribal cultural connections to water.

Equity & Transparency: The benefits of clean and reliable water are shared by all who live here, along with our native fish and wildlife. We will build a more equitable water future by ensuring our water decisions and investments are inclusive and transparent, with opportunities for all communities to participate. (*IWRS Principles - Public Process*)

Affordability: Improvements to our infrastructure and ecosystems come with costs. We will ensure that those costs are not disproportionately borne by those who can least afford it. (*IWRS Principles - Reasonable Cost*)

Infrastructure & Ecosystems: Oregon’s water goals can be met in many ways. We recognize that built systems like dams, pipes, levees are only one part of the solution. Natural systems like wetlands, estuaries, and rivers themselves must also be part of Oregon’s water future - both as natural infrastructure that provides clean water for human use, and as the components of a healthy ecosystem for fish and wildlife.

Coordination & Collaboration: We support formation of regional, coordinated, and collaborative partnerships that include representatives of local, state, federal, and tribal government, private and non-profit sectors, stakeholders, and the public to plan and invest strategically. (*IWRS Principles - Collaboration, Incentives*)

Engaged Oregonians: Engaged community members and water leaders are key to helping all of us who live in Oregon understand the value water as part of our culture, our communities, and our ecosystems. We will cultivate leaders in communities across Oregon that understand the importance of conserving and keeping our water clean, and recognize the need for coordinated water investments.

Innovation: Working with creative individuals and businesses across the state, we will invest in innovative solutions that balance the advantages of built, and natural infrastructure, while also protecting ecosystem values.

Best Use of Available Science Combined with Local Knowledge: The best solutions come when we recognize that both science and local knowledge have value. We will build investment approaches that allow for learning, adaptation, and innovative ideas. (*IWRS Principles - Science-Based, Flexible Approaches*)

Water as a public resource: Public investments in our water future should result in public benefits.

Capacity and commitment to implement future water vision work

In order for future phases of this conversation to be successful, there was strong feedback that the state must demonstrate leadership, including initial investments to organize and move the process forward. The work needs to be adequately funded and staffed. Outside facilitation will be key to an inclusive process, which also requires investment. Governor Brown has prioritized Water Vision Implementation funding as a part of her 2020 budget request, including staffing and contract dollars.

In addition to resources for facilitation, stakeholders who have been involved in the IWRS and agency work related to water quality, quantity, infrastructure, and ecosystem investments were concerned that, if future phases of this work fall to existing staff, other critical water-related work will fall to the wayside. Agency staff agree with this assessment. Without funding for the next phase, staff recommend focusing on only the limited objective of increasing funding coordination and identifying potential new funding sources. Other work is not feasible with existing staff resources. Other organizations or the legislature may be interested in picking up other objectives.

Finally, successful implementation of future phases requires a commitment to ensuring broad engagement and frequent communication with diverse stakeholders, and ensuring information is accessible and available. With funding, staff are committed to updating the website, hosting meetings with tribes and communities, and distributing information in a timely manner through multiple venues. Agencies will work with partners who are already engaged in this work to coordinate wherever feasible.



Water Vision Document

Participants provided feedback to update the 100-Year Water Vision document to better reflect the challenges and values of all Oregonians. This section contains the updated Vision document, with revisions based on the outreach and engagement efforts, as well as the original Vision document.



Oregon’s 100-Year Water Vision: A Call to Action

Preparing a Secure, Safe, and Resilient Water Future for All Oregonians

Vision Statement

To address changes in climate and population dynamics, Oregonians will take care of our water to ensure we have enough clean water for our people, our economy, and our environment, now and for future generations. Oregonians will invest strategically in infrastructure and ecosystems across all regions to support resilient communities, vibrant local economies, and a healthy environment for all who live here.

Premise

Many areas of Oregon are known for clean and reliable water. As identified in Oregon’s [Integrated Water Resources Strategy](#), some of the forces that combine to place significant stress on Oregon’s water and water systems include:

- 1) Climate change and associated increases in temperature, wildfire, drought, damaging floods, and harmful algal blooms;
- 2) A half century of underinvestment in built and natural water infrastructure;
- 3) Our changing population and associated development – growing in some areas, shrinking in others; and
- 4) Too much demand for too little water for in-stream and out-of-stream uses.



These factors impact the quality and quantity of water for our communities, including water in our rivers, lakes, oceans, reservoirs, and aquifers. Simply put, if we are not willing to roll up our sleeves and work together to invest in the ecosystems that sustain us along with built and natural water infrastructure, we place the safety of our communities, the health of our people and environment, and Oregon’s economic future at risk.

Goals

Each goal below is important. No single goal can be fully realized independent of the others. Recognizing that tension, we need to invest in a range of innovative solutions that work in balance for our shared water future.

- ◆ **Health: Clean water for all who live in Oregon**
Water should be fishable, swimmable, and drinkable. Investments in ecosystem health, and built and natural infrastructure will provide reliable access to clean water.
- ◆ **Economy: Sustainable and clean water to support local economic vitality**
Diverse and resilient agricultural, timber, fishing, hi-tech, energy, and recreation economies require a reliable and clean water supply. Investments in built and natural water infrastructure will support high quality jobs across all Oregon communities.
- ◆ **Environment: Adequate cool, clean water to sustain Oregon's ecosystems for healthy fish and wildlife**
Cool, clean water and healthy forests, wetlands, riparian areas, streams, and estuaries provide essential natural processes that maintain and enhance water quality for fish and wildlife. Investments in ecosystems also provide recreational opportunities for those who live in and visit Oregon.
- ◆ **Safety: Resilient water supplies and flood protection systems for Oregon's communities**
Natural and built water systems designed to protect communities, and increase their resiliency to disasters like earthquakes, wildfires, floods, drought, and sea level rise, are important for all Oregon communities. Investments in those systems will help create safer communities and healthier ecosystems.

Call to Action

Oregon's limited water supplies are already being shaped by climate and population changes. We must both act now and plan for the long term. How we choose to care for our water will determine if we pass a legacy of clean and sustainable water to future generations.

Principles

Note: The following principles were raised during the 2019 Vision outreach conversations. Some of them mirror [principles](#) in the Integrated Water Resources Strategy (IWRS). Where the concepts are similar, the IWRS principles are referenced. Information gathered through the fall will also be used as part of the next update to the IWRS.

While the Vision goals reflect *the needs we have* for water, our principles guide how *people can work together* to achieve a secure, safe, and resilient water future for all who live here.

Balancing Interests: Water is an essential but limited resource. We recognize there is not enough water to meet every 'want.' We will seek to balance interests across all of our water goals, and recognize the best solutions should address multiple uses. (*IWRS Principles - Balance, Sustainability, Interconnection/Integration*)

State Framework with Regional and Local Flexibility: Water challenges and opportunities vary greatly from region to region across the state. Successful strategic solutions and investments will build on flexible approaches that respect regional differences. These approaches should be both supported and bounded by a state framework, grounded in current water law, with clear policies to define the direction. (*IWRS Principles - Science-Based, Flexible Approaches, Implementation, Facilitation by the state*)

Tribal Sovereignty: Oregon’s water future is best implemented when we work in partnership with the sovereign tribes in Oregon, respecting both treaty rights and tribal cultural connections to water.

Equity & Transparency: The benefits of clean and reliable water are shared by all who live here, along with our native fish and wildlife. We will build a more equitable water future by ensuring our water decisions and investments are inclusive and transparent, with opportunities for all communities to participate. (*IWRS Principles - Public Process*)

Affordability: Improvements to our infrastructure and ecosystems come with costs. We will ensure that those costs are not disproportionately borne by those who can least afford it. (*IWRS Principles - Reasonable Cost*)

Infrastructure & Ecosystems: Oregon’s water goals can be met in many ways. We recognize that built systems like dams, pipes, levees are only one part of the solution. Natural systems like wetlands, estuaries, and rivers themselves must also be part of Oregon’s water future - both as natural infrastructure that provides clean water for human use, and as the components of a healthy ecosystem for fish and wildlife.

Coordination & Collaboration: We support formation of regional, coordinated, and collaborative partnerships that include representatives of local, state, federal, and tribal government, private and non-profit sectors, stakeholders, and the public to plan and invest strategically. (*IWRS Principles - Collaboration, Incentives*)

Engaged Oregonians: Engaged community members and water leaders are key to helping all of us who live in Oregon understand the value water as part of our culture, our communities, and our ecosystems. We will cultivate leaders in communities across Oregon that understand the importance of conserving and keeping our water clean, and recognize the need for coordinated water investments.

Innovation: Working with creative individuals and businesses across the state, we will invest in innovative solutions that balance the advantages of built, and natural infrastructure, while also protecting ecosystem values.

Best Use of Available Science Combined with Local Knowledge: The best solutions come when we recognize that both science and local knowledge have value. We will build investment approaches that allow for learning, adaptation, and innovative ideas. (*IWRS Principles - Science-Based, Flexible Approaches*)

Water as a public resource: Public investments in our water future should result in public benefits.

Oregon's Water Challenges

Acknowledgements: Water is not like other kinds of infrastructure or natural resources. It is a public resource, but is managed by both public and private entities. It has cultural significance, and is essential to sustain life. There is a finite amount of water and it moves across the landscape while also varying in availability from year to year. Each of us has our own unique background that influences our perspectives on water and water infrastructure. This history forms the foundation for the different ways we each envision our water future. When we each bring that background to a common table, there can be disagreements. Respecting our different perspectives, the lessons we have learned, and the unique water challenges we've faced in our history will be important to develop a shared water future. Below are a list of common challenges and opportunities that will benefit from the focused attention of Oregonians with diverse perspectives.

Water System Challenges

Water Availability

System challenge: Many of Oregon's water delivery systems are outdated and inefficient, increasing the chance that water will not be available for communities when it is most needed.

System opportunity: We can incentivize water conservation and reuse, and invest in modern water delivery systems statewide. Efficiency gains and updated systems will help improve water reliability for cities and counties, tribes, ecosystems, and the many aspects of a thriving economy that depend on water.

Clean Water

System Challenge: Not all parts of Oregon have reliable access to clean water, resulting in increased health risks for those who live here.

System Opportunity: We can invest in resilient built and natural water infrastructure, and reduce pollutants to provide clean water for all Oregon communities.

Ecosystems

System Challenge: Not all watersheds provide cool, clean water and habitat for fish and wildlife, threatening the sustainability of those species in Oregon.

System opportunity: We can increase investments in watersheds to store, filter, and deliver water for fish and wildlife.

Community Security

System challenge: Too much of Oregon's built infrastructure is neglected and not keeping communities safe, while we have not fully realized the benefits of natural infrastructure and ecosystems to protect communities from harmful floods and provide resilience to drought.

System opportunity: We can modernize our flood protection infrastructure where appropriate, while fully incorporating the benefits of natural infrastructure and ecosystems. Combined, these will help mitigate impacts of increased flooding and drought, while reducing the impacts of sea level rise to coastal communities.

Management Challenges

Data & Information Services

Management Challenge: Communities across Oregon lack basic data and information to make strategic, long-term decisions about water investments and water management.

Management Opportunity: Good data is the foundation of wise and coordinated decisions. We can work across agencies at all levels, with tribes, and with the private sector to improve access to accurate, relevant, trusted, and current water data and infrastructure condition. We can also use science and information to anticipate future trends. Access to quality information will help communities strategically plan for and invest in their water future.

Community Capacity

Management Challenge: Communities with fewer resources are challenged to strategically plan for and invest in their water future and need access to a skilled workforce to implement, manage, and monitor water projects.

Management Opportunity: We can begin investing now in strong community capacity and a skilled water workforce in every region across Oregon.

Investments in Water

Management Challenge: We have underinvested in our built and natural water infrastructure, and our ecosystems. Investments in water planning and projects are not fully coordinated at the community, regional or state levels, and there has not been a concerted conversation about how Oregon will fund its future water needs.

Management Opportunity: We can coordinate our current investments and seek new sustainable, dedicated public and private funding for restoration of ecosystems, and built and natural infrastructure. Coordinated and new investments will ensure communities – including Oregon’s federally recognized tribes and those people living in disproportionately impacted and rural communities - can afford and access adequate clean water, and return it to our rivers for downstream users, fish, and wildlife.

Water Investment Decision-Making

Management challenge: Oregon lacks a cohesive governance system to strategically prioritize water investments at the local and regional levels, leaving those decisions to a wide array of individuals, governments, and other interests with overlapping priorities and investment needs.

Management Opportunity: Learning from other successful models, Oregon can implement best approaches to ensure water planning and investment decisions are strategic and coordinated across jurisdictions, and with public and private partners. This system can successfully combine a state-level framework with local and regional planning and flexibility.

Education & Culture

Management Challenge: Community leaders across Oregon have limited awareness of Oregon’s water challenges, the urgency to act now, and potential water solutions.

Management Opportunity: We can work with communities to build a culture and leadership that prioritizes water at the local, regional, and statewide levels.



Oregon's 100-Year Water Vision

Preparing a Secure, Safe, and Resilient Water Future for All Oregonians

Vision

To address changes in climate and population dynamics, Oregon will steward its water resources to ensure clean and abundant water for our people, our economy and our environment, now and for future generations. Strategic investments will result in resilient natural and built water systems across the state to support safe and healthy communities, vibrant local economies and a healthy environment.

Premise

Many areas of Oregon are known for clean and reliable water. This is due to both favorable climate and the infrastructure we built in the 19th and 20th centuries to effectively move water from its source to where it is used.

As has been identified in Oregon's Integrated Water Resources Strategy, three forces combine to place significant stress on Oregon's water:

- 1) Climate change and associated increases in fire, drought and flooding,
- 2) A half century of underinvestment in built and natural water infrastructure, and
- 3) Our changing population and associated development – growing in some areas, shrinking in others.

These factors impact the quality and quantity of water for our communities, including water in our rivers, lakes, reservoirs and aquifers. Simply put, if we are not willing to roll up our sleeves and work together to invest in our natural and built water systems, we place the safety of our communities, the health of our people and environment, and Oregon's economic future at risk.

Goals

◆ Health

Secure, safe, accessible, and healthy water for current and future Oregonians.

◆ Economy

Adequate and clean ground and surface water to support economic vitality for all Oregonians.

◆ Environment

Adequate cool, clean water for native fish and wildlife to thrive, and healthy watersheds that can store and filter water naturally.

◆ Safety

Resilient water supply and flood protection systems that can face natural hazards like earthquakes, floods and drought.

Updated: 9/23/19 Version 0.7

Problem Statement

Oregon's water infrastructure has served us well, but is showing its age. We have underinvested in natural and built infrastructure to meet current challenges and have not adapted systems to meet the needs of a vibrant Oregon for the next 100 years.

- ✓ Without modern water supply systems and water conservation approaches that combine to provide reliable access to water, including in emergencies, Oregonians risk not having water available when it's needed for healthy people and communities, food production, tribal treaty rights, and a thriving economy.
- ✓ Without resilient built and natural infrastructure that provides cool and clean water across all Oregon watersheds, our people – and our fish and wildlife – are increasingly vulnerable to the health risks associated with lack of access to adequate, clean water.
- ✓ Without upgraded levees, dams, stormwater systems, tide gates and the natural protection of wetlands and estuaries, our communities will be less safe and at increased risk of damage and economic hardship from localized and catastrophic flooding.
- ✓ Without access to relevant water data for effective decision-making, cross-agency coordination, and intentional approaches to test new ideas, built and natural water systems will perennially fall short of providing for Oregon's in-stream and out-of-stream water needs, including tribal treaty obligations.
- ✓ Without strong capacity across all Oregon communities to plan for their water future, and effective ways to ensure strategic water investment decisions are coordinated across and between local, regional, state, tribal and federal agencies, communities will not be prepared to take advantage of large-scale water infrastructure funding opportunities or collaborative and innovative partnerships.
- ✓ Without coordinated built and natural water infrastructure investments, Oregonians - including Oregon's federally recognized tribes and those in disproportionately impacted and rural communities – may be unable to access adequate clean water and return it to our rivers for downstream users, fish, and wildlife.

Our Shared Water Future

Oregon's water future is already being shaped by climate and population changes. How we choose to steward our water resources now will determine if we pass a legacy of clean and abundant water to future generations of Oregonians so they can enjoy a vibrant economy and live in a quality environment. The investments we make now in natural and built water infrastructure will support a prosperous Oregon in the 21st century and beyond.

Updated: 9/23/19 Version 0.7



Community Engagement and Feedback

The state hosted 8 community conversations across the state and posted an online survey to gather feedback on the Water Vision, and to hear about community specific water challenges. This section contains community conversation logistics, agendas, and a summary of themes heard in both the community conversations and the web survey.

Community Conversation Series

Purpose

The State of Oregon worked with local partners to convene a series of eight (8), half-day community conversations bringing together current and emerging water leaders in a region. Each conversation is intended to A) form stronger cross-sector connections for leaders in a variety of water sectors and places, B) create a common base of water information from which to inform ongoing water conversations at the local, regional, and state levels, C) articulate some of the water challenges and opportunities in Oregon communities, and D) provide feedback on the current draft of the 100-Year Water Vision and Problem Statement. The Vision is a way to craft the investment and implementation actions linked to the Integrated Water Resources Strategy.

Community Conversations

Gresham: October 22 at Mt. Hood Community College

Tribal welcome: Frank Alby, Inupiat elder and Native American Youth and Family Center

Tillamook: October 23 at Oregon State University Extension Office

Tribal welcome: Councilmember Gloria Ingle, Confederated tribes of Siletz Indians

Bend: October 25 at Oregon State University Cascades Campus

Tribal welcome: Councilmember Will Wewa, Confederated Tribes of Warm Springs

Ontario: October 28 at Treasure Valley Community College

Tribal welcome: None

La Grande: October 29 at Eastern Oregon University

Tribal welcome: Councilmember Kat Brigham, Confederated Tribes of the Umatilla Indian Reservation

Albany: October 30 at Linn-Benton Community College

Tribal welcome: Letter from the Confederated Tribes of Grand Ronde

Medford: November 7 at Oregon State University Southern Extension Office

Tribal welcome: Kelly Coates, Cow Creek Band of Umpqua Tribe Indians

Virtual: November 13 and 15

Tribal welcome: Direlle Calica, Affiliated Tribes of Northwest Indians

Community Conversation Agendas



Gresham Community Conversation Agenda

October 22, from 9am to 2pm

Mt. Hood Community College

9:00-9:15am Registration

9:15-9:45am Introductions and Welcome

9:45-10:15am An Overview of the 100-Year Water Vision

- What's in it, and why now? What comes next for the Vision?
- What is the overall frame being used—how's that working for you?

10:15-10:45am What are the significant water challenges your community faces?

- What are the water challenges your community faces now? Twenty years from now?
- Generally, do you see those challenges represented in the vision document? If not, what would you add or change?
- What does water success look like in your community? What would happen in your community if the status quo continues?

10:45-11:00am BREAK

11:00-11:45am Case studies in addressing our water challenges

- Farmers Conservation Alliance: Irrigation Modernization
- Clean Rivers Coalition
- Small groups: What themes did you hear from the case studies? What was missing? What would you or your community need to meet your own needs in your own way?

11:45-12:30pm Lunch

12:30-1:45pm Discussion

- In Small Groups: Common themes from our water stories and challenges. What's missing in the vision? What does success look like?
- Full group discussion: Common themes from our water stories and challenges. What's missing in the vision? What does success look like?

1:45-2:00pm Closing thoughts and reflections

2:00pm Adjourn



Tillamook Community Conversation

October 23, from 12pm to 5pm

OSU Extension Service

12:00-12:15pm Registration and Grab Lunch

12:15-12:45pm Introductions and Welcome

12:45-1:15am An Overview of the 100-Year Water Vision

- What's in it, and why now? What comes next for the Vision
- What is the overall frame being used—how's that working for you?

1:15-2:15pm What are the significant water challenges your community faces?

- What are the water challenges your community faces now? Twenty years from now?
- Generally, do you see those challenges represented in the vision document? If not, what would you add or change?
- What does water success look like in your community? What would happen in your community if the status quo continues?

2:15-2:30pm BREAK

2:30-3:15pm Case studies in addressing our water challenges

- Southern Flow Corridor Project
- Mid-Coast Place-based planning group
- Small groups: What themes did you hear from the case studies? What was missing? What would you or your community need to meet your own needs in your own way?

3:15-3:45pm Discussion

- In Small Groups: Common themes from our water stories and challenges. What's missing in the vision? What does success look like?
- Full group discussion: Common themes from our water stories and challenges. What's missing in the vision? What does success look like?

3:45-4:00pm Closing thoughts and reflections

4:00pm Adjourn



Bend Community Conversation Agenda

October 25, from 9am to 2pm

OSU Cascades

9:00-9:15am Registration

9:15-9:45am Introductions and Welcome

9:45-10:15am An Overview of the 100-Year Water Vision

- What's in it, and why now? What comes next for the Vision
- What is the overall frame being used—how's that working for you?

10:15-10:45am What are the significant water challenges your community faces?

- What are the water challenges your community faces now? Twenty years from now?
- Generally, do you see those challenges represented in the vision document? If not, what would you add or change?
- What does water success look like in your community? What would happen in your community if the status quo continues?

10:45-11:00am BREAK

11:00-11:45am Case studies in addressing our water challenges

- Crooked River Wetlands Complex
- Whychus Creek Restoration
- Small groups: What themes did you hear from the case studies? What was missing? What would you or your community need to meet your own needs in your own way?

11:45-12:30pm Lunch

12:30-1:45pm Discussion

- In Small Groups: Common themes from our water stories and challenges. What's missing in the vision? What does success look like?
- Full group discussion: Common themes from our water stories and challenges. What's missing in the vision? What does success look like?

1:45-2:00pm Closing thoughts and reflections

2:00pm Adjourn



Ontario Community Conversation Agenda

October 28, from 9am to 2pm

Treasure Valley Community College

- 9:00-9:15am Registration
- 9:15-9:45am Introductions and Welcome
- 9:45-10:15am An Overview of the 100-Year Water Vision
- What's in it, and why now? What comes next for the Vision
 - What is the overall frame being used—how's that working for you?
- 10:15-10:45am What are the significant water challenges your community faces?
- What are the water challenges your community faces now? Twenty years from now?
 - Generally, do you see those challenges represented in the vision document? If not, what would you add or change?
 - What does water success look like in your community? What would happen in your community if the status quo continues?
- 10:45-11:00am BREAK
- 11:00-11:45am Case studies in addressing our water challenges
- Harney Place-based Planning
 - Owyhee Irrigation District
 - Small groups: What themes did you hear from the case studies? What was missing? What would you or your community need to meet your own needs in your own way?
- 11:45-12:30pm Lunch
- 12:30-1:45pm Discussion
- In Small Groups: Common themes from our water stories and challenges. What's missing in the vision? What does success look like?
 - Full group discussion: Common themes from our water stories and challenges. What's missing in the vision? What does success look like?
- 1:45-2:00pm Closing thoughts and reflections
- 2:00pm Adjourn



La Grande Community Conversation Agenda

October 29, from 9am to 2pm
Eastern Oregon University

- 9:00-9:15am Registration
- 9:15-9:45am Introductions and Welcome
- 9:45-10:15am An Overview of the 100-Year Water Vision
- What's in it, and why now? What comes next for the Vision
 - What is the overall frame being used—how's that working for you?
- 10:15-10:45am What are the significant water challenges your community faces?
- What are the water challenges your community faces now? Twenty years from now?
 - Generally, do you see those challenges represented in the vision document? If not, what would you add or change?
 - What does water success look like in your community? What would happen in your community if the status quo continues?
- 10:45-11:00am BREAK
- 11:00-11:45am Case studies in addressing our water challenges
- Grand Ronde Place-based Planning
 - Meham Creek Floodplain Restoration
 - Small groups: What themes did you hear from the case studies? What was missing? What would you or your community need to meet your own needs in your own way?
- 11:45-12:30pm Lunch
- 12:30-1:45pm Discussion
- In Small Groups: Common themes from our water stories and challenges. What's missing in the vision? What does success look like?
 - Full group discussion: Common themes from our water stories and challenges. What's missing in the vision? What does success look like?
- 1:45-2:00pm Closing thoughts and reflections
- 2:00pm Adjourn



Albany Community Conversation Agenda

October 30, from 9am to 2pm

Linn-Benton Community College

- 9:00-9:15am Registration
- 9:15-9:45am Introductions and Welcome
- 9:45-10:15am An Overview of the 100-Year Water Vision
- What's in it, and why now? What comes next for the Vision
 - What is the overall frame being used—how's that working for you?
- 10:15-10:45am What are the significant water challenges your community faces?
- What are the water challenges your community faces now? Twenty years from now?
 - Generally, do you see those challenges represented in the vision document? If not, what would you add or change?
 - What does water success look like in your community? What would happen in your community if the status quo continues?
- 10:45-11:00am BREAK
- 11:00-11:45am Case studies in addressing our water challenges
- Willamette River Initiative
 - North Santiam Value of Water
 - Small groups: What themes did you hear from the case studies? What was missing? What would you or your community need to meet your own needs in your own way?
- 11:45-12:30pm Lunch
- 12:30-1:45pm Discussion
- In Small Groups: Common themes from our water stories and challenges. What's missing in the vision? What does success look like?
 - Full group discussion: Common themes from our water stories and challenges. What's missing in the vision? What does success look like?
- 1:45-2:00pm Closing thoughts and reflections
- 2:00pm Adjourn



Medford/Central Point Community Conversation Agenda

November 7, from 10am to 3pm
OSU Southern Oregon Extension

- 10:00-10:15am Registration
- 10:15-10:45am Introductions and Welcome
- 10:45-11:15am An Overview of the 100-Year Water Vision
- What's in it, and why now? What comes next for the Vision
 - What is the overall frame being used—how's that working for you?
- 11:15-11:45am What are the significant water challenges your community faces?
- What are the water challenges your community faces now? Twenty years from now?
 - Generally, do you see those challenges represented in the vision document? If not, what would you add or change?
 - What does water success look like in your community? What would happen in your community if the status quo continues?
- 11:45-12:30am Lunch
- 12:30-1:15am Case studies in addressing our water challenges
- Farmers Conservation Alliance and Rogue River Valley Irrigation District: Irrigation Modernization
 - Ashland Forest Resiliency Project
 - Small groups: What themes did you hear from the case studies? What was missing? What would you or your community need to meet your own needs in your own way?
- 1:15-2:00pm Discussion, Small Groups
- In Small Groups: Common themes from our water stories and challenges. What's missing in the vision? What does success look like?
- 2:00-2:15pm Break
- 2:15-2:45pm Discussion, Full Groups
- Full group discussion: Common themes from our water stories and challenges. What's missing in the vision? What does success look like?
- 2:45-3:00pm Closing thoughts and reflections
- 3:00pm Adjourn



Virtual Community Conversation Agenda

Part 1, Intro and Water Challenges, November 13, from 12pm to 2pm

Part 2, Case Studies and Water Success, November 15, 12pm to 2pm

Part 1: Intro and Our Water Challenges

12:00-12:15pm Introductions and Welcome

12:15-12:45pm An Overview of the 100-Year Water Vision

- What's in it, and why now? What comes next for the Vision?
- What is the overall frame being used—how's that working for you?

12:45-1:20pm Breakout Rooms: What are the significant water challenges your community faces?

- What are the water challenges your community faces now? 20 years from now?
- Are those challenges represented in the vision document?
- If not, what would you add or change?

1:20-1:40pm Large Group Chat: Water Challenges

1:40-2:00pm What to expect from Part 2 and other next steps

2:00pm Adjourn

Part 2: Case Studies and What Water Success Looks Like

12:00-12:15am Introductions and Welcome

1:15-12:45pm Case Studies of Success

- Whychus Creek Restoration
- Seal Rock Water District: Advanced metering infrastructure

12:45-1:20pm Breakout Rooms: What would successful implementation of the Vision look like?

- What does water success look like? What if status quo continues?
- What's missing from the Vision?

1:20-1:40pm Large Group Chat: Water Success

1:40-2:00pm What to expect from us next

2:00pm Adjourn

Community Conversation and Web Survey Summary

The state hosted 8 community conversations across the state and posted an online survey, engaging over 700 Oregonians, to gather feedback on the 100-Year Water Vision, and to hear about community-specific water challenges. This document is intended to provide a summary of the community conversations and comments gathered through the online survey.

Table of Contents

Table of Contents	36
Overview	38
Balancing Interests.....	38
External Pressures: Climate Change, Population, and Funding	40
Built and Natural Infrastructure and Ecosystems.....	41
Oregon’s Innovative Approach	42
Regional Flexibility	42
Oregon’s Culture of Water.....	43
Acknowledging History	44
Tribal Interests in Water	44
Legacy Issues.....	44
Overallocation.....	44
Human Impacts.....	45
Legacy Natural Resource Impacts.....	45
Equity	46
Engagement and Inclusion.....	46
Funding and Infrastructure Costs.....	47
Health and Water Quality	47
Climate Justice	47
Water Vision Goals and Feedback	47
Vision Goals.....	47
Safe, Healthy, and Resilient People and Communities.....	49
Data and Information Services.....	49
Community Capacity and Planning	51
Policy.....	52
Investment.....	56
Education: Creating the Culture of Water Stewardship	58
Economic Inclusiveness and Mobility	60

Resilience and Emergency Response	63
Clean and Secure Water for Ecosystems and Oregonians	65
Doing More with Limited Water Resources	65
Instream Needs	66
Water Supply	71
Clean Water	74
Process Recommendations	76
Balancing Interests	77
Regional Approaches and State Framework	77
Connection to Integrated Water Resources Strategy	77
Equity	77
Communications	78
Public Input	78
Coordination and Collaboration	78
Consideration for Future Generations	79
Leadership	79
Measuring Vision Objectives and Outcomes	79
Prioritization	80
Balancing a Sense of Urgency with Long-term Vision	80
Other Process Models	80
Trust	80

Overview

Oregon's water supports communities, businesses, and thriving fish and wildlife populations. However, many factors make Oregon's water future uncertain. It is critical that Oregonians continue to steward and invest in the state's water resources so that they may continue supporting people and the environment. The 100-Year Water Vision is intended to provide high-level goals and operating practices that will help guide Oregon into the future.

In the fall of 2019, the state launched an outreach effort to connect with Oregonians and ask about their water needs, challenges, and goals for the future. The feedback received was used to update the Oregon's 100-Year Water Vision document and develop recommendations for next process steps. This document is a record of community's needs, challenges, and visions for the future of water, and some comments may not be reflected in the updated 100-Year Water Vision Document. In this document, the 100-Year Water Vision is also referred to as the Water Vision, or the Vision.

Outreach for both the community conversations and web feedback was broad, but not complete. Participants in the conversations tended to be those individuals whose paid or volunteer work had a nexus to water infrastructure or ecosystem management, so they were generally more informed about water challenges and opportunities.

Feedback included issues around aging infrastructure, climate change, water shortages, funding for planning and water system upgrades, and many more. One thing that all participants could agree upon is that Oregonians have become disconnected from their water. Most people do not know where their water comes from, or what condition it is in. They are under informed of the current threats to their water source, and don't know about the challenges Oregonians face in other parts of the state. Individuals turn on their faucets, and think nothing else of it. These sentiments were heard on the coast, in the Willamette Valley, in Central Oregon, and ubiquitously, east of the Cascades.

To create a culture that values water availability, conservation, and protection, Oregonians must understand the challenges that local communities are facing and collectively work to solve them. The outreach process and the findings summarized in this report are a first step to understanding those challenges.

Balancing Interests

Across all community conversations there was a strong desire to figure out ways to realistically balance competing water interests, including those of people and native fish and wildlife in ways that support thriving farmers, tribes, municipalities, fish, beavers, and elk. Planning processes need to identify goals that balance the environment, communities, and economy. Interests should be focused on "needs, not wants" to help balance limited water availability.

Participants want a process that will address water for all needs, both in- and out-of-stream, balancing needs with available resources. Success is "a sustainable and thriving social, ecological, economic, agricultural system that can support a human civilization for the foreseeable future," a "broad consensus-based plan on how instream and out-of-stream uses are met in the basin," and "sustainable fisheries and vibrant wildlife habitats set within the context of our communities and economy."

Some participants noted there can be tension and interconnection between the four goals. For example, protecting headwaters has the benefit of protecting habitat while also keeping water on landscape with

connected and active floodplains. One participant noted, “Economy could either be seen as keeping our current economy, or to promote green jobs that help the economy while also benefiting the environment and health.” A survey respondent also noted the need for “an impartial referee to balance interests.”

Business needs water, and water availability can limit business—especially in the context of over-allocation where water demand exceeds current water availability in many places. Several participants wanted to see business more engaged in water discussions. Part of that is making a strong economic business case for clean water.

Different business sectors have different water needs and there are new business sectors coming to Oregon because of energy and water availability. Several survey respondents noted that agriculture has very different water needs than other business sectors, and those needs could be in conflict in some instances (e.g., agriculture, housing, and breweries). Survey respondents said both, “agriculture is important and needs to be highlighted,” and “agriculture’s water needs can’t drive higher prices for other water users.”

There is a global demand for water-intensive agricultural products, and a need to provide irrigation water in spring through fall. Water is a key ingredient to feeding Oregon and America, according to several survey respondents. Participants were interested in having adequate water for agriculture and irrigation, and promoting innovative, low water use agriculture. Some survey respondents wanted to see a specific goal of protecting water for agriculture. Others wanted to recalibrate irrigation water rights based on water availability and current agricultural needs. Several survey respondents stated they wanted irrigation water to be used to grow crops, not water lawns or pastures for a horse.

There are a wide variety of water needs and uses. Who needs water and how they get it is a reflection of a community, and that community’s needs. Some of the challenges in communities are rooted in conflict over limited water supply.

One of the nuances discussed in Medford and Ontario, were the issues of balancing water quality for competing interests. Different water quality standards are set for food safety, drinking water, fish and wildlife, and recreation. A major question that was raised was how to manage and set attainable water quality standards for multiple users that balance human and environmental health.

Participants in several places hoped that communities would be good stewards of water supply for future generations—for people and the environment. This means everyone has their water supply needs met—municipal, private, agriculture, and business; and communities are using water efficiently. In Tillamook, one participant emphasized that water conservation was the job of permanent residents, weekenders, transient, and day trippers—everyone.

Balancing public and private issues was also of great concern. Several survey respondents emphasized that water—the water itself, access to it, and even the infrastructure to manage it—is a public resource, and that privatization should be avoided. Those survey respondents also expressed concern over the consolidation of water rights in a small number of private interests.

Perhaps the most difficult balancing act is holding tensions between different cultural perspectives across the state. Participants at the eastern Oregon community conversations voiced the current cultural misunderstanding between the agricultural industry and the general public in regard to food

production. The lack of knowledge around how food is produced and how it gets on the table was cited as a wedge that has been driven between rural and urban stakeholders. In Ontario, the agricultural community voiced difficulty adequately telling their story as a reason for the complicated relationship between them and the general public. There was widespread support in these communities for reconnecting Oregonians with the production of their food and fostering a greater understanding of the overall supply chain.

Other participants talked about another cultural mismatch—that people expect clean, abundant water, but they don't link that expectation to investment in water and the natural systems they rely on.

External Pressures: Climate Change, Population, and Funding

Many of Oregon's communities are feeling the direct effects of climate change. From ocean acidification and sea level rise on the coast, to wildfires in the south, and sustained drought in the east, the changing climate is noticeable across the state. Many participants noted that humans are not the only species impacted by these changes. Fish and wildlife are directly impacted as well.

In general, most participants recognized the massive stress that climate change places on Oregon's water. Availability for fighting wildfires, irrigating crops, supplying Oregon's growing population with drinking water: climate change threatens each of those uses. Across the state, there was a call for more comprehensive and accurate climate models, and best management practices for mitigating and adapting.

Population growth was often mentioned because it interacts with climate change, and both factors affect clean water. As Oregon faces population growth, concerns around clean water for existing domestic water users were raised. Planning for increased growth poses issues for "nice, healthy, clean watersheds for us and future generations," as mentioned in the virtual community conversation. Another respondent articulated a need for more accurate population forecasts that account for climate, housing, and other drivers of future population. Along with this comes the mounting pressure to expand drinking, storm, and wastewater infrastructure capacity in accordance with that growth.

Additionally, participants identified some tension around population growth. On the one hand, they want Oregon to be open, welcoming, and provide opportunities for people to join a community and thrive. However, some participants worried that if water systems were improved too much, Oregon might attract more people and expressed concern that the current context of perpetual growth may be unsustainable.

These population and infrastructure challenges are present everywhere. Some participants talked about urban density and some of the challenges there—retrofitting old pipes and stormwater systems, managing floods. On the coast, participants identified the growth in recreation and vacationers creating seasonal pressure on their infrastructure and ecosystems. Some of the water challenges articulated from people along the I-5 corridor included the impact of development pressure on water. They described that pressure could include development occurring in floodplains, or other growth near rivers. Some participants talked about managing growth so it aligns with water and other resource availability. That management could include better identifying long-range water capacity before growth occurs, so that some areas do not become "overbuilt or underbuilt." One survey respondent also suggested limiting development, or water use, in water-sensitive areas and encouraged promotion of stewardship in all planning and development.

Conversely, in some areas of Oregon, populations are decreasing. This poses large issues around the costs, and distribution of those costs, for investments in water. Reduced populations may ultimately result in a smaller rate base available to pay for water projects, and a reduced capacity at the local level for resource management.

Built and Natural Infrastructure and Ecosystems

From aging built structures to the balance of built and natural systems, water infrastructure was a prevalent theme throughout all of the communities. Failing built infrastructure, whether tide gates or dams, pose huge threats to the safety of Oregonians and the health of fish and wildlife. Furthermore, aging infrastructure was discussed as a large challenge in many agricultural communities, as irrigation modernization is critically needed across the state. This, coupled with general concerns around septic tanks, drinking water infrastructure, wastewater treatment, and stormwater systems led to the conclusion that Oregon needs a different approach to invest in water.

A majority of participants agreed that leveraging investments and projects that balance the use of natural and built water systems is beneficial to communities as well as the environment. Integrating how land development with water treatment and storage and the preservation of natural systems—such as wetlands, floodplains, and forests—was at the forefront of many infrastructure conversations across the state.

Infrastructure that serves to enhance storage capacity (i.e. dams and reservoirs) were topics of conversation in some communities. Uncertainty around the conditions of dam infrastructure, as well as the associated impacts of increased sedimentation within human-engineered reservoirs were areas of concern. Furthermore, goals of utilizing built infrastructure to maximize the capture and retention of precipitation for flood management, as well as management to help account for seasonality of water availability emerged.

While built infrastructure was of huge concern, natural infrastructure was equally discussed as a resource and a vision for the future. The environment has been taking care of water a lot longer than people have—every community and many survey respondents acknowledged and discussed this fact in some way. One survey participant stated: “Clean and adequate water is best created by returning the land to its natural functions. The manmade structures should be secondary to this, or at best, mimic it.”

Development in wetlands and floodplains, as well as clearcutting on timber lands, were flagged as large challenges by participants on the western side of the state and in the survey. Using natural and native forest systems to “capture, store, and filter water” was a priority specifically discussed in the Gresham conversation. Similar sentiments were expressed in Tillamook: “Forests maintain clean, safe, abundant drinking water.” Floodplain development on the coast was also highlighted as a large concern that put communities in harm’s way of flooding and tidal fluctuations. A discussion about wetlands in Albany resulted in a vision of success: “Wetlands have been restored and are serving as water cleaners and flood control as well as home for a variety of species”.

A continuous tension between the uses of natural versus built infrastructure was present at all conversations and the need for investment in both was vocalized by all. In Gresham and Medford specifically, the critical need for protection and restoration of natural systems, and utilizing green spaces in urban areas were common themes that emerged. On the eastern side of the state, taking advantage

of natural storage systems was seen as a high priority. Similarly, a survey respondent said “The current draft of the Vision is too focused on building additional hardened infrastructure.”

Another ever-present tension that should be noted, is that in focusing on the functions of natural systems that serve humans, systems that solely function for a healthy ecosystem might not be given the attention they deserve.

Oregon’s Innovative Approach

An overarching theme discussed amongst participants, both in person and in the survey, was the need to reorient management to be proactive instead of reactive. Rather than waiting for infrastructure to fail, adequate maintenance and investments should be made before the health and safety of communities are put at risk.

While communities across the state have different infrastructure challenges, participants at each conversation vocalized the need for a change in the way that Oregon approaches and use infrastructure. In some communities, balancing and “blending built and natural infrastructure” is an approach that was identified as critical to ensuring resilient water systems that are affordable and functional. Oregon should “model decision processes after natural process—not a fixed Vision—rather a decision support tool.” Integrating environmental quality, recreation, municipal, and wildlife needs should be the underlying foundation for interacting with water systems, both built and natural.

Participants also agreed that any process needs to be flexible to adapt to changing climate and community conditions. Participants also identified a need to have standards against which decisions are measured, including impact to communities and water users.

As the water needs of Oregon grow and change, the need to tap into new technology is critical to ensuring adaptation and flexibility. The need to harness new technologies to collect, share, and coordinate data collection was highlighted in Bend, La Grande, and Albany conversations. In the survey, participants also cited a similar strategy of using innovative technology and approaches to solve current and future infrastructure problems, such as fish passage, seismic resiliency, affordability, and supply.

Across the community conversations, participants identified the need to focus on new funding approaches. “How can we incentivize water reuse?” asked one participant, and another referenced insufficient incentives for increased water conservation. Participants raised a range of new funding approaches, such as: a sales tax; raising funds from existing infrastructure (in-conduit hydropower); and a dedicated funding source like the gas tax for transportation. “We need a dedicated and full funding source similar to transportation funding that can fund water infrastructure needs, both built and natural, that provide resiliency against not only disasters but drought and climate change,” noted one participant. Others mentioned the need for state tax credits or other incentives for water-related upgrades. Private sector investments were also mentioned in many community conversations.

Regional Flexibility

While the details were described in different ways in each community conversation, participants in all parts of the state wanted some sort of regional approach to managing Oregon’s scarce water resources, noting that solutions are not the same in every part of Oregon. Some participants provided models to look to including: Metro Government; transportation or economic development regions; Columbia Gorge Commission; watershed councils; and Upper Deschutes integrated water management. In some

locations, participants noted that Oregon’s current political boundaries don’t align with watersheds and basins, and identified that strategic water conversations need to occur within watershed boundaries, increasing the need for cross-jurisdictional coordination, where now there is a lot of competition for resources. “Support local water management and relationships. It may require new roles and new leadership in our state water management approach, but there is more trust at the local level. Planning, implementation and strategy should take place at the local/regional level, not a statewide approach,” said one survey respondent.

In each conversation, participants also recognized the need for state engagement and, in most cases, oversight of the process. Feedback included: broad recommendations to ensure coordination between state government and local communities; recommendations to develop intentional “bottom-top engagement” strategies; ensuring all agencies with a connection to water had staff in the identified regions; and recommendations that communities be placed in the leadership role on water issues with the state serving in more of a support role. While the structure wasn’t consistently identified, communities did want to see more of a partnership approach between the state and some type of regional or local structure. Many participants recognized this will take a lot of work to develop and trust-building to be sustainable over the long term. Some participants identified the need to develop approaches that can help resolve conflicts at the local level. Other participants saw regional approaches as ways to bridge the “rural-urban divide,” as well as a way to help small communities have the resources to address their water needs. As one participant put it, “success is communities working together using cross-sector integrated approaches to planning, education, and management of water for the future.”

While regional approaches were highlighted, participants also recognized a need to share information between regions, and across state lines, noting that no common place exists to share that information currently. Many participants also mentioned the critical need to balance this tension between local and state needs. Furthermore, extensive engagement with the federal government and 9 federally recognized and sovereign tribes should be prioritized.

Different regions have different challenges, and therefore need flexible solutions. In Tillamook, participants suggested using condensation and fog from the coastal forests to combat drought. That solution does not exist in Medford, where participants rallied around promoting water efficiencies. Unique challenges across the state should breed creativity and flexibility from the bottom, up.

Oregon’s Culture of Water

In order to address the realities of climate change, population growth, and increasing infrastructure costs, it is important that Oregon adopt a culture around water that embraces and prioritizes collaborative solutions. Overcoming the perceptions that water is an unlimited resource was also ubiquitously discussed across the state. Participants agreed that significant progress cannot be made, without an equal effort to educate and spread awareness amongst all Oregonians: “We cannot expect people to pay for a problem that they don’t even know exists.” Prioritizing public awareness and consensus building around the current state of Oregon’s water, will be an essential first step in gaining support for water investments.

Oregonians must be engaged, aware, and informed about their water needs, and the needs of others around the state, and must be willing to collectively invest in Oregon’s shared water future. Lack of

investment in climate resiliency and infrastructure has generated an unrealistic and unsustainable perception of what water systems actually cost. Shifting this perception, to one which views investments as necessary and worthwhile, should be a marker of success.

To move the process forward successfully, Oregon must work collaboratively to develop a culture of water stewardship, where Oregonians not only value water resources, but are willing to collectively invest in projects across the state to secure a sustainable water future for everyone.

Acknowledging History

Tribal Interests in Water

There are 9 federally recognized tribes within Oregon’s present day borders. As sovereign nations, these tribes have unique treaty rights related to water, land, and food, and are responsible for managing systems that provide water to their tribal members. Since time immemorial, tribes have been stewards of natural resources and native fish and wildlife species. In several of the community conversations, as well in conversations with all of the tribes, individuals voiced the critical need for the Vision to respect, honor, and recognize tribal sovereignty, the history of the tribes’ relationship to water, and the current and future relationship between tribal communities and water resources. Tribes should be viewed as individual sovereign nations and not as a group or “just another stakeholder.” Continuous formal consultation between individual tribes and the state was highlighted as necessary for future engagement moving forward with the Water Vision.

As sovereign nations, tribes have a variety of concerns, challenges, and needs surrounding water. While tribes have been in present day Oregon since time immemorial, many of their challenges are very current. The fulfillment of tribal treaty rights, maintenance of instream flows for salmon, securing clean drinking water for tribal members, and emergency preparedness for earthquakes and tsunamis were all mentioned as high-priority interests by at least one tribe. Furthermore, one tribe suggested there must be an acknowledgement that the spiritual and cultural obligation to water, plants, and animals to keep them healthy, is a precursor to fulfilling any treaty rights.

Legacy Issues

Overallocation

“Water rights are overallocated” one survey respondent stated simply. Others noted that this needs to be stated in the Vision clearly. In many parts of Oregon, there is no water to allocate to new uses—either surface or groundwater. One participant talked about a legacy of 100 years of overallocation as a significant challenge and a root cause of water quality issues, Endangered Species Act listed fish, and dry/compromised rivers. A survey respondent noted a need to acknowledge that many water commitments were made in the past without full knowledge of water availability or impacts of allocations.

Aspects of water law have made some types of innovation difficult. Some water users are discouraged from conserving water by the “use it or lose it” aspect of water rights. Some types of transfers have been difficult. Some participants wanted a basin-scale water allocation approach that is sufficiently flexible to respond to economic changes, and changes in water demand. Other participants pointed specifically to overuse in agriculture, and the need to balance allocations between humans and fish and wildlife. Other participants pointed to the availability of water for

junior agricultural users in the future as a challenge. Water allocation from the Columbia River came up several times. Another participant said, “Diverse water users all think they are the most important use.”

Several participants said it was hard to measure and account for all water uses, and one participant mentioned the challenge of illegal water use. This accounting is complicated by the multiple times water is used. Some participants suggested that truly accounting for the full cost of water would lead to more equitable allocation of that water.

For the future, participants talked about creating a surplus in the water budget, and eliminating over-allocations—or even just recognizing that history of overallocation.

Human Impacts

All communities highlighted the environmental impacts of development and built infrastructure on natural infrastructure. “We need to move away from a mindset that growth is essential to well-being. Instead we need to understand that our civilization is dependent on earth’s resources and that our use of those resources must be limited to what is sustainable,” noted a survey respondent.

A number of survey respondents raised concerns with the statement in the Vision, “our infrastructure has served us well.” As one survey respondent put it, this statement is “too simplistic, not recognizing that the 19th and 20th century infrastructure is a great deal of the problem for the environment as it was often created with little regard for or knowledge of its effect on the natural world.” Another noted, “I believe our state is over-committed to its old infrastructure. Outdated dams and grandfathered irrigation systems are damaging our watersheds and placing native species at risk.”

On the coast, concerns were raised about old levees and tide gates that may trap fish. In the Willamette Valley, concerns about balancing hydropower and environmental needs were highlighted. Dredging was raised as a concern for instream habitat along the coast as well as potential impacts of ditch cleaning.

Some survey responses highlighted specific issues related to dams and recommended a stronger focus on dam removal for fish habitat. “Dams that impede fish passage should be eliminated, where possible, to ensure high water quality that free-flowing rivers have,” said one survey respondent. Another said, “Without consideration of dam removal and watershed-wide restoration efforts that consider ideal fluvial geomorphic conditions, we will continue to have fragmented and less healthy systems that neither serve people nor wildlife as fully as functioning, intact systems.” Others noted the need to balance improving needed built infrastructure with removing outdated, un-needed infrastructure, returning to more natural systems.

Legacy Natural Resource Impacts

A historic and current facet of Oregon’s economic identity is natural resources (i.e. forestry, agriculture, fisheries, etc.). The state’s natural resources economy has provided generations of Oregonians with high quality jobs, upward socioeconomic mobility, a sense of community and culture, and a vibrant and diverse market of goods to buy and sell. Many communities, however, pointed out that while this sector of Oregon’s economy is important, acknowledging the negative ecological impacts is equally critical.

Several participants noted that land use practices, like industrial forestry and agriculture, have historically degraded water quality. Several communities noted that historic agricultural and forest practices (removing trees from streams, farming to the stream's edge) have caused soil and chemical runoff into rivers, streams, and lakes. These legacy practices have had lasting impacts on water, fish, and wildlife.

Similarly, invasive species pose a threat to water and aquatic habitat quality.

Equity

A number of community conversations discussed fairness, equity, and paying attention to who is most impacted by water challenges. Specifically, the current draft of the Vision does not explicitly address equity as much as it should, according to several participants.

Engagement and Inclusion

Participants talked about procedural justice—ensuring people impacted by insufficient access to clean, affordable, abundant water are actively involved in decisions related to water. Some of the specifically impacted communities that were identified during the community conversations included: tribes and indigenous leaders (both federally and not-federally recognized tribes); people without access to political and economic power; small farms; small towns; marginalized communities; communities of color and minority communities; low-income communities; homeless/houseless; fish and wildlife; rural towns; coastal communities; and linguistically isolated communities. Specific to the community conversations, participants noted that some communities were missing. Several participants pointed to equity across rural and urban communities, and others point to equity across people, fish, and wildlife. The word “diversity” only appeared in one conversation, but the concept was embedded in a lot of the comments on “inclusion.”

Participants called for both more attention to and engagement with rural and urban communities. For example, one survey respondent articulated that rural communities are “left to fend for themselves...and are seen as ‘problem areas,’” that the benefits rural communities provide statewide are not given due consideration, and that “natural resources are the ultimate wealth.” Similarly, another survey respondent said the Vision process needs to better engage urban communities—especially leaders working on community engagement, water conservation, and smaller-scale, or distributed infrastructure projects.

With inclusivity, many participants also called simply for equity in access to high quality and abundant water in the Vision. That there needs to be a focus on meeting the needs of marginalized communities (e.g., compassionate solutions to homelessness and water quality impacts). Some people framed this as equity, social justice, or environmental justice.

The need for more certainty when it came to how equity might be expected to show up in water decisions was raised. Beyond calling for equity, the Vision could be more specific in *how* to be inclusive and what the expectations for public engagement should be.

Participants in some conversations raised the issue of environmental justice. Designing a process that is fully inclusive recognizes the state's historical choices that may have excluded individuals and ensures all individual's basic needs are met in the process.

Funding and Infrastructure Costs

There are inequities built into how communities currently value and pay for water. One participant noted the importance of water affordability as a more important benchmark than economy overall. Another held a vision where water resources and their use are equitably distributed, and the benefits and costs of using water are shared among all. Participants also felt it important that the state allocate its own resources to advance equity.

Water affordability for low income and rural families came up a few times in the Bend and Albany conversations (e.g., high cost of wastewater treatment, high cost of sewer hook-ups, unaffordable new septic systems, and the future cost of water).

Across the state, it was recognized that many communities may not be able to afford infrastructure and other improvements, and as a result, face water insecurity. Participants highlighted the need for funding to address inequities regarding the impacts of rate increases. Some conversations also highlighted the importance of the “bottom-line cost” being affordable for impacted communities. Affordable water rates were discussed at most meetings, as well as the broader need to address water resources and human well-being in an equitable fashion. As one survey respondent noted, disproportionately impacted communities “... need to have water infrastructure improved first,” recognizing these systems may be in most immediate need of replacement.

Health and Water Quality

Inequitable distribution of quantity and quality of resources between groups has been a source of perpetual health disparities. In Medford, “Fulfilling the rights to all citizens for clean, safe, reliable drinking water” was seen as a vision for success. Rural, low income, communities of color, and immigrant communities are often the last to be included, the first to feel the impacts of degraded water, and are more likely to experience water insecurity.

Equitable distribution of safe drinking water for everyone, not just those who can afford it, should be a cornerstone of the Water Vision. “Those with the least clean water are given priority” in order to resolve and attempt to correct past inequities. It was flagged that farmworkers having access to clean well water, was a critical piece to ensuring that clean water is a basic human need made available to all.

Climate Justice

Climate change will increase the risk of drought, floods, and damage from catastrophic wildfire. Marginalized communities are experiencing some of the largest threats from these changes, and are not present when water management decisions are being made. Suggestions included a “vulnerability analysis” to identify the specific communities most at risk, and/or who might be impacted the most by water and water management.

Water Vision Goals and Feedback

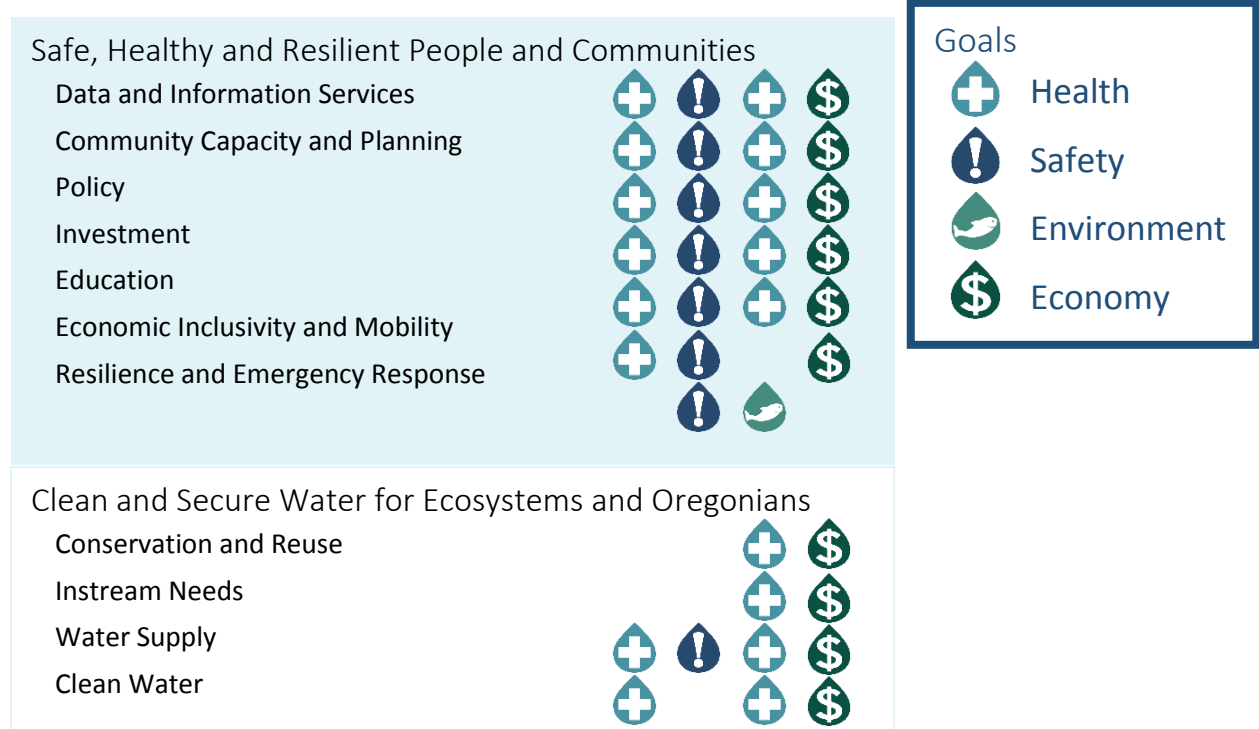
Vision Goals

The 100-Year Water Vision is organized into 4 integrated goals: Health, Safety, Environment, and Economy. These goals establish the framework within which to characterize the desired condition of water. The process of implementing these goals, and the feedback received from the public,

acknowledges that no single goal can be fully realized independent of the others, and the 100-Year Water Vision will continue to be viewed through a holistic lens that considers all goals equitably.

Based on the sheer volume of feedback from the 8 community conversation and web survey, feedback directly tied to the specific language of the 4 goals is not reflected in this document, and can be found in the community conversation meeting summaries, the web survey summary, and the updated Vision document at www.OregonWaterVision.org.

Below are summaries of the challenges and needs for successful water planning that were discussed in the community conversations and the web survey. They are organized into two categories. Virtually every theme that was covered was grounded in multiple Vision goals, further supporting the need for goal integrations and holistic planning.



Safe, Healthy, and Resilient People and Communities

Data and Information Services

The importance of water data was a common theme throughout all of the community conversations. Communities need the best available science to adequately plan and innovate for future challenges. Furthermore, communities identified specific data and process gaps that hinder statewide collaboration.

Best Available Data

In order to make good management decisions, communities need good data. However, in virtually every community and in the survey responses, quality data were either inaccessible, inaccurate, or outdated. Many communities voiced that their inability to access the best available data drastically hinders the accuracy of water management for people, as well as fish and wildlife, specifically in regard to availability and usage.

In La Grande, gathering data that are legal and defensible was seen as a critical piece to success. More broadly in communities east of the Cascades, a lack of confidence in the current data was prevalent. Those communities also expressed a need to obtain real-time data, and the challenges presented by other infrastructure limitations, such as broadband, in achieving this.

Measurement Infrastructure

For rural communities, the lack of broadband infrastructure seriously hinders their ability to effectively manage water resources. Without broadband, water usage cannot be metered in real-time, which creates issues for adaptive management and targeted investments.

Climate Change

Information around climate change, and uncertainty around current and future projections, pose major hurdles for community water planning. In Tillamook, sea level rise and increased flooding are current threats that are projected to worsen in the future. On the coast, the accurate and updated data projections on where and when land may be inundated with salt water or which buildings are at risk from flooding or tsunamis is critical. As one survey respondent stated, “A need for data on carrying capacities, realistic objectives-driven actions, and sustainability in light of climate change should be the first priority so the data can drive problem statements and identify critical priorities.”

Precipitation models were also mentioned as large data gaps that need filling in order to effectively plan. Precipitation data were specifically mentioned in the Bend and Albany conversations.

Inventory

In the La Grande and virtual conversations, as well as in the survey, a “Comprehensive database, with interagency coordination and responsibility” was raised as a vision of success. Currently, there is a lack of a reliable, self-updating water inventory that is available to local communities. Many communities do not know how much water they have, how much they are using, or the state of their built and natural infrastructure. A “water database” could help move the state toward that vision of success.

Surface Flow and Groundwater

In some communities, the lack of data on hydrologic systems, both instream and groundwater, were flagged as hurdles to water planning. These general challenges were mentioned by several survey respondents as well. Groundwater availability, usage, and distribution, were of primary concern in the eastern portions of the state, as well as the growing need for site specific data sets. In Gresham, instream data needs for fish and wildlife were discussed as a priority.

Ocean

In Tillamook, the lack of understanding on how changing ocean conditions impact the coastal communities and industries is an identified data gap.

Water Quality

In Tillamook and Albany, there were mounting concerns around whether or not drinking water is adequately tested for emerging contaminants in watersheds and in private wells. Furthermore, communities raised issues around the lack of instream temperature data. A survey respondent also mentioned that “Without clear scientific understanding of who, what, and where waters of the state receive negative impacts that compromise the quality of water, Oregon's Health, Environment, and Safety goals will always be at risk.”

Water Availability, Use and Storage

There is little information about how much water is available and how much is being used. What are the growing demands for water? Will increased population growth result in increased agricultural production? Is there enough water for that? Where is it and when? Is there enough water to balance the needs of tourism, fish habitat, municipalities, agriculture, and developing markets?

The lack of availability, use, and storage data, was a commonly raised theme in all of our community conversations, and in several survey responses. A participant in Tillamook suggested that detailed, and up-to-date water budgets for all basins would be a sign of successful visioning.

Watershed Conditions

A more holistic use of data will help in assessing the overall health of watersheds. This was the sentiment at the Tillamook conversation, where the impacts of timber harvest has altered the conditions of local watersheds. The importance of maximizing healthy watershed conditions was also mentioned by a survey respondent.

Monitoring, Testing, Modeling, and Sharing

Communities identified coordinated, standardized and adequate water data as essential. This requires monitoring, testing, and modeling. Disjointed water metering, of both streamflow and groundwater as well as water use, was a common theme discussed in almost every community, and by several survey respondents. A common monitoring framework, evenly distributed across the state with quality assurance, is a step in the right direction to ensuring communities have the most up-to-date water data. Furthermore, modeling for future events, such as flooding or water shortages, is a critical aspect for creating resilient communities. Adequate testing and quality data

for drinking water, primarily in smaller communities, was flagged as a major gap in both Bend and Tillamook.

With a comprehensive data monitoring and testing methodology, the next step is to create a cohesive data sharing system. In almost every community, publically available and trusted data for everyone, was a shared need. Uniform, statewide data will ultimately require building trust between the state and stakeholders. East of the Cascades, there were conflicting views on water rights data. Some communities professed the need for data privacy regarding individual water use, while others advocated for transparency of water right allotments, accompanied by usage data. For that reason, relationship building among water users, owners, advocates and the state should be a priority in the Vision.

Community Capacity and Planning

Capacity

Part of being in community is the capacity to act as a community. One participant in Ontario articulated success as when “Communities are able to sustain ourselves economically, socially, and ecologically with innovative strategies that are supported with funding through state, federal, and local funds.” Several participants also pointed to a future where communities have what they need to make better water decisions and investments going forward.

Participants also identified some challenges limiting community capacity. Leadership turnover and political instability make it difficult to form the continuity needed to take on big challenges like water. Turnover (both elected officials and staff) can have an especially big impact in small communities. Participants also talked about funding capacity building (e.g., supporting small communities to access the resources they need, or conduct education and outreach).

Often, people pointed to the specific needs of small communities—especially cities that have small populations, but large actual/potential effects on water quality and quantity. Smaller communities may not have the staff to do more than deal with day-to-day issues. Oregon may need to provide technical assistance to facilitate long-range planning activities, and revision of utility rate structures. Improved access to grant funding, was also suggested as a way to help small communities prepare for the future.

Engagement

There is no community, if there is no “we,” said one participant. Nearly every community conversation articulated a vision where the community is involved, contributes, and stays engaged over time. That includes the community working together for its future. Participants also talked about the need for individuals taking personal responsibility for broader community health—and that this responsibility would become a community norm.

Participants were asked how to bring a community together to accomplish the Water Vision. And when asked what that success looks like, people listed: hundreds of people engaged; people who have been missing are included; stronger relationships within the community; and stronger relationships in regions across communities. As an example, this could look like teams working with all parties in the same direction with relationships built in trust and what was best for the

community. A survey respondent wanted to see active inclusion of those who use and manage forests and ecosystems.

One participant talked about building a “reservoir of social capital” that was built on shared understanding and relationships, and could be used to strategically craft collaborative solutions. Another called for more investment in “ground-up processes.” For example, county planners may not often get involved in water planning because that role is viewed as the state’s responsibility. One survey respondent wanted the Vision to call out the benefits of collaboration.

There were some specific ideas about how to engage citizen scientists to collect, analyze, and help innovate around water including empowering communities to collect information about water.

A participant noted improved engagement and collaboration would lead to a public that feels good and supports decisions. Another participant said, “When farmers, foresters, conservationists, and ecologists work together—I think that’s when really brilliant policy change happens.”

Many participants, both in person and in the survey, expressed the need for thorough community engagement and empowerment. Frequent and meaningful communication and outreach with communities was cited as critical for ensuring local awareness of water related challenges and ownership of solutions. Community messaging around water issues, locally and across the state, can help create understanding and compassion for everyone’s water challenges, and pave the way for difficult and necessary conversations between stakeholders with competing interests. One participant from Tillamook observed “that a respectful but honest and informed perspective” is a valuable perspective, which further reinforces the need to foster awareness and engagement on water issues across the state.

Planning and partnerships

The need for inclusive and transparent regional planning was highlighted in all conversations. Many discussions highlighted the need for more integrated place-based planning approaches. At the same time, challenges were recognized in place-based planning efforts, which included lack of data and community capacity for planning, and the need for strong partnerships and facilitation expertise.

Participants noted that climate resilience needs to be taken into consideration for place-based planning. Some were concerned that plans were based too much on past and current conditions, rather than anticipation of future, changing conditions. Moving toward resiliency in the face of changing climate and water conditions is further challenged by changing leadership in election cycles and the difficulty of keeping elected officials engaged at the right level.

A number of community conversations highlighted the need to better integrate local land use and water planning. A number of examples were raised, including new residential developments and policies that encourage “infilling” in urban areas, and the question was asked—was water taken into consideration in these decisions?

Policy

Participants listed a number of policy challenges related to water. While the specifics varied, every community conversation highlighted a need to modernize laws and policies concerning water

management and the protection of water-dependent resources from drought, flooding, and other water related hazards. Participants were interested in holistic and integrated approaches to water management that looked at systems, rather than individuals. This was true for both instream and out-of-stream needs. It was also the case for both ground and surface water, with many communities suggesting stronger integration of ground and surface water management. Participants also highlighted the need for consistent water policies at the state and local levels.

The need for regional approaches and flexibility were highlighted in every community and took a variety of forms. This came up in conversations about water quality, water supply, and water related hazards. Good governance was highlighted as required for any successful regional approach. Some participants were concerned that communities are competing for water rather than working together at a regional level, and with neighboring states, to protect and share water resources.

Along with regional approaches, the importance of considering both human and environmental impacts from regulatory changes was raised. “Regulatory changes must also consider the social impacts they will have on communities they impact, not only environmental... however we also must recognize that our social well-being is ultimately tied to the environment... we are a part of the ecosystem we rely on to support us,” noted one survey respondent.

Concern was raised that if Oregonians don’t understand the overall value of water, it will be more difficult to regulate and build cohesive water management approaches. As one participant highlighted, success is “Oregon’s policies, systems, funding, and water law support water supply and management that leads to resilient ecological and human communities.”

Flood Management

There are some policy challenges to increasing safety. The regulatory environment does not think much about how to build and maintain levees, or how to harden buildings and built infrastructure for seismic and flood impacts.

For instream restoration, some of the “no rise” regulations at the local level (and driven by Federal Emergency Management Agency (FEMA) requirements), make it difficult to do floodplain restoration. There were also safety concerns related to wastewater reuse.

Along the coast, participants highlighted the importance of the connection to the National Flood Insurance Program and FEMA map updates.

Enforcement and Litigation

Some community participants noted that the Vision does not address legal, regulatory, or statutory elements of water use and protection of water quality. Some participants wanted increased enforcement of existing water quality laws and water rights. Other participants raised concerns that ongoing litigation takes away funding from on-the-ground water projects. Some participants felt that local governments needed more ability to adopt and enforce policies and goals related to water. Enforcement of tribal treaty rights was also raised.

Participants in a few communities wanted Oregon to consider a different judicial system for water regulation with specialized judges and accelerated decisions.

As in other areas of policy, many participants highlighted a preference for local control and flexibility to allow water solutions that make sense locally, and provide flexibility to both move and manage water strategically with protection from lawsuits.

Land Use and Building Codes

“Land management and development is a central component to determining whether our state’s water goals can be achieved,” said a survey participant. “Oregon has always been a national leader in planning, and we can continue that trend by encouraging not only long-term visioning, but clear planning guidelines that acknowledge the interconnectedness of our water and land uses.”

Participants in all communities recognized the strong connection between water use and quality and Oregon’s land use laws. Many highlighted how the current land use laws have benefitted the state in terms of water quality. However, some participants felt there was disconnect between the state’s land use laws and water planning, particularly in places with population growth and increased development. This applied to density in large communities and concerns over wells and septic systems in rural areas. Generally, participants wanted a stronger, more formal recognition of limited water availability in land use planning. Participants also recognized that land uses are changing—an example is conversion from agriculture—that will inherently change the volume and timing of water use.

“Historically, we have built our cities next to our water bodies, which makes sense. But as we increase density and the pressure to provide for affordable housing, we may need to change our approach,” noted a survey respondent. “We need our land use laws to incentivize growth in such a way to provide source water protection, which is not a small political feat.”

Some participants had questions about the connections between building codes and water—could the tie be stronger? As one participant said, “a stronger connection between the Water Resources Department and the Department of Land Conservation and Development—is there an opportunity to regulate resources together?”

Quality and Habitat

Participants highlighted policies that could be better utilized to help address water quality and habitat, including: the Oregon Forest Practices Act (OFPA); water quality regulations regarding contaminants; sediment and temperature; the Endangered Species Act; and Clean Water Act. As one participant noted, “The Oregon Water Vision needs to include reforms to the Oregon Forest Practices Act to increase stream buffers (both fish bearing and non-fish bearing) to protect against clearcutting and aerial pesticide spray.” Another said, “Truly sustainable forest practices must be adopted... mature native forest habitats desperately need protection, and forestlands need restoration, to provide clean, cool water in the face of a warming climate, growing demands, and future droughts.”

At the same time, some participants also raised questions about the amount of regulatory requirements for restoration projects, and wanted to encourage regulatory flexibility around improvements to fish and wildlife habitat, including beaver reintroduction and management.

General Regulation

In general, participants in each community referenced a feeling that statutes are outdated and may hinder progress. Others felt that regulations may be adequate, but staffing to enforce regulations is not. And, a few participants raised concerns about high costs of regulation for businesses and for communities, and unrealistic regulations.

Some participants were concerned that current regulations are a disincentive to developing new and flexible approaches for water infrastructure improvements. Examples were highlighted around the state where communities wanted to use natural infrastructure solutions for water quality improvements, but faced regulatory hurdles to implementation at either the state or federal level. There was an interest in re-writing regulations to be outcome-based instead of process-oriented.

Some participants were clear that they did not want to make changes to the state's water right laws, recognizing they provide certainty for water users. Others wanted to consider updating prior appropriation and other components of the state's water right laws. Recommendations ranged from small updates to improve flexibility to complete overhauls of the state's system. "I'm hopeful the Water Vision work will address Oregon's prior appropriation water rights system, including the structured inequity, incentive for overuse and beneficial use components and be able to take a bigger picture view that diverse stakeholders can be a part of and use to move forward in a more productive way."

Conservation, Supply, and Re-Use

Some participants in eastern Oregon communities referenced the challenge of the "use it or lose it" nature of state water law, and indicated that it made it more difficult to encourage conservation of the resource. Participants recognized the need for incentives to shift management. Others wanted to ensure that conservation paid for with public dollars required instream transfer of water rights.

Examples of regional approaches included flexibility around conservation, transfers between irrigation districts, better use of long-term leases, instream permitting, and developing water marketing frameworks and strategies. At the same time, some participants highlighted concerns about outside influence in market approaches like what was seen in Washington State's market program. They wanted to ensure water remained a public resource and wasn't privatized. Some participants felt there was a disconnect between local conditions and statewide policies, and others suggested that any changes need to include certainty.

Some participants also highlighted that water rights seem to focus on individuals rather than looking at the needs of the entire system. One participant noted, "We need flexibility to use storage water if there is community support, for example the ability to release and protect instream flow for fish and other multiple uses." In taking a systems approach, some participants highlighted the need to look closely at dams and other means of storage as a solution rather than an obstacle to be addressed.

Communities in eastern Oregon in particular highlighted the need to address abuses in water use, increased monitoring and enforcement, which requires increased staffing in the Water Resources Department.

Some participants wanted regulations to be more flexible to support water reuse in a way that makes sense for water use today. They noted some types of water reuse are illegal, while others are difficult to permit. “The state needs to modernize the existing codes and policies for water, water reuse, nutrient recovery and disposal,” said one survey respondent.

Looking to the future, some participants highlighted the need to address water use for hemp and other, future ‘boom and bust’ crops.

Investment

Every community conversation highlighted funding and investment approaches as both a challenge and an opportunity. Communities discussed the need for long-term funding approaches, but also recognized that investments in infrastructure, planning, and data need to occur now. “Oregonians cannot continue to under-invest in vital infrastructure. We must significantly raise the level of investment in this critically important area,” one survey participant noted. Some participants wanted assurances that the state was going to seriously commit to large-scale, long-term funding for Oregon’s water future. Many conversations and the survey responses raised the need for a dedicated funding source for water investments.

Incentives for conservation were also a priority in many communities. There is a “lack of motivation or incentives for water conservation practices (urban, agricultural, and industrial) before we get to a crisis,” said one participant.

As noted in the subsections below, investments in new technology, agriculture, community infrastructure, and ecosystems were discussed. At the same time, there was strong emphasis on investments in community capacity, data gathering, processing and translating, community engagement, and monitoring. Participants highlighted the need for agencies to be funded to do water work, but also for agencies to more closely coordinate around investments in built and natural water infrastructure. Challenges were identified around funding processes that could be more streamlined.

Equity was generally raised in the context of funding and investments. This is highlighted as an ongoing need for any funding conversations moving forward.

Finally, in discussions both at community meetings and in survey responses, it was noted that funding was not necessarily the only solution. Investing in infrastructure, “Will not necessarily alleviate overbuilding, overconsumption, overpopulation, or farm use. We need a multi-pronged, comprehensive and planned approach.”

Investments in Capacity and Communities

Across every community conversation, there was a recognition that many communities do not currently have the capacity to engage the public, or to design, implement, or monitor projects. The needs were highlighted in a variety of ways. These included staff and resources to make informed, long-term water infrastructure decisions and a recognition that rural communities are often not staffed at the same level as urban communities. In rural areas, communities raised concern about even having staffing in place to keep up with required mandates around water quality and supply, as well as having staff available to apply for grants or loans.

Some communities highlighted successes when funding was available to expand the capacity of community-based groups to work together. Many communities identified the need for dedicated, flexible funding to help stakeholders engage meaningfully in water management decisions, to support work around water, and to engage their communities, including planning and convening. From a participant in Albany, “We need more flexible funding that provides the capacity for stakeholders to engage in planning and collaborate.”

It was also recognized that small communities generally struggle with infrastructure costs per capita, and may lack personnel to assess and upgrade systems.

Value, Cost, and Finance

Who pays? How do communities and the state develop stable funding sources? How do communities plan and prioritize investments? These questions were raised in every community. Upgrades and maintenance to water systems, both built and natural, can be expensive and are often not valued as necessary by communities. Costs of modernizing irrigation or septic systems, installing fish ladders, or restoring watersheds, “...requires long term stable funding sources.” Communities, large and small, are struggling to both identify revenue streams to fund infrastructure projects, and prioritize investments once the money is obtained. Uncertainty around how old infrastructure is, and how much it will cost to repair, is also a constant strain felt by communities.

During conversations on the western side of the Cascades, challenges of managing small community water systems arose. Discussions were primarily focused on issues with maintaining and investing in infrastructure in small communities that may lack the capacity, funding support, and integrated systems. “Small communities with fewer people have the same amount of old infrastructure to maintain” with a smaller rate base to draw from. This a major challenge now and in the future as costs increase and population dynamics continue to fluctuate.

Data Funding

In addition to emphasizing the need for data generally, all communities recognized the importance of data as an area of investment. Data investment needs ranged from testing, better understanding “physical systems” in all basins, monitoring and general data collection, processing, and translation. Participants also called out specific data funding needs, like stream gages, wells, and pesticide monitoring. Participants highlighted the need for funding for data related to instream needs and prioritizing restoration projects and ecosystem needs.

Agency Funding

Nearly every community conversation included discussion of funding for state agencies. The needs ranged from funding for agencies to manage water and enforce water quality and quantity laws, to funding to support the Integrated Water Resources Strategy and carry out current agency missions. Participants highlighted the need to increase funding for the Governor’s Natural Resources Office. Participants also identified the need to have staff on hand to analyze and share existing and new data. Communities expressed interest in increased funding resulting in increased coordination across agencies.

Federal, State, and Local Funding Coordination and Limited Funding

In nearly every community, participants highlighted the need for increased coordination around state and federal funding. In both the survey results and community meetings, participants highlighted the importance of strong connections with federal agencies and Oregon’s congressional delegation to ensure the most efficient use of funding at all levels. Funding examples ranged from a state-wide bond to match federal funding, to first capitalizing on the funding already available, and ensure funding is aligned and strategic. Communities also discussed local rate increases as a potential funding source along with state and federal funding increases.

Funding Process

Where funding is available, participants noted that applications can take a long time to be processed, and recommended funders consider streamlining funding processes at both the state and federal levels. For small or consistent projects, a few participants noted it would be nice to have a “fast money” approach. At the same time, other participants noted there needs to be funding accountability. One participant suggested, “Don’t give funds to water projects without justification and accountability.”

In Medford, there was a lack of clarity on funding and resource availability to communities. Whether it be resources for expanding community capacity or understanding what funding options are available and attainable, it is important for communities to be empowered to leverage external financing opportunities. Furthermore, leveraging external funding is critical as communities continue to tackle the issue of aging infrastructure.

Long Term Investment Approach

Given the long-term nature of the Vision, some participants recognized that a commitment to long-term funding was needed. The ability to provide seed funding for future projects was identified along with a long-term commitment to funding and understanding water issues.

Project Implementation

Participants at each conversation explicitly identified project funding as a key need. Whether it was a general statement like “funding for projects” or more specific needs like irrigation efficiency, reducing invasive species, or bio-filters, project funding is top-of-mind across Oregon. Funding for seismic resiliency was a concern in western Oregon, while investments in irrigation were raised in central and eastern Oregon.

Education: Creating the Culture of Water Stewardship

An informed, supportive, and empowered population is central to any community-based solution. This was voiced by all the communities. For a community to be invested in water, they must first be aware and understanding of water issues that they face, and that other communities face. Community-specific and accessible tools, and resources for conservation and efficiency strategies must be available to private citizens, municipalities, land owners, and irrigators in order to empower and inspire a public that values and supports investments in water projects. Furthermore, participants also highlighted the importance of providing the necessary environmental education to younger generations in K-12 schools and technical education in community colleges and trade schools to ensure a qualified water workforce.

Public Awareness and Understanding

In order for communities to invest in a water problem, they have to know about the problem. One issue that was raised in every community and by several respondents in the survey, was the fact that the general public is largely unaware of local water issues. Public awareness is often not focused on an issue until it becomes a crisis. One participant stated, “People should know that others are in crisis now,” and achieving broader understanding of impending demand issues was cited as large challenge. Regionally-specific public education, aimed at informing people on the current status of their water as well as solutions and investment needs was suggested as a missing piece of the Water Vision.

Residential Conservation and Industry Efficiency

To increase public awareness and understanding, the need for public education around specific conservation measures and water stewardship was broached in almost every community. Furthermore, the need to prioritize public education around “conservation as a way of life” and the “consequences of water insecurity” in residential areas was also discussed. Information and resources around drought-resistant landscaping, and efficient water usage were specifically called out in some conversations.

Similar discussions also highlighted solutions on the industry side. In Bend and Medford, participants discussed the need for education and engagement resources for landowners, water rights holders, and irrigators that are looking to enhance water efficiency and conservation improvements. Information and resources around reduced pesticide usage next to waterways or enhancing riparian buffer zones were referenced as specific areas for improvement.

Formal Educational Curriculum and Water Workforce Solutions

At nearly all of the community conversations, the lack of comprehensive public education was mentioned, and the need for formal water curriculum in public schools was presented as a solution. The expansion of public education around watershed, water infrastructure, and environmental sciences in K-12 schools and at community colleges was specifically called out as a vision of success. These sentiments were also voiced by several survey participants.

In some communities, the lack of a trained water workforce was flagged as a current and future challenge. A shortage of wastewater treatment plant operators and water quality technicians has emerged as a challenge in several communities. Solutions that leverage a qualified, well paid workforce and water investments were cited as highly favorable.

Managing water requires people who are excited and skilled. Several participants said how important it was to engage younger generations, so they are interested and invested in current and future water plans.

When thinking about recruiting a new generation of water leaders and an infrastructure workforce, people asked who would do the training, and who will provide the technical assistance to communities. Specific water sectors who called for workforce development include drinking and wastewater utilities (especially for certified operators), and forest restoration.

A Supportive and Water Literate Population

In addition to an engaged community, a supportive and water literate population was mentioned in every community. The lack of location-specific data in some areas, or lack of understanding of water issues by the general public and local decision makers was a challenge raised almost everywhere. Obtaining water literacy among private citizens and local decision makers was flagged by several communities and a few survey respondents, as missing from the Vision.

Furthermore, community buy-in was also discussed as a challenge that inhibits continuous water investments. Long-term, broad-based public support for water projects and investments was widely discussed as a marker of success for the visioning process. In order to adequately fund infrastructure projects, local buy-in from an informed tax-base is critical. Similar ideas were raised around attaining buy-in from ratepayers as well.

Economic Inclusiveness and Mobility

The economy is important to people, but not just in terms of money earned. A lot of comments provided by participants and survey respondents pointed to economic themes around sustainability, long-term views, water as a critical element to provide food and ecosystem needs, keeping water affordable, and providing an atmosphere that allows the different sectors of Oregon's economy to thrive.

Affordability

Water must be affordable for ratepayers, for farmers, and to meet people's basic needs. For several survey respondents, affordability is a function of community planning, population dynamics, how water infrastructure is funded/financed, and the technology used to treat/transport/store water—all of which affects the percent of household income spent on water, an indicator for affordability. A survey respondent pointed to the costs of regulations as a driver of agricultural water affordability. Participants felt it was important to make sure "affordable" or "economic accessibility" is clearly included in the Vision.

Ideally, people would know the difference between the cost to deliver a gallon of water to their home or business vs. what they pay. And over time, the cost of water should also adequately reflect the current and future costs of providing clean and healthy water.

Costs

Several participants discussed costs and revenue for water. There was general interest in using money wisely, and being clear about who pays for the water needed for economic development.

Several participants also pointed out the conundrum that if water utilities and irrigation districts become really efficient and reduce overall water use, they may actually reduce their revenue as well.

Agriculture

Several participants pointed to the essential role of water in supporting a vibrant agricultural economy, and the importance of agriculture to rural Oregon, Oregon statewide, and the world—both in terms of access to food and economic value. For several survey respondents, this essential role needed to be made explicit in the Vision generally and in the "economy" goal specifically. In

most community conversations, participants wanted agriculture-based communities to be sustainable and viable over time. One participant in Ontario noted, “Agriculture-based communities are supported by water. Without it, everything we do stops.” Another participant articulated a need to support farming economy where small local farms are healthy, and young people have easy access to starting/joining a viable farm business. One survey respondent also pointed to the need for reliable water, which included protecting existing water rights. Furthermore, as cities have grown, agricultural land has changed hands, and there are non-farming landowners who hold water rights.

There was also recognition that future changes (e.g., climate change, increasing number of hobby farms) could change the economic structure of domestic and farm water use (e.g., how crops are irrigated, what is grown). For example, several participants in La Grande and survey respondents noted that crops grown might shift from water-intensive crops (e.g., grass seed) to less water-intensive crops (e.g., dry land wheat). As farming conditions change, there is a need for new approaches (e.g., precision agriculture, irrigation districts working together to increase efficiency, using fewer or no pesticide or herbicide, etc.) to keep farms viable. Participants also articulated a vision of irrigation modernization—where a robust agricultural economy is built on efficient irrigation.

A few participants pointed to the unique water issues (water use and runoff) related to the growth in hemp production.

Several of the community conversations highlighted the important role (and tension) of farms in growing food. Several participants pointed to how farms, including livestock, feed the local area and the world, and others noted that a lot of products are exported, but the local community is impacted in terms of water quality and supply.

Ecosystem Services

A healthy environment underpins a healthy economy. Several participants were interested in better understanding the economic and other values provided by fish and ecosystems—especially for setting priorities and identifying funding opportunities. In particular, how might costs and benefits of healthy watersheds be quantified, so those values can be considered properly? One participant noted that economic development is tied to functioning natural systems, and another participant articulated a vision of a healthy stewardship economy.

Energy

There is a nexus between energy and water. A number of participants mentioned an interest in expanding in-conduit hydropower opportunities (e.g., in irrigation pipes) or other renewable energy projects on farms and ranches. The expansion of new technology, and changing patterns of energy demand could continue to expand the opportunity to link water conveyance and energy production. But there are still barriers. The wholesale power prices paid for renewable projects are still low, and there are tensions between micro-scale energy production and the larger industrial scale projects.

Several participants and survey respondents talked about the existing hydropower system—both preserving the economic contribution the system provides, and recognizing there is also a challenge that instream hydropower continues to limit fish passage and degrade habitat.

Eastern Oregon communities recognized the need to look at the energy-water nexus. This was expressed in the need to open up small-scale hydropower markets (in-conduit hydropower). Others highlighted the need to be more connected between clean energy policy and water policy.

Recreation and Tourism

Outdoor and water-related recreation are big business in Oregon. Recreation is also linked closely to people's cultural and aesthetic connection to water. Whether fishing or boating, time on the water leads to lasting memories and feeling connected to water, according to several survey respondents. Several participants saw lack of access to recreational water use as a challenge. This includes infrastructure to support access, and programs supporting sustainable tourism across Oregon (e.g., the Coast, southern Oregon, and eastern Oregon). It was noted that in addition to other barriers, invasive species are a threat to recreation access.

Tourism and growing recreation has also had economic impacts on communities. For example, growing tourism on the coast strains water infrastructure, and might change job structure from higher-paying timber jobs to lower-paying service jobs.

Participants felt that the draft Vision is missing express references to recreation. Generally, the recreational value of water needs consideration.

Invasive species are a threat to recreation access.

Resiliency

Ultimately, two general themes emerged around economic growth: A) there should be support for new businesses and collaboration that create water innovations locally, and B) Economic growth needs to be planned and sustainable, and isn't inherently good all by itself. Measures of economic growth need to account for the values of watershed health, and anticipated changes in climate, economic structure, and population.

Several participants framed economic challenges in terms of resiliency—or the ability of economic sectors and communities to persist and sustain. Water is connected to local economic vitality. Rural economies, healthy agricultural communities, and resilient businesses, were all themes raised by participants. One participant noted that, "The economy relies on sustainable use, not regulations."

In a resilient future, participants envisioned water being used efficiently, fewer farms are going out of business, and groundwater being managed and protected. Others asked about ways to mitigate the impact of economic disruption. Reducing that economic pressure would allow farmers to shift toward regenerative agriculture, which could include permaculture, and other practices to restore water quality, quantity, and habitat.

Participants also talked about resilience of communities over the long term—the ability to withstand crisis, and recover quickly (e.g., drought, wildfire, sea level rise, loss of land). Several participants noted the ability of communities, especially rural and farming communities, to thrive out into the future.

In places like Tillamook, Ontario, and La Grande people wanted to see communities holding on to their rural character and keep agriculture as a backbone. And another participant pointed to the importance of engaging young generations of farmers through succession planning.

Communities noted in varying ways that the Water Vision is going to require attention to shared histories, including discriminatory and inequitable housing, health, and environmental policies, so that respect and care can be woven into a resilient fabric of community that can tackle and withstand any challenge.

There were also a number of participants that talked about the long-term resiliency of farm communities. This included a vision that farming is sustainable, productive, and managed in a way that ensure future farmers will be successful. Another participant wanted to ensure generation farms and ranches are still in operation and the small towns near those farms and ranches are still prosperous. Participants in Bend, Ontario, and La Grande mentioned the importance of increasing local food production and food security/supply. One said, “Food doesn’t come from Safeway!” in reference to being able to feed a growing population in Oregon and globally given patterns of aging farmers, water access, and urbanization.

Transportation

Water bodies are part of the transportation system, so how can access be provided to rivers for commercial shipping and other transportation?

The role of water in transportation is not reflected in the draft Water Vision (e.g., investment in port infrastructure, and keeping rivers open for transportation through actions such as dredging).

Resilience and Emergency Response

Participants and survey respondents focused much of their “safety” comments in the areas of flood and earthquake resilience—the ability to anticipate, respond/recover, and adapt to natural hazards. Some participants also cited wildfire, pollutant spills, and water security/attacks as potential disasters. Participants talked a lot about building resilience and minimizing the impacts of hazards—using both built and natural infrastructure. A survey respondent clarified that safety is preventing loss of life and property, and another articulated that water quality is both a safety and health issue. It was also noted that disasters are hard to predict, so recovery is important to consider.

Flooding

Too much water was discussed as both a challenge—particularly when flooding impacts communities—and an opportunity to restore and protect floodplains and recognize the role of floods in maintaining ecosystem functions. In urban areas with more impervious area, streams can rise suddenly during precipitation events due to stormwater runoff, creating water quality problems. There will be more frequent high-flow events that also create challenges for water quality and impact habitat—both positively and negatively. More severe storms and higher sea levels will create more storm damage to coastal properties.

Participants in every community conversation raised flooding as an issue. Similarly, respondents to the survey and conversation participants—on both the east and west sides of the Cascades—

recognized flooding will likely get worse in the future. Several participants talked about the timing of flooding caused by more rain-on-snow events, especially in winter and spring, and a survey respondent talked about the role of farm drain tile in flooding. Another participant spoke about the need for better gaging/monitoring to predict floods (e.g., investing in gaging).

For the future, participants talked about the need to define better roles for managing development in the floodplain and others discussed strategies for storing water on the landscape. Several survey participants also mentioned ways to discourage rebuilding repetitive loss structures in flood zones and other high risk areas.

In terms of infrastructure investments to improve flood management, participants discussed natural systems (e.g., wetland and riparian restoration) and built infrastructure (e.g., upgrades to existing flood control dams and structures). Others offered that more permeable surfaces could reduce flooding in cities and on roads.

Several conversations talked about modernizing the levee systems. This includes changes in policy to allow repair, removal, and raising of levees. Several participants asked which levees should be raised and which should be removed. In some communities, there is a levee that fails every 5-10 years and does not meet fish passage requirements. For the future, there would be proactive management of levees, and the levees and tidegates that need to be repaired or removed would have that work completed.

Some participants noted that the Vision does not get specific enough about flooding in general, and flooding in eastern Oregon specifically.

Wildfire

Wildfire risks need to be added to the articulation of “safety,” according to some participants. There needs to be enough water to support firefighting, and fire itself could destroy water infrastructure (e.g., plastic water pipes).

Preparedness

A number of community conversations raised the importance of being prepared for an emergency, especially an earthquake. Participants talked both about the ability to be self-reliant for some time, and creating mutual aid agreements for neighboring communities to support each other. Another survey respondent stressed the need for communities to coordinate approaches to resiliency and recovery.

A need was expressed for emergency water supplies following a Cascadia earthquake event (e.g., for schools and hospitals) via secondary water sources (e.g., backup source or interties with other community water systems).

A lot of Oregon’s water infrastructure is not built to current seismic standards (e.g., dams). “What does the state or federal government plan to do to help with improving safety infrastructure?” asked one participant. Another was clear they wanted all high-hazard dams to be earthquake resilient or removed.

Resilience

Resilient infrastructure, both built and natural, was cited as a need in every community. From a lack of redundant water supplies and systems to the increasing need for climate resiliency, infrastructure that can withstand change and uncertainty is critical. Watershed resiliency in the face of wildfire and seismic resiliency for built infrastructure, like dams and drinking water systems, are specific challenges that communities face today and will undoubtedly face in the future. A participant in Medford described a vision of success as “A holistic approach to creating climate resilient built and natural water resources to ensure clean water for communities and ecosystems”.

Clean and Secure Water for Ecosystems and Oregonians

Doing More with Limited Water Resources

A large number of community conversation participants and survey respondents talked about their concerns and hopes for Oregon’s water supply. Those challenges and opportunities were framed in terms of making efficient use of available water before undertaking major infrastructure investments.

How water is used stems from how it is valued—for cities, fish, irrigation, electricity, or the environment. Participants asked if there were ways to increase water supplies (e.g., capturing more of the water from springs), increase efficiency (e.g., irrigation modernization), or reduce the amount of water used. Water use is also tied to whether it is viewed as a fixed resource, a renewable resource where all water is reused, or a consumable resource – when water is used, it is gone.

Several participants noted the challenge of managing water supply locally when some users are outside the watershed, and others wanted to limit/disincentivize transfer of local water supplies outside of their community.

Efficient Use and Reuse

Several participants and survey respondents noted that efficient use, and lack of water are not given enough importance in the current version of the Water Vision. Several survey respondents were clear that they didn’t believe there was a need for more water infrastructure like until expectations are reset on water use, and efficiency improves. Other respondents said both storage and efficiency are needed.

Some participants wondered if interests could be balanced when water is not managed in an integrated way with a recognition that resources are limited. They expressed a need for integrated water management with a focus on conservation and reuse. Said one survey respondent, “This is a good start, but appears to take the tactic of ‘building our way out’ of water shortage issues. Although resilient infrastructure is essential to addressing the issue... we need to acknowledge that certain regions in our state may have to make hard decisions about how water is allocated, and whether future development might not be appropriate in certain water-constrained areas.” Another participant pointed out that water provides for multiple uses, and should be used multiple times.

Participants talked a lot about water efficiency as a strategy for a) making current water supplies go further, and b) creating additional water for other uses (e.g., instream or business). Participants identified a lot of room for potential improvements in water efficiency. Many participants felt water conservation has not been taken seriously enough, and conservation needed to be a priority for all water uses. Many survey respondents also talked about efficiency and water reuse in the same comments.

Some survey respondents offered ideas around water pricing to encourage efficiency (e.g., graduated rate structures).

Participants also noted that some ecosystems have evolved with flood irrigation and leaky canal systems. In these systems, how irrigation occurs could be important for groundwater recharge, or existing wetland and bird habitat. In other cases, irrigation efficiency can increase water that stays instream.

In the future, Oregon would have a culture of conservation and would have optimized all areas related to water to be more resilient and adaptive. One participant referred to, “Adequate water for conservative living.” Another called for a “statewide citizen and corporate commitment to water conservation.”

Many participants talked about reusing more water—especially wastewater reuse. There are challenges to reusing industrial process water and municipal wastewater, but it is being done for irrigation (e.g., data centers sending warm cooling water to irrigate crops in Morrow and Umatilla counties).

As a limited resource, water should be used to its maximum potential, primarily in regards to the recovery and reuse of greywater—used water from bathroom sinks, showers, tubs, and washing machines. Infrastructure to make reuse and recovery possible, however, does not exist in many building codes and there may even be regulatory hurdles that inhibit this practice all together. In some communities, innovative and accessible solutions for greywater was a vision of success.

Use of smart technology can help increase water use efficiency. A survey respondent also noted that upgrading water management, doesn’t always have to be state-of-the-art. Tidegate improvements can be quite simple.

Drought

Drought is a challenge—hard for farmers and hard for rivers. Participants talked about how to share water resources in times of drought. The seasonality of drought, and how that seasonality is changing, was also raised by several participants.

It was noted that “droughts” might also be caused by water pollution where water is unavailable (e.g., harmful algal blooms).

Instream Needs

The connection between water and the environment was highlighted in all water conversations across Oregon. “I want my great-grandchildren to visit healthy wetlands and listen to the frogs,” was one participant’s vision of success. Participants raised concerns about water in the face of climate change and the health of watersheds with increasing floods, fire and drought. Participants

in each conversation referenced the importance of habitat as a key part of the 100-Year Water Vision. Some participants felt the Vision was too focused on built and natural infrastructure, without a strong enough reference to aquatic habitat and watershed health as an independent goal. “The Vision is too focused on ‘infrastructure.’ We need both infrastructure and ecosystems,” one participant said.

Participants who focused on the environmental goal wanted a clear distinction between the term natural infrastructure and ecosystem health. “I think the Water Vision needs to more explicitly address ecosystem protection and restoration measures that are needed to protect ground and surface water resources,” said one survey respondent. “It is not appropriate to refer to these precious water resources as ‘natural infrastructure’.”

Many participants highlighted the need for balance between a healthy environment and the other Vision goals, while some wanted environmental benefits to take precedent over economic needs. At each conversation, at least one participant raised the question of helping diverse groups move from “wants” to “needs” in terms of water use.

Participants expressed concern that conservation was not more strongly highlighted in the Vision, given that water is a limited resource and there are many competing demands. Measurement was noted as an important step in this direction.

Climate Change Leading To Changes in Water Availability, Ocean Acidification, Wildfire, Flooding and Drought

Climate change was raised as a serious concern for water in every community water conversation. “Water supply and water quality issues are impacted by climate change, including increased droughts, fires and flooding,” said one participant, and a survey respondent said, “the plan needs to anticipate changes caused by climate change as well – environmental changes including higher sea levels and animal and plant ranges shifting.” Another respondent noted, “Building new infrastructure won’t stop climate change.”

Others referenced increased impacts of storms on coastal communities, and weather variability that changes when water is available, including decreasing snowpack. Data will be critical to better understand these impacts on Oregon’s water systems. “Incorporating models of climate change into this planning is essential,” noted a survey respondent.

Coastal participants talked about both sea level rise and increasing ocean acidification. Those who raised acidification as an issue wondered how and if it would fit in the broader Vision conversation. “We also need to contribute to solutions for our coastal communities,” said a survey respondent. “That means reducing nutrient inputs that contribute to hypoxia and linking Oregon’s carbon footprint to rising sea levels and ocean acidification which threatens our coastal residents and economy.”

Climate change has impacts on ecosystems as well as water itself. As one participant recognized, “We need streams with natural hydrographs and natural infrastructure capable of mitigating climate change and providing resiliency.” Many participants noted that humans are not the only species impacted by these changes. Fish and wildlife are directly impacted as well. Others

recognized that while natural systems are resilient, investments need to continue to focus on watershed resiliency.

Some participants also noted that to address water availability issues, Oregonians need to reduce their own carbon footprint and its associated climate change impacts.

Watershed Connectivity

Much of the conversation around water and the environment focused on connectivity and the need to talk about whole system (watershed) health rather than individual projects. Depending on the location of the community conversation, participants provided connectivity examples that included healthy, fire-resistant forests, habitat connectivity, or making sure natural systems are seen as a part of the broader community infrastructure system. “For fish and wildlife, it’s not just about ‘access to water’, it’s also about the ecological processes that sustain healthy aquatic ecosystems,” said a survey respondent. Another highlighted the importance of “access and full ‘connectivity’ for native fish and wildlife. Fish and wildlife need to be able to migrate throughout habitat.”

Participants wanted to ensure that natural systems were not just considered as a part of the broader “built and natural water infrastructure” discussion, but that ecosystems were recognized for the benefits they provide, independent of infrastructure.

Soil health and its relationship to clean water came up across the state. A participant noted, “Soil, like water, is a fundamental resource that is at risk and will determine not just the ability of future generations to enjoy the same access to clean water, but the ability of future generations to survive in the face of the potential for catastrophe.”

Forest management was also raised consistently with a connection to both keeping forested watersheds healthy and reducing the potential for catastrophic wildfires in source water watersheds. While this has been traditionally an issue in southern and eastern Oregon, concerns about catastrophic wildfires were raised in every community conversation, including the coast and Willamette Valley. “A major goal for any vision of water for Oregon should identify restoring floodplain function to Oregon’s rivers, streams, and wetlands,” a survey respondent said.

Connectivity to other environmental priorities were highlighted, including land management, coastal estuaries, and their connection to broader aquatic systems.

Many participants identified the importance of managing federal, state, and private lands for clean and available water. They noted that, while some lands are private, all are needed to manage water as a public resource, yet management across these ownerships isn’t always coordinated. Programs exist for some landowners. As an example, participants referenced the Conservation Reserve Enhancement Program that works with private landowners to plant trees in riparian areas as an example that is not available for all landowners or ownership types.

Instream Flow, Protection, and Restoration

Participants in each community conversation discussed adequate instream flows as an important consideration for the state’s Water Vision. Concerns were raised that decreases in river flows for endangered fish and other species will get worse with climate change. Reserved instream water rights for fish were referenced as a tool that could be utilized more broadly. “Under environment, it

should include not just access, but a clear statement in the goal to protect streamflows necessary to support healthy populations of fish and wildlife,” said one survey respondent.

The connection between instream flows and water quality was highlighted in a number of conversations. Participants also talked about ways to keep more water higher up in the system (federal and state forestlands) for fish, habitat, and water quality for consumptive uses. The Integrated Water Resources Strategy was mentioned as an important linkage with the Vision for instream flow language.

Some participants recognized tensions around flow minimums and the multiple demands on water, with the need for more flexible tools to ensure adequate instream water. Some wanted to seek a balance based on “needs rather than wants,” getting people to come to the table to discuss critical water needs in a collaborative way. One participant highlighted the importance of “cool, clean water, abundant fish and wildlife and free-flowing rivers along with sustainable, vibrant and diversified economies.” Others wanted to ensure that protection of instream flow was the top priority, recognizing the need for more water for fish instream combined with more efficient water systems for human use.

Invasive Species

Invasive species and their impact on water systems were raised in most community conversations. Participants were concerned that invasive species issues weren’t able to be addressed in a timely manner. If they aren’t addressed, they have potential to greatly impact watershed health and water quality. The invasive species referenced range from invasive fish species and mussels to aquatic plant species. Said one survey respondent, “The impact [noxious weeds] have on Oregon’s fragile ecosystems as well as water quantity and quality needs should be considered.”

“The state needs to invest more resources (staff and funding) into protecting Oregon’s waters against the negative impacts that aquatic invasive species pose,” said another respondent. “Prevention of new species getting established and the control and management of existing species needs to be highlighted. If future investments are not made into this important environmental issue, then future water supplies will suffer major negative impacts that will go beyond just investing in the current Vision and problem statement.”

In addition, survey respondents highlighted a critical need for data around invasive species to address the issue as early as possible. “We need to invest heavily in invasive species monitoring, detection and early eradication or we will suffer not only great losses to our water resources but also to our industries.”

Public education was also raised as critically important in the area of noxious weeds, to reduce their impact and to help Oregonians understand the key link between invasive species and water quality.

Ecosystem Services

Some communities highlighted the potential for more strongly making the connection around the importance of ecosystem services—the direct and indirect contributions of ecosystems to human well-being—and stressing the economic value of environmental conservation. Participants recommended providing clarity that investing in restoration is a part of the Vision, and to look for opportunities for natural systems to meet water goals in more sustainable ways. “The ecosystem

services that the water cycle provides should be somehow incorporated as well,” noted a survey respondent.

Participants in nearly every conversation noted the need for more investment in restoration and natural resource management. Opportunities were highlighted for investments in forest restoration and investments to improve planting projects to add native plants, for example. Public participation to ensure their willingness to invest in restoration projects was mentioned as well.

Habitat Restoration and Connection to Species Needs

Restoration projects that improve water quality and quantity and natural systems were mentioned in most community conversations as important. “Environmental benefits of restoration of natural systems are critical to all of our futures,” said one participant. Participants noted that habitat restoration and protection should be coordinated with development. Restoring habitat, streamflows, riparian zones, and naturally functioning wetlands were all identified as important in various conversations.

A number of species were discussed in community conversations that can either provide a benefit to habitat for fish or are impacted by habitat quality. Beaver were referenced in many community conversations. “Beaver create and maintain wetland, riparian, and riverside habitats,” noted one participant. Others would like to see increased accommodation for beaver on the landscape, including on federal lands and private lands where they are compatible. Where beaver aren’t on the landscape, some eastern Oregon participants highlighted the use of restoration techniques like “beaver dam analogs” to mimic natural beaver dams.

Communities highlighted that water quality and quantity to support aquatic species are as important as human health needs to restore healthy, abundant fish populations. Some communities viewed success as the ability to de-list species like Coastal Coho from the Endangered Species list, and as enough fish are in Oregon’s rivers for sustained harvestable populations of native fish.

In every community conversation, the importance of water for habitat was raised. Tribal members who attended community conversations raised the importance of access to fish and their habitat as a part of their tribal treaty rights. Others highlighted concerns about habitat to support threatened and endangered species habitat and maintain healthy waterways. Riparian buffers, beaver dams, and fish passage were all mentioned as important for fish habitat. The co-benefits of streamflow and riparian habitat were identified—both fish and humans benefit from clean, cool water.

In southwestern Oregon, the Jordan Cove pipeline project was discussed with respect to concerns about riparian areas and contamination of fish-bearing streams. In the Willamette Valley and Coast Range, concerns were raised about rivers being disconnected from their floodplains. “Lack of river structure, meanders and riparian cover is increasing water temperature,” said one participant.

Some communities discussed the need for habitat restoration projects to follow different requirements to exempt restoration projects for easier implementation.

One participant identified success as “ecosystems, aquatic, riparian, estuary protection, and restoration are recognized under the Vision as integral to sustaining water supplies and supporting human communities and economies.”

All communities discussed cold water as important for habitat, and highlighted concerns about continued access to cold water and associated refuge areas for fish. Conversations around the importance of cold water refuges for fish species was highlighted as a priority that should be included in the Vision. Utilizing natural infrastructure, such as streamside buffers and vegetative shading to cool instream water temperature and enhance aquatic habitats were specific solutions proposed in Albany.

Water Supply

A large number of community conversation participants and survey respondents talked about their concerns and hopes for Oregon's water supply. Those challenges and opportunities were framed in terms of:

- Recognizing the ability of all water uses to have access to the water supply they need; and
- Moving forward quickly on natural and built storage strategies in the face of climate change.

Availability

Currently, there is a lack of groundwater and surface water to meet all needs, and there is limited information on what water is available. Participants liked the idea of a good statewide plan that identified the water resource quantity, quality, and demand. Participants asked whether the state had enough water, but not the right natural and built infrastructure. Others commented on the lack of flexibility in regulation relative to water availability.

Groundwater

Participants talked about critical groundwater, declining aquifer levels, and overdeveloped aquifer areas. Some of those groundwater supplies could be gone, and some are drawn down to levels where domestic wells are going dry. Some wells need to be dug deeper. Several participants mentioned groundwater levels dropping at rates near 3-5 feet per year. Several survey respondents called for no overallocation of groundwater, setting withdrawal levels at or below sustainable levels, or even adjudicating some groundwater basins. One survey respondent stated, "Our water is being mined out from underneath us."

There were also challenges identified around groundwater recharge (e.g., difficult in some geologies, or recharge changing as a result of irrigation modernization). Some participants mentioned recharging groundwater with surface water drawn from the Columbia River. Others mentioned the challenge in recharging the near surface groundwater and shallow aquifer. One participant's vision of success included, "Storing winter water to recharge aquifer to feed river baseflows." Participants expressed that there needs to be a better understanding between surface and groundwater connections, and between groundwater recharge rates and withdrawal/use.

Some communities—both municipalities and farming communities—are dependent on groundwater (e.g., Hermiston and Hines). Several survey respondents talked about the emerging challenges from different groundwater uses (e.g., residential well and hemp farm growth in northern Deschutes County, or hay farming and municipal use in Harney County).

An example was highlighted where a pending moratorium on new wells prompted many to drill wells before the date the moratorium took effect. Those ancient aquifers may not recharge, or may not recharge at a rate that would make them usable once they are drawn down.

Many participants felt there needs to be a groundwater strategy to track conservation and recharge, that future groundwater use needs to be sustainable, and that there needs to be stronger groundwater and aquifer protections. One participant also called for restoring surface and groundwater levels to increase cool groundwater returns for fish and to protect domestic wells.

Some noted that efficient irrigation could slow the rate of groundwater decline, and groundwater recharge could be included as part of irrigation district modernization projects.

Participants highlighted that the Vision should be clearer that the 4 goals all apply to both surface and groundwater.

Less Reliable Summer Water Supply

Water supply will be less reliable with less snow, more rain, and shrinking glaciers. That change in rain and snowpack will lead to lower summertime and fall flows in rivers across the state. As a result, there will not be enough water stored to meet needs (e.g., instream, drinking water, hydroelectric generation, and irrigation) later in the year. In the winter and spring, there may also be increased flooding that is harder to predict. Those concerns were expressed about both western and eastern Oregon. As one survey respondent noted, Oregon's water challenge has always been about timing—that we have enough water, but the mismatch in timing between water availability and water need is what makes things hard.

Low stream flows and warmer air temperatures in summer and fall also present a challenge for the fish that need cold water, and for species that don't do well in streams that dry out sooner and more often. In Clatsop county, one participant pointed to drinking water supplies starting to dry up later in the summer. Low flows and warm temperatures can also lead to water quality problems (e.g., harmful algal blooms). The change in runoff timing can also be a challenge for fish migrating through the river systems.

Low water supplies can increase fire risk via dry conditions, and also limit water for firefighting.

Participants talked about the potential to increase storage capacity on the landscape. One participant discussed restoring habitat for and working with beaver in headwaters to retain water naturally. Another noted, it is challenging to build new or expand existing storage.

Participants hope for the future includes the ability to grow and not be limited by lack of water, and the ability to reestablish a healthy water cycle to help "hydrate" the landscape. Consistent flows of high quality water were identified as important. One participant hoped that "water calls" for agricultural uses to realize their water rights become rare because there is adequate water. Getting there could include action plans for increased resiliency in water storage capacity, creating redundant water supplies, and planning for water security.

Some participants pointed to a need for flexibility—so if one water user needed more, those who need less can give.

Long-term Needs

“We have the water we have” said one participant. Water is not an unlimited resource, and there may not be enough water for all future needs.

Long-term supply includes projecting and planning for changes in demand from small and large communities, population growth, the result of shifting sources from surface to groundwater supplies, and other variables.

Participants wanted people to be aware of the changing demand for water, and a survey respondent noted that increasing demand will also increase the need to navigate trade-offs.

For the future, many participants hoped for sustainable, abundant, adequate, safe, reliable, consistent surface and groundwater supply for people, business, habitat, and instream. Some participants also noted that it was difficult to manage for the long term with missing information on water availability and lack of flexibility in regulations. Ideally, each water user would be aware of the other users and their needs.

Participants provided suggestions including holding water in reserve for emergencies, ensuring long-term water supplies flowed to places with need, not just where money is, and planning for now and future generations to avoid crisis mode.

“Reorientation of the problem statement which reads with a heavy focus to infrastructure. A better expression of the problem would seem to be that there may not be enough water to meet the needs of fish and wildlife, communities, and industry into the future considering climate change and population growth projections. Additionally, there isn’t currently a robust enough “toolbox” or information to adequately address this problem and there is not a recognition of the existence or magnitude of this problem by the Oregon public at large,” Said a participant. Some survey respondents also pointed to reframing the problem statements to recognize overallocation and missed opportunities for efficiency as problems underpinning long-term water issues.

Municipal

For municipal water users, many participants were interested in seeing an adequate supply for drinking water and industry. Municipal water supply came up often in growing communities (e.g., Tillamook, Bend, and Albany).

Land use right now is managed for housing and business supply, not water supply. There is pressure for development in areas with little water availability.

On the coast, several participants pointed to the surges in water use from “transient occupancy” (i.e., tourists). Participants were concerned about equitable allocation of water use, and costs. This is especially challenging because seasonal water use is highest when supply is lowest (summer). This is leading to worries about water shortages and moratoriums on new connections.

Some small communities don’t have reliable access to sufficient water (e.g., Monroe). Some municipal supplies are more at risk from decreasing snowpack (e.g., Ashland) than others.

Participants wanted communities to have sufficient access to drinking water regardless of size or demographics, and others wanted to expand potable water to more people.

Storage

There is a lack of storage capacity in the summer and fall—both natural and built storage, according to many participants. Storage capacity is more limited in some areas (e.g., Walla Walla Valley; Coast Range). That storage can help mitigate the flux between dry and wet years. Sometimes that storage is not only needed for towns and agriculture, but also to support instream flows for fish, recreation and tourism, and energy production.

Storage could include reservoirs behind dams, groundwater infiltration/recharge, or it could include storing water on the landscape in forests, wetlands, healthy soils, etc.—both with the intent of holding water up high for use later in the year. Several survey participants were interested in natural storage potential to “Keep the water in the watersheds.” This included the role of beavers as beneficial to storage, and fuels reductions in forests to reduce wildlife and retain snowpack longer.

Participants both pointed to dams as a storage solution, and to dams as a challenge for habitat, water quality, etc. Suggestions included decoupling storage from dams, or considering the potential of off stream storage and/or use of stormwater.

A few survey respondents mentioned the potential of more rainwater harvesting. Others suggested speeding permitting for the storage capacity needed to adapt to climate change, and noted that storage is also needed to supply firefighting efforts.

Some participants asked about the costs and benefits of natural storage (e.g., floodplains) and dams. Others noted that the idea of natural storage and groundwater recharge is not fully in the Vision.

Water from Public Lands

Several participants talked about the important role of public lands especially forests—in providing water for downstream users (and even prioritizing water’s role in land management). On the coast, many municipal supplies rely on water generated from state and national forests, and they rely on that water to be clean. On the east side, municipal and agricultural water also starts in the national forests. Several participants called for holistic forest management that stores water, sinks water, and reduces erosion. One unique aspect of the coastal forests, is the role of summertime “fog drip” for water supply—where fog is captured by trees, turns into precipitation, and supplies water for streams.

Clean Water

Water is integral to life. In Oregon, not all waterways are clean, drinkable, swimmable, or fishable. “Improving water quality in all Oregon basins” was called out as a priority in all communities. Broad-based issues, like ensuring clean water is available for expanding communities and balancing the interest of multiple water users, highlight the emerging need to protect and enhance water quality and health using equitable management solutions. Similarly to the environment goal, several participants suggested that health should be placed ahead of all other goals.

Other specific issues, like algal blooms, wastewater treatment, sedimentation, temperature, and microplastics pollution, were commonly cited water quality concerns across communities. “Clean

water available to all those who rely on it (humans, wildlife, plants),” should be a priority in the Water Vision, and was a theme that appeared to be supported in all communities.

Harmful Algal Blooms

With recent water quality issues related to harmful algal blooms, the community conversations in Tillamook, Albany and Medford, raised the management and anticipation of harmful algal blooms (HABS) as a major water challenge. In Bend, similar issues around eutrophication due to excess nitrate runoff was also sighted as a challenge and a hazard that exacerbates algal blooms. HABS were also cited as a large concern by several survey respondents: “Eutrophication (nutrient enrichment from municipal, agriculture and industry) is generating conditions that favor harmful algae blooms, especially those from cyanobacteria or blue-green algae.”

Fishable, Swimmable, and Drinkable Water

Water that is fishable, swimmable, and drinkable is critical to the health of any community. “Accurate, transparent information about our drinking water” and restored trust that communities have clean, safe drinking water was a prevalent need discussed in every community. Drinking water quality in small communities and in private wells, and the lack of resources available for testing was also a major concern. Re-instilling public faith in drinking water infrastructure should be of high priority in the Vision.

Clean water to support recreational interests, including swimming, fishing, and boating, was a concern in all communities and in the survey. “Everyone swimming and fishing and boating in clean rivers and tributaries” would be a marker of future success, according to a participant.

Wastewater Treatment, Reuse, and Water Quality Standards

In La Grande, a vision of success looks like “no 303d listed streams in Oregon.” Ensuring that all of Oregon’s water meets water quality standards is a marker of success. In Albany, Medford, and the virtual conversations, the “lack of wastewater solutions” and the solution of “fully reusing wastewater” were suggested. The specific issue around the needs tech companies have for cooling capabilities and other non-consumptive water uses was raised. How do communities plan for these needs, and ensure that this water can be returned, at adequate quality and temperature, to the system? In an uncertain climate future, maximizing the use of available freshwater should be a priority.

Septic, Wastewater, and Stormwater

General concerns around wastewater, stormwater, and septic systems were vocalized in most communities. These concerns however, tended to differ by community. In Tillamook, septic systems, either aging or needing expansion or regulation, were highlighted by several participants. In Bend, increased efficiencies in wastewater treatment and recovery was seen as a vision of success, especially when managing and planning for projected community growth. Conversations along the I-5 corridor identified the shortcomings of current stormwater management systems. From utilizing natural infrastructure to reducing costs of stormwater management and treatment, to incorporating stormwater management into all water projects, conversations in Albany and Medford flagged these systems as a large concern.

Source Water Protection

Water quality at the source is also critical in ensuring future sustainability. Protecting headwaters, watersheds, and upstream habitat was a consistent thread throughout all of the community conversations. The restoration of critical land and habitats utilizes natural infrastructure to protect upstream water quality.

In Albany, Tillamook and Medford, as well as in the survey, impacts of land use was discussed as a source of water quality stressor, primarily wildfire and forestry practices: “Clear-cutting tree plantations directly and negatively impacts down-stream communities' water quality and quantity.” Industrial forestry practices were cited as historical and current practices threatening water. Increasing wildfire hazards are also of high concern in wildfire prone areas, primarily voiced at the Medford conversation. The removal of natural stream buffers, from either forestry practices or wildfire, is viewed as a problem that requires an integrative, holistic, place-based land management approach that prioritizes source water protection.

Pollutants: Pesticides, Sedimentation, Stormwater, and Microplastics

A variety of pollutants have constant impacts on water quality. From pesticides and plastic pollution, to chemicals and other emerging contaminants, each community faces both similar and different challenges when it comes to managing pollutants in waterways. In the Gresham and Albany community conversations, and in several survey responses, the quality of stormwater runoff was of particularly high concern. As water washes over the landscape, in rural, urban and residential areas, communities are concerned with the impacts of land-based toxins entering waterways. More broadly, along the 1-5 corridor, on the coast, and in the survey, pesticide runoff from agricultural and forestlands were cited as major concerns in those areas. Conversations around pesticides were almost always followed by issues surrounding sedimentation influxes due to clear cutting on forestlands. In Ontario, however, sedimentation was raised as a concern, but in reference to upstream agricultural practices along the Snake River.

Coastal communities pointed out the fact that the ocean is the ultimate receptacle for upstream activities, and coastal communities often feel the impacts of those activities. Emerging contaminants, like microplastics and fibers, pharmaceutical drugs, personal care products, and other toxins places extra burden on wastewater treatment facilities and degrades the overall quality for downstream users and the environment. Impacts of emerging contaminants on downstream users was also mentioned during the Gresham, Bend, Albany, and Medford community conversations, as well as in the survey.

Several survey respondents flagged the presence of chemicals—whether it be from industrial manufacturers, agriculture, or forestland runoff—has led to reduced water quality in streams, rivers and lakes. A few participants discussed the need to halt “indiscriminate logging” and end the use of all synthetic petrochemicals on forestland.

Process Recommendations

The information regarding process design provided below is a summary of what was gathered through the community conversations and web survey, and does not necessarily reflect the process that will be recommended moving forward. Participants provided extensive feedback about the process to both design and implement the 100-Year Water Vision. Based on information from the conversations,

website, interviews, tribal meetings, and individual correspondence received, a design for Phase II is in the process of being finalized, and will be made available upon completion.

Balancing Interests

One common theme across all conversations was the need to balance interests. This included balancing stakeholder participation in the process, as well as balancing across the Vision's goals. Some felt the Vision and associated process was too focused on infrastructure, and that any future process will need to do a good job of balancing across all goals, while also being agile to adapt to future needs.

Participants appreciated the idea of a shared statewide Vision, but some had specific caveats. Examples included ensuring the Vision was realistic and achievable, that a shared Vision would make it easier to move forward on projects and programs that could show real-world successes, that the Vision was truly integrated and not just focused on infrastructure, and that the Vision was enforceable. Participants also wanted to ensure the benefits were worth the investment, and that the Vision was supported—both in planning and implementation—by communities statewide.

Regional Approaches and State Framework

Across the state, to varying degrees, participants emphasized the need for the process to include regional approaches and flexibility to adapt to different conditions in each region. There was strong encouragement for systems that allowed regional prioritization of water projects and innovative approaches that reflect regional differences.

At the same time, there was also a recognition that some sort of statewide framework needs to exist for the Vision to be successful. While few locations provided specifics about how this could look, participants in every region had specific examples of projects where flexibility was key. These included the use of wetlands to treat wastewater, innovative solutions to address aging tide gates, market-based water trading for both ground and surface water, groundwater recharge, and investments in better management of the land in source water watersheds, to name a few. In each conversation, participants identified the need to ensure the Vision was adaptable to changing conditions, lessons learned, new science, and other local or statewide conditions.

Connection to Integrated Water Resources Strategy

In every conversation, the importance of connecting the Vision work to the state's existing Integrated Water Resources Strategy (IWRS) was raised. Participants recognized the extensive work that went into the development of that strategy, and wanted to ensure that the time and effort that went into the strategy was not lost in the development of the Vision. At the same time, some participants wanted to ensure that the work on the Vision also provided feedback for the next iteration of the IWRS. In addition, numerous participants recognized the need to build off of other models in Oregon or in other states (example: Oregon's regional approach to prioritizing transportation investments).

In many conversations, participants highlighted the need to ensure that the process led to both "sustainable" water management and "resilience" for both built and natural infrastructure. These were not specifically defined.

Equity

In some conversations, participants raised the need to ensure equity, both in who is involved in developing the Vision and in how the Vision is implemented. At the same time, participants raised

concerns that not all interests were represented in the community conversations and that the state needs to work to ensure all impacted groups are invited and encouraged to participate in the process.

Communications

Participants in most conversations recognized a need for broad communication between stakeholder groups and the state throughout this process—transparency was key. Once implemented, communication in communities continued to be an important aspect to highlight in the process, including the need to help community members understand the importance of investing at all. In addition, “Strategic investments may also be required to facilitate and maintain community engagement needed to ensure all community voices are heard and the local vision is embodied in the outcome,” said one participant.

Public Input

In addition to educating the public, some participants wanted to ensure that projects received public input, particularly if funded with public dollars. In terms of the process itself, “Perhaps a committee of interested stakeholders from across the state should be in charge of developing the Vision and concrete steps to accomplish the important task of ensuring reliable and clean water into the next century,” recommended a participant.

Coordination and Collaboration

Participants in all conversations highlighted the need for the process and its implementation to be collaborative. “Collaboration and coordination across agencies and organizations to create sustainable solutions that can evolve over time to meet the Vision and goals,” was identified as an indicator of success. At the same time, concern was expressed that the process wouldn’t truly be collaborative, instead pitting different interests against one another. A survey respondent noted, “Being creative and cooperative rather than regulatory in our approach to maintain access to water and protecting habitat has many long-term benefits for all of eastern Oregon.”

Participants were concerned that water management and investments were fragmented and overlapping. They encouraged agencies to manage silos and work to coordinate from the federal level across to the state, universities, tribes, and local communities. Federal land management agencies should be included in the process. One example of silos was the many agencies who either manage or fund water projects. Another was the potential for land use planning and water regulation to be more closely coordinated. Participants also encouraged interstate coordination with neighbors, especially those that are connected to the Columbia River system. “I don’t see how the 100-Year Vision can be effectively implemented without... an immense funding effort for the numerous environmental agencies and without some overseeing body to coordinate the implementation of the objectives and strategies,” said a survey respondent.

Small communities in particular highlighted the need for coordination. Adequate technical oversight and guidance provided by the state to small communities could result in more collaboration amongst small communities and their neighboring large communities. Currently, “Small struggling systems are isolated, and not sharing,” said one participant. Other participants also encouraged more city-to-city partnerships, city-county partnerships, and collaborative problem-solving across water user communities. One participant said they would like to see “multiple local organizations collaborate on regional water strategy that integrates agricultural uses with municipal users.”

Participants in half of the conversations highlighted the need for a “one water approach” for water supply, water reuse, and wastewater to increase coordination. These approaches could help meet both common and individual goals.

Consideration for Future Generations

Given the Vision’s 100-year mandate, participants noted it was important to take a multi-generational approach. Participants in some communities wanted to ensure systems were designed to provide flexibility for future generations, given how hard it will be to predict future needs. Some participants noted that young people were missing from the conversation. Others also recognized youth outmigration from rural communities and expressed concern about how to manage for generational change. Some participants wanted the Vision to encapsulate a longer time frame, similar to the tribal “7-generation” approach.

Leadership

Participants identified a need for leadership at all levels (local, state, federal), with engagement across agencies to make difficult decisions. They highlighted concerns about leadership of state agencies and the legislature to enact big changes, and wondered if water leaders were committed to follow through. Participants felt that commitment was not seen in terms of staffing, support for planning, or funding water projects. Participants would like to see proposed legislation and funding viewed through the lens of the Vision and the IWRS.

Participants also noted that there isn’t clarity about who is in a leadership position related to the 100-Year Water Vision.

More broadly, participants noted that all Oregonians can take a leadership role in water conservation and improving water quality. They wanted to find ways to empower individuals to take responsibility and understand the needs of others, as well as ways to utilize institutional knowledge in decision-making.

When the Vision is successful, participants wanted “leaders willing to take risks, do things differently, and be bold,” said one participant. Another noted that successful leadership would be realized when Oregon “is a model for how to work through complex issues.”

Another participant identified success this way: “Watersheds have a rotating leadership team with authority granted by the watershed to: 1) prioritize projects to protect the water quality and quantity; 2) authorize pooled funding; 3) convene; and 4) negotiate for regulatory issues at state, county, and federal level.”

Participants in some of the conversations recommended that the state pay attention to the experience of tribes and their connection to water as a basis for long-term water conversations.

Measuring Vision Objectives and Outcomes

Participants in all communities highlighted the need for accountable criteria to measure progress toward the Vision and local plans and an ability to check in to determine what’s working and what’s not. The need for measurable outcomes was also discussed and an ability to track incremental progress and improvements.

Prioritization

Participants identified the ability to prioritize projects and investments as important for the Vision to be successful. Currently, they identified a lack of consensus on prioritization, and raised questions about who would be at the table to ensure prioritization reflected diverse communities and focused on major issues. “A prioritization process needs to be logical and fair, with clarity about how money is spent,” said one participant.

Balancing a Sense of Urgency with Long-term Vision

In addition to balancing stakeholder involvement and investments, participants in each conversation identified the need to both have a long-term Vision and the urgency to act now to invest in key water projects, planning, data, and other critical water-related needs. Some participants were concerned that 100 years was too long for a vision, others raised concerns that it wasn’t long enough. Some participants worried that a long-term plan would slow down efforts to invest in current needs. While only one conversation (Ontario) specifically included youth, nearly every conversation included a discussion of the needs of future generations of Oregonians.

Some participants were concerned about multiple years of feasibility studies that would put good projects on hold. “Long-term and immediate planning based on comprehensive data collection and iterative decision-making to build an adaptive system,” was one participant’s description of success.

Some participants wanted a set of water-related questions that decision-makers should ask before making land use or other decisions—both in the short term, and questions to consider long-term impacts.

Across the conversations, some participants noted that the state is not planning on the same cycles as communities, who need to develop 20- or 50-year plans for their water systems. “Try to think big picture and what is best for Oregonians 100 years from now, not what is best for us in the next 5 years,” said one survey respondent.

Other Process Models

The state’s approach to transportation funding was highlighted as a model in some community conversations. While the regional approach is a model, some participants noted that both the type of funding for transportation (gas tax) and how regional systems are organized for transportation are currently lacking for water.

Trust

Participants highlighted issues related to trust across the conversations. Perceptions of “haves and have nots,” “us vs. them,” and stakeholders with “all or nothing” approaches were raised as barriers to successfully implementing a Water Vision process, given that water is limited resource. Participants referenced a lack of trust between groups based on past practices (litigation and overuse of water were both discussed). Participants highlighted a critical need to build relationships with existing and new water interests, particularly those who haven’t seen eye-to-eye in the past. “Success is when diverse groups see value in each other’s work towards a virtuous circular economy of water that benefits and optimizes all uses. Imperfect but holistic,” noted one participant.



Engagement with Sovereign Federally Recognized Tribes

Overview

There are 9 federally recognized tribes within Oregon's present day borders. As sovereign nations these tribes have unique rights related to water, land, and food, and are responsible for managing systems that provide water to their tribal members. Since time immemorial, tribes have been stewards of natural resources and native fish and wildlife species. Located across the state, each tribe has a vastly unique cultural history. Tribes should be viewed as individual sovereign nations and not as a group or "just another stakeholder." While consulting with sovereign nations is legally defined similarly, engagement, leadership, values, and community challenges within each tribe are completely unique, and should be treated as such.

It is critical to recognize that no one tribe can speak for another. To ensure the tribes were engaged in the Water Vision, the state offered meetings with all 9 tribes. Staff met formally with 7 of the 9 tribes, and had conversations the other 2 tribes.

This document contains the notes collected from each of the formal meetings and conversations with each of the tribes. To ensure each tribe's unique thoughts were expressed and recorded, while notes are categorized by theme, all notes are recorded here. All identifiers have been removed to ensure tribal anonymity. Where similar comments are noted within each section, they are intended to reflect the individual perspective of one tribe, tribal member, or tribal staff. No notes were combined.

Overarching Themes

Tribal Sovereignty

- Place-based planning efforts need to recognize tribes as a sovereign
- Tribes are sovereign indigenous nations and shouldn't be considered a junior partner to the State of Oregon
- Tribes must be given a clear seat at the table and respected

Tribal Consultation

- Every state agency needs to consult with tribes on the front end; consider how decisions translate to tribes and rural Oregon
- Recognize tribes are good community partners and will be at the table
 - Tribes carry historic and helpful information
- Make sure there is consultation with the tribes and that it is early enough to be meaningful
- Would like regular conversations with tribal council
- Potential environmental impacts with ground disturbing practices should be mitigated through Section 106 Consultation

- Oregon needs to recognize that government-to-government consultation is really important and must continue throughout the process; it is not a one-time conversation
- Tribes can and should play a strong role in developing the Oregon Water Vision
- Tribes have permanent land bases and are committed to long-term stewardship
- Balanced approach: economic, environment, social
- Management and technical expertise
- Traditional Ecological Knowledge supported by western science
- Political and legal relationships with the federal government, some tribes with treaty rights
- Work in partnership to get tribal council up to speed – make sure they are invited to participate
- Government-to-government with tribes at the table

Tribal Rights

- Tribal treaty rights conversations shouldn't be just 'black and white' and narrowed down to specific legal interpretations. There is a moral obligation to work with sovereign nations, including in the gray areas
- It is important to remember that rights were not 'granted,' they are validated in treaties
- It is important to understand that just like tribes have treaties with the federal government, they also have a commitment and responsibility to the land, plants and animals who sustain them. Aboriginal rights and responsibilities go beyond treaty rights. It is a spiritual commitment and responsibility for tribes to care for the land, plants and animals. And, if the system (the land, plants, and animals) isn't healthy, then tribes can't fulfill their treaty rights to hunt, fish, or gather foods
- Tribal treaties are with the federal government; but the responsibility in many areas (clean water) has been deferred to the state; that's a heavy responsibility for states to carry out, but it is a requirement
- The inclusion of tribes and treaty rights in the vision is critically important; it is also important to recognize that every tribe and its recognition is different
- Water adjudication continues to be a question, important to understand the nature of water rights for individual tribes (varies for each tribe), including time immemorial rights, treaty rights, rights associated with tribal lands, etc.
- Tribal rights, usual and accustomed rights are very different for different tribes; don't assume that treaty rights for all tribes are the same
- Some tribes also have different official land designations (tribal lands, ceded lands, etc.) – be clear about the fact that each tribe has different designations
- Water is a treaty right for some tribes
- Important to pay attention to tribal rights and responsibilities, including water rights when held by tribes

- Overall seems balanced but curious what is meant by tribal treaty rights? Which treaties - tribes? Broad but that is probably good - is the assumption that we can have it all or do we share pain equally?
- Mentioning treaty rights can mean different things to different people – need to be clear about what is meant by this terminology

System Redundancy and Resiliency

- Importance of addressing backup water supply needs in systems that are entirely driven by pumps – what happens when the electricity goes out?
- This is not just a tribal issue – any community with jurisdictional water needs has to address backup systems

Efficient Use and Reuse

- Need expanded ability to use gray water and move water back higher in the system for reuse
 - Reuse should be built into building codes (this is low-hanging fruit and easily doable)
- Vision needs to speak more to conservation; systems approaches (banking) to all for flexibility for future water needs that we don't recognize now
- Do this in a way that rewards those who innovate
- Interest in rainwater collection for human use; not currently allowed

Innovation

- Make use of the latest innovations and technologies (GPS, sensors) for efficiency. Also recognize that for landowners to implement efficient practices to improve water quality and quantity, there needs to be an economic benefit as well. Think about ways to more effectively market the benefits of conservation technology
- Use this time and place to develop new and innovative solutions
- Look to other states and countries to see what technologies exist that we could bring back to Oregon
- There are innovative water recovery and reuse systems, but we aren't able to use them in Oregon
- Changes in the system from 100 years ago are impacting us now (warming lakes, algae blooms). We need innovative solutions now to solve past issues. Rural communities need help to be able to afford those solutions

Safety and Emergency Management

- Strong connection between water needs and emergency management, particularly on the coast and for communities that have been designated as safe places
 - There needs to be water systems for the influx in population in the event of an emergency

- Safer and healthier communities
- Floods and fires

Water as a Public Resource

- Ownership needs to be protected from cooperate interests
- Call attention to water as a public resource; make sure the public understands what this means – if there are public funds invested, must be responsive to statewide criteria

Infrastructure: Natural and Built

- Challenge of funding wetland mitigation projects in areas that weren't traditionally wetlands – the soils don't necessarily hold water in the same way a natural system does, and projects may not have enough water available to keep the wetland 'charged'
- Use natural infrastructure for water reuse and to increase water supply predictability
- Think about how healthy forest management can boost aquifer recharge
- Reduced storage capacity in lands and soil
- Define natural and built infrastructure more explicitly
- Build in both natural infrastructure and direct environmental benefits under the vision umbrella
- Really increase emphasis on benefits of floodplain itself
- Prioritize protecting and improving the ocean, wetlands, rivers, streams, and lakes that have sustained us for generations, instead of building costly new infrastructure which requires constant upkeep. The construction of new infrastructure can be environmentally harmful
- The question of needing to address 'current' infrastructure will get in the way of implementing creative solutions
- What do we mean when we talk about infrastructure?
- Success would include: developing infrastructure for generations and future growth which also sustains plants and animals
- Water storage has been politicized (dams vs fish). This makes it difficult for collaborative conversations. We need to be able to have productive and reasonable conversations about water storage

Coordination, Collaboration and Community Engagement

- Broadly for the water vision, solutions need to be local – empower local governments to make decisions locally – engage tribes as a government, not just a stakeholder
- Local empowerment, what does it look like for tribes?
- Place-based planning has been very inclusive of tribes
- What does local look like? We definitely need local engagement and trust, but we need to understand and define what local is
- Success would include: reaching a greater level of consensus from the public

- It's always a challenge to provide information, notify, and solicit feedback and involvement from the community at large. You tend not to hear from people until there is something that directly affects them (tax increase, project that affects them in a negative way, etc.)
- Federal agencies, watersheds councils, land trusts, tribes, ATNI., environmental and social justice activists, communities of color, unions should be engaged
- There is a tension between tribes, counties, state, feds – can result in triangulation where two parties agree, but can't get the others to the same table – need to work toward collaboration
- Vision needs to include federal agencies
- Look at and learn from what other states are doing (especially related to reuse)
- Stakeholders need to support each other's water challenges
- Collaboration needs to happen – how does all of Oregon have the quality of life needed?
- Limited tribal involvement in Columbia River Treaty – this will have big impacts
- Need to involve federal tribal agencies including the Bureau of Indian Affairs and Indian Health Services
- Connection of the Vision to federal agencies – this is a big infrastructure problem. It's a national effort – what's Oregon's role?
- How has partnership worked with the tribes– the need itself dictated the partnership; it's very powerful to go to DC to lobby for this work together with partners; makes a big difference
- Think about how 'we' as neighbors work together to co-manage this valuable resource
- How do we work together? Must start with relationships
- For water vision to be successful, we need to put teams together that are centrist – not just teams formed by Governor Brown, but future governors as well. Work closely with those who are in communities working with water every day – they are the best to engage to solve local issues together
- There is no 'win-win' – it's really a conversation about losing what you want in equal amounts across interests
- Consider education programs first. Start with small wins and build from there. Make sure you have accurate information to educate communities – provide them with all the information
- Limited resources with some users and some folks that are in direct competition with each other can create a win/lose situation

Long-term Planning

- Question for vision: are we really willing to address this in a real way? This is a 10-year conversation for a 100-year vision. It will take time – are we willing to make the commitment?

- We need to think about the whole system; from beginning to end. You can't do this work by doing one small project at a time
- Need to build in sustainability to the vision
 - How does this plan carry on once we are gone?
- 100-year plan is a good attempt, but needs to be longer
- Concerns about unintended consequences of investments (ex. piping canals reduces nearby spring recharge)
- What else do we need to be open to in the future?

Economic, Housing and Workforce Development

- Four goals are all wrapped around housing
- Need more workforce on the coast, but huge housing shortage – adding housing impacts the water resource
- Success would include: Improved tourism, fishing, hunting, and gathering opportunities
- job losses and economic dislocation
- Balancing interests – there are housing shortages in some areas of the state. Land use delineations become a big issue when housing is scarce; it's hard to operate with changing rules (ex. wetland designations)
- Economic vitality is also important – how do communities thrive without economic vitality? That economic growth helps for reinvestment into water infrastructure

First Foods

- Environmental: tie adequate cool water to fish
- Water vision should support healthy fish populations for healthy people
- “Maintain native fish runs!”
- Importance of water and its connection to the other first foods
- Water is a cultural resource and value
- Natural resources are cultural resources for the tribe, and the plants and animals that we use for materials, foods, and ceremonial purposes are closely tied to the water
- Health of fish and people is incredibly important and connected to water
- There is a strong connection between what happens in Oregon and what happens in the ocean – ocean temperatures matter for healthy fish returns – ‘hot zones’ impact species and directly impacts Columbia River fisheries
- Environment and Economy are intertwined
 - Fish should be considered as an economic driver, not just environment

Water and Drinking Water Quality

- Pollution in rivers (Idaho) from agricultural operations
- How to address harmful algal blooms?
- Biosolids and impacts to water quality and runoff

- Bank erosion and stabilization
- Also pay attention to how we impact and can use deep aquifers – must be available and clean
- Spills from industry and shipping pose a grave threat to the cultural and natural resources of the tribe. Many tribal members remember the 1999 New Carissa oil spill, which devastated important coastal areas
- The problem statement and goals (Health, Economy, Environment, and Safety) of Oregon’s 100-Year Water Vision are very broad. We are concerned about access to clean drinking water
- Decreased water quality
- Tribe wants to ensure that they are taking care of the water within their lands so that it is clean when it leaves tribal lands
- Concerns about water returning to the river after industrial use – it is important that water is clean when it returns to the river
- Management matters throughout the system – from the top to the bottom of a watershed, to ensure the water is clean and available

Value of Water

- Economic value of water – need to establish understanding of value
- Mindset shift – water is a limited resource
- Water is seen as ‘having to be used’ – it has value when it’s not used as well
- Humans need to recognize and remember that water is priceless
- We must take care of water – it keeps everything alive
- Do we really value water in a way that matters?
- The vision is broad and long term – it will need a new culture; community education and buy-in are needed. It is critical to have local level buy-in to implement this work in communities
- Help communities ‘center’ around water by asking key questions – is water important to you? Why? What are you willing to give up for the conversation?

Measurement and Monitoring

- Need water measurement and to use that measurement to decrease water use
- Data management and measurement need to be defined as built infrastructure – not a separate category
- Lands east of the Cascades may now be seeing an increasing percent of acid rain from valley manufacturing – need to track
- Water conservation on a residential scale, need for metering

Population Growth

- Sustainable and planned population growth

- Concern about people moving from out of state to coastal communities because of climate change
- social and political unrest, mass movements of people, violence

Water Rights

- There are big issues with transferring water rights to different properties
- Need to protect existing water rights
- Tribal water rights are important to protect both tribal people and species
- There are concerns about over-appropriation – how do we work that out over time

Climate Change

- Seeing major changes in flow and temperature in rivers from climate change – at the same time, many communities draw their water from the river; levels are definitely lower than 10 years ago
 - Low flows, high temperatures, increased algae
- The plan needs to anticipate changes caused by climate change as well – environmental changes including higher sea levels and animal and plant ranges shifting, and social and economic disruptions including mass movements of refugees into and around the state
- The problem statement and goals (Health, Economy, Environment, and Safety) of Oregon’s 100-Year Water Vision are very broad We are concerned about and mitigating wildfires, floods, and droughts
- Water throughout the system is getting warmer, this has big impacts for people and fish

Water Supply

- Concern that aquifers aren’t being recharged because rain has decreased
- Concerns about rural wells running dry
- Success would include: accurately predicting future water needs, adequately meeting current and future water needs with clean reliable and safe water
- Community water supply – local community had a water supply catastrophe related to its infrastructure, but the water supply challenges go beyond just infrastructure: the community is downstream from many users (warm water, pesticide/nutrients, upstream dams, temperature, algal bloom potential)

Funding and Finance

- For small rural communities, the cost to replace systems is high, and the capacity may not exist to maintain them; charges can be high and only increase if a community has to repay a loan
- Need solutions for rural communities that aren’t loans
 - Access to other resources is critical

- Money is always an issue, but even with enough money any big project needs to be carefully designed and well thought out to avoid wasting money or harming our natural resources
- It was a wake-up call when drinking water challenges arise; costs to repair are incredibly high
- Funding is just one thing, but it's important to understand that tribes should be eligible for funding too
- If we look at investing in infrastructure, it is really important that funds also be available for management of the resources – there must be financial incentives to do work differently on the land
- Conversation tends to only happen through lawyers and lobbyists - funding would help

Local/Flexible Solutions

- Tension between local goals and statewide vision – is this a broad vision with local objectives, or something different?
 - Clear expectations, will be build Vision objectives into water projects
- State sideboards balanced with local buy-in in critical
- There is not enough accountability at the local level to manage water resources
 - State's role to manage the resource
 - Local input to propose ideas and innovation
 - Community capacity is limited to manage the resource
 - Dealing with symptoms not the core problems
- Place-based planning, feasibility, planning – need to connect the dots between these systems
- Vision leads to state framework – communities who develop plans within the framework have access to dedicated investments
 - Tension between prioritization of needs and Vision could be provide a framework for prioritization
- To truly be strategic, there needs to be trust-building at the basin level. That lack of trust needs time to resolve and will look different in different parts of the state
- It's an issue of balance – and that balance is best achieved locally
- Be flexible in definitions – make sure that policies are designed to meet ultimate goals with flexibility for implementation locally
- Decisions need to be local – decisions are different in rural communities – local involvement is key

Legacy Issues

- Recognition of past trade-offs; vision needs to deal with fixing those issues; not just a future vision

- As currently written, the vision statement is too optimistic – and does not take into consideration legacy challenges and the need to address them
- We need to recognize the legacy of previous management and the impact it has had on quality and quantity today. The Vision needs to clearly address legacy issues
- Homesteading fundamentally impacted the environment and with the extent of changes made, the system is not sustainable for people either
- Lack of human humility can cause a lot of problems. Humans need to be more humble about our role in the system. We assume that our role is to fix the issues, but it may not be our job to pull all the levers – some things should be left to nature

Language suggestions

- To address changes in climate and population dynamics, Oregon will **steward its water resources** to ensure clean and abundant water for our **people**, our **economy**, and our **environment**, now and for **future generations**. Strategic investments will result in resilient natural and built water systems across the state to support safe and healthy communities, vibrant local economies, and a healthy environment. **(Bold indicates language that should stay)**
- How do we define ‘stewardship’ - to take care of – who defines what that looks like
- With the current vision wording, the focus is on conflict (how to manage limited use). Instead, think about ways to shift management for more water (conservation on farm, managing forests effectively)

Instream Needs and Habitat Management

- The problem statement and goals (Health, Economy, Environment, and Safety) of Oregon’s 100-Year Water Vision are very broad. We are concerned about enhancing protection and habitat for native fish and wildlife
- In-stream water rights are important to sustain plant and animal species; some places have them and some don’t. Oregon needs to have in-stream rights established in all basins in the state
- Environmental degradation, species extinction
- Rivers are used extensively for irrigation; important because that impacts fish
- It will take 100 years to make a dent in fish and fish habitat needs
- Water quantity – when lands were ceded, forest conditions were vastly different (example: 50 trees/acre vs 1000 trees/acre now). Those trees uptake water very efficiently, which means water doesn’t even get to the streams where it is needed for fish. The tree population has an impact on water quantity, and a strong impact on the intensity of catastrophic wildfires. It is important to manage forests so they are healthy to meet both water quantity and quality needs
- Pay attention to the health of aquatic species – they are a strong and early indicator of watershed health

- Serve water users (ag., muni., etc.) and fish/natural resource needs

Equity

- Success would include: recognizing the needs rural and poor communities that are often disproportionately affected, stable economic prospects for families and communities
- A well-represented cross section across the state, recognizing the vast differences from populated cities, rural communities, coastal, mountain and dry eastside climate while involving the local communities in those areas. Environmental and social justice activists, communities of color, unions
- With tribes as with other communities, we need to focus on both environmental justice and equity. Lower income and tribal communities who may not have access to the same resources need to be considered fully in this process
- Food security is also important – we need to make sure communities have the ability to grow their own food locally

Enforcement of Existing Laws

- State and federal agencies need to enforce laws under their jurisdiction. Examples include the Clean Water Act, and state responsibilities of agencies like the Oregon Department of Agriculture to enforce the law. This also means that agencies have to have the staff and resources to complete their enforcement requirements. Vision needs to include staffing needs
- Agencies need to ensure we follow and enforce existing laws. This means both funding and the commitment to enforce; enforcement of laws shouldn't be a political exercise; we need to take politics out of the process
- From states all the way to Congress, there needs to be a commitment to putting funding where it needs to be in order to do the work that needs to be done

Process

- Make sure tribes are included as an eligible grantee for water projects
- Could COG or SBA be a model for multi-county efforts?
- Clear criteria about when a benefit is really a benefit
- Utilize land use planning as a framework; water resources is one of the goals, but it is not being used in the way it could be for the vision to be successful; in every local system, communities still need to meet comprehensive plan and land use goals
- Water doesn't recognize political boundaries
- Provide examples of what a river system should look like – there are some rivers that are in good shape – how do we help other systems get to this point, and help those that are already there to stay in good shape? These can provide a template for future success in Oregon
- Process – look for places of success and share them with others to make improvements

- Look for ways to pilot projects and opportunities for success
- Consider tribal 'mixed use' approach as a model while recognizing communities are fixed in place now (example of using fire to manage forests – it is more difficult now that communities are fixed in one place)
- How does it fit within the legal/policy - do we fit within existing or think broadly?
- Broad understanding that there are limitations
- Status quo: continued and increased court battles and species disappearing – declining environmental and social conditions



Oregon's 100-Year Water Vision Assessment Report

Oregon Consensus | January 2020

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CONTENTS

Oregon Consensus Assessment: Background and Approach.....	3
Assessment Findings	3
Cross-Cutting Themes	3
Change is needed	4
Leadership is critical	4
Scope	5
Framing around equity and inclusion	5
Inclusion and engagement will be a pillar of success.....	5
Need for early progress and parallel successes.....	6
Governance	6
Education about water is needed.....	7
State level coordination is key.....	7
Resources and political will.....	7
Data and Information.....	8
Lessons learned from experience should inform this effort.....	8
Feedback on the Vision Statement	8
Oregon Consensus Process Considerations.....	9
Appendix I: Interview Participant List by Organization	12
Appendix II: Interview Questions.....	14
Appendix III: Technical Data Requests.....	15
Appendix IV: Lessons Learned and Other Sources	16

OREGON'S 100-YEAR WATER VISION ASSESSMENT REPORT

SUBMITTED BY OREGON CONSENSUS

OREGON CONSENSUS ASSESSMENT: BACKGROUND AND APPROACH

Oregon's natural resource agency leadership began a process to engage communities, experts, and interest groups to examine the Governor's 100-Year Water Vision. The water vision was drafted as a starting place and an invitation to stakeholders, agencies, and tribes to help shape a long-term vision and plan for strategic investments in Oregon's water and water systems. As a part of the effort to gather diverse perspectives on the water vision, Oregon Consensus, the state's public policy dispute resolution and collaborative governance program, conducted an independent and neutral assessment. The objective was to interview a representative cross section of individuals, organizations, and government representatives who have an interest in water. Interviews focused on their views about the draft vision and their ideas about investments in Oregon's water future. They discussed what the big concerns are and how best to address multiple ecological, economic, and social needs. They also discussed what a pathway forward might look like, including advice to the state about their role in the effort. Oregon Consensus interviewed seventy-eight individuals from fifty organizations. This report summarizes their input on the draft water vision and their suggestions about strategic and engagement processes to help advance the vision. Appendices I and II include the full list of participating organizations and Oregon Consensus' interview questions.

ASSESSMENT FINDINGS

CROSS-CUTTING THEMES

Oregon Consensus asked interviewees to describe a successful outcome, the likely results of maintaining the status quo, and what challenges and opportunities hinder or support realization of their conceptions of success. Interviewees were also asked for their thoughts on the status of water-related data and information and suggestions for moving the water vision forward. Over the course of the interview process, key themes emerged about which many interviewees had thoughts and suggestions. The following section describes overarching ideas that came through in various ways in the interviews. More detailed feedback on the vision and on data and other information sources were compiled and shared separately from this summary document with the Governor's Office staff working on the water vision effort. Specific process suggestions can be found in Appendix IV of this summary report.

[3]

CHANGE IS NEEDED

Not a single interviewee suggested that maintaining the status quo is acceptable for Oregon's water future. The status quo was described as inequitable distribution or access to clean abundant water; a reactive and uncoordinated approach to water investments; loss of jobs and diminished natural resources; disorganized state government; and an inability to stay resilient to external forces like population growth and climate impacts.

In contrast, success was described by many as a clearly articulated, well-coordinated, and inclusive vision that sets everyone on a path together for clean abundant water, with strategies that include near term successes and long-term planning. Others suggested that success would mean that the full potential of water as a cultural, economic, and social asset would be actualized. Some narrowed in on a comprehensive funding strategy that would help accomplish the vision. Others suggested that reshaping of Oregon's policies and approaches to water planning would be required to meet a long-term vision.

There was an overall acknowledgment that water and water systems will be strained by environmental and population shifts. As a result, many interviewees concluded that a change in approach is needed, with proactive, intentional strategic planning and investment that prepare for these shifts. They suggested that the current reactive approach to crises and the current prioritization of only those water projects that are most organized or have access to resources and decision makers was deemed untenable. They expressed concern about the environmental impacts leading to disaster, as well as further disparities between those with access to resources and those without. Many interviewees worried that continuing on the current trajectory would result in more litigation, loss of jobs, loss of agricultural activity, broken trust, wider disparity gaps, and an inefficient allocation of state and federal resources to deal with repairs, replacements, and natural resource declines.

LEADERSHIP IS CRITICAL

There was an overall recognition that the time is now to move forward on a bold water initiative, and that a failed attempt now would greatly diminish future opportunities to move such an ambitious effort. For many, one of the most critical foundational elements to set the stage for success is leadership—at all levels and within each sector—to propel the initiative forward.

State-level leadership. Interviewees suggested that state-level leadership could provide the political will and initial investments for a water vision. Many interviewees emphasized the importance of the governor identifying water as a top priority initiative for this administration. They noted a need to see a clear, demonstrated commitment, and noted that taking on a 100-year water vision and investment effort would require state leadership to provide sustained and clear prioritization of water. Many interviewees expressed doubt about the potential for success without this level of commitment. Many also described the water vision effort as a long-term process that would likely extend

beyond this governor’s term. In light of that, they suggested an effort be made to consider how to maintain the leadership commitment and momentum. Consistent and sustained engagement of the legislature was viewed by many as a way to help ensure durability of the effort despite political changes.

Community leadership. Public education and bringing people in to help shape the vision and describe needs at a regional or community level were identified as key roles for community leadership. Community leadership is important to ensure that local communities are informed, engaged, and supportive to help a statewide effort. Meaningful community engagement is necessary to help build cohesive and intentional strategies and support for investments.

Tribal leadership. Some interviewees suggested that tribes are critical leaders in this effort because of their deep knowledge and cultural ties to water. As resource experts who also have ancestral ties to the water systems in Oregon, they should be called upon for their leadership in shaping Oregon’s water vision.

SCOPE

Many interviewees were unclear about the scope of the 100-year vision. They were unsure whether the vision is exclusively about creating funding and targeting investments or whether the effort would also consider fundamental changes to how Oregon approaches water policy and governance, as well as funding. Many were concerned that narrowing the focus to exclude policy topics would limit opportunities for innovation, local flexibility, and, ultimately, the success of the vision. This concern was countered with a caution that many water policy topics historically are polarizing and could stymie efforts to bring people together to build an investment strategy for Oregon’s water future. While many agreed that a long-range vision is needed to create an identifiable objective to orient investments and activities in the state, they also felt that the 100-year timeframe posed challenges due to uncertainty and complexity around the changing environmental and political conditions over time. A common suggestion was to establish a 100-year vision, but undertake the work and planning in, for example, five- or twenty-year increments.

FRAMING AROUND EQUITY AND INCLUSION

Interviewees raised equity and inclusion as important considerations for how this effort is framed. One suggested approach to framing was for communities to lead in developing and defining the 100-Year Water Vision for Oregon, in order to foster ownership and a shared mission. In this scenario, the state has a different but unique role in carrying that vision forward. Regardless of the specific process approach, many suggested refining the water vision frame to clearly define the role of community and the role of government, in order to help clarify parameters and scope.

INCLUSION AND ENGAGEMENT WILL BE A PILLAR OF SUCCESS

[5]

There is a strong call for inclusion and engagement in this effort given the ecological, geo-spatial, socio-political, and economic complexity of water issues. Without exception, interviewees expressed a desire that they and their constituencies be engaged in the water vision effort. Many described the importance of community-level engagement to ensure that solutions are not just political, but can work for those who will need to implement them. Many gave a particular focus to disproportionately impacted communities and the need to engage them in the vision effort—a focus that may require alternative means of engagement that work for traditionally under-heard and underserved groups. There was an acknowledgment from many that expertise from policy makers and professionals would also play an important role, particularly given the complexity of water issues in Oregon. There was a caution to be intentional about how the process gets organized to support a shift away from positional, polarizing conflicts and more toward integrated, collaborative visioning and strategy planning. Some suggested that careful consideration of *who* represents various needs and interests is as important as getting the needs and interests into the discussion. For some, the Integrated Water Resources Strategy laid a good foundation and is a good example of inclusive and comprehensive strategy building. Others felt that the strategy’s process left some voices out, which suggests a need for broader inclusion and even a reorientation to center work around those who bear a disproportionate amount of burden and negative impact.

NEED FOR EARLY PROGRESS AND PARALLEL SUCCESSES

How the state endeavors to make large, long-term investments of resources (staffing, funding, and overall focus on water), while also supporting current and ongoing needs and efforts, was a major concern for many interviewees. Current ongoing needs that some interviewees feared would be put on hold to redirect attention to the water vision included the Oregon Watershed Enhancement Board’s Focused Investment Partnerships, Oregon Water Resources Department grants for Place Based Planning, infrastructure studies and projects, monitoring efforts, and other funding streams and investments in existing programs, including staffing within agencies. They suggested that current water-related efforts should be assessed and addressed alongside long-term planning efforts, and should have a clear place within the vision. This approach could allay fears and garner more support from stakeholders. They also suggested that a more clearly framed concept, with some demonstrated commitment from leaders, could create certainty that the engagement in a 100-Year Water Vision is worthwhile for stakeholders.

GOVERNANCE

Many interviewees wondered whether the vision process would examine and potentially reshape Oregon’s approach to water investments and suggested that this would be an important, albeit complex, undertaking. While an increase in water investment was seen by most as fundamentally important, addressing how decisions about investments are made was viewed as an opportunity to significantly increase the impact of a water vision effort. While Oregon Consensus did not explicitly solicit input on a potential governance structure (or an approach for identifying and prioritizing water investments), a number of

interviewees raised the topic. It was common for interviewees to suggest that a process should be consistent while also allowing for local and regional particulars, garnering both local and state level input, and engaging disproportionately-impacted communities. Interviewees also noted that any new approach to water investment decision making should factor in existing priorities and water efforts currently underway or planned under the current system.

EDUCATION ABOUT WATER IS NEEDED

The public and decision makers need to be educated about the importance of investing in a 100-year water vision. Interviewees called out a general lack of shared understanding about Oregon's current and future water challenges. Many noted that localized crises (Salem algae bloom, Warm Springs Reservation infrastructure failure, Harney Basin groundwater shortages) heightened public awareness about the importance of investing in water, but that, in general, the broader public does not see water as a major concern or problem. Many interviewees described the public as expecting clean water to flow from the taps, but lacking awareness of the infrastructure and processes that afford that access. Interviewees described a lack of public understanding of the vulnerability of Oregon's water future due to population and climate shifts as well as a difference between western and eastern Oregonian's thoughts about the availability of water. This lack of public awareness led many interviewees to suggest that for the 100-year water vision to be successful, a significant investment in public education about water is necessary.

STATE LEVEL COORDINATION IS KEY

Many interviewees raised issues around a perceived lack of coordination and integration across state agencies that are all responsible for water-related topics. Among the issues raised were leadership, policy coordination, data sharing, and communication. For some, the 100-year water vision presents an opportunity to improve engagement and integration across agencies, as well as improve relationships between state government and local (often rural and underserved) communities. However, for others there was skepticism that true integration would actually occur given the history, scope, and scale of this endeavor. Some pointed to the lack of clear engagement of all the natural resource agencies as a signal of a lack of alignment. Some interviewees identified Oregon Department of Fish and Wildlife's lack of visible leadership in the water vision effort as an example of lack of alignment.

RESOURCES AND POLITICAL WILL

Interviewees suggested that, given the importance of planning for and investment in Oregon's water future, it was critical that the water vision effort be successful. To succeed, it would need sufficient resources and strategy to overcome many likely challenges. Many interviewees concluded that, if there were insufficient resources (i.e. funding and staffing support), time, political will, or shared desire across diverse sectors, it would likely be better to postpone launching a large water vision undertaking. They suggested that

[7]

initiating an effort of this magnitude could likely “only be done once and if it fails it would be very challenging to get a redo.” While the results of this assessment suggest that there is generally a shared interest across sectors to see a vision move forward, questions remain regarding the resources and political initiative to move an effort of this magnitude forward at this time. It is worth noting that many interviewees also suggested that if a full water vision effort were not undertaken, significant needs within the water arena remain, including public education about water and Oregon’s water future, improved investment in existing programs, data analysis, and other needs.

DATA AND INFORMATION

When asked about data and information, many interviewees said that gaps exist. One of the most commonly cited examples was the need for instream flow data. However, many also suggested that the current state of knowledge is adequate to proceed so long as investments in data gathering—monitoring and analysis—continue to be included in the vision and related investment opportunities. Interviewees suggested that data gathering should continue to be a part of the water strategy but should not inhibit progress on meeting water vision goals. Another consistent theme was around coordinating data. Many data sets exist within agencies or communities but are not integrated or accessible to show a more holistic view. Consistent standards, approaches, and methodologies and a compiled repository for all sources were recommended. Many also suggested that if additional data were to be gathered as a part of the vision effort that it would be important to first come to an agreement on why data would be gathered and how it would be used. Others suggested that a methodology to allow information and data generated by users should be developed as a part of the vision process.

LESSONS LEARNED FROM EXPERIENCE SHOULD INFORM THIS EFFORT

In addition to the specific challenges and needs conveyed, participants offered general process advice, often based on lessons learned from experience, which they hoped would be considered in this effort. Oregon Consensus has taken this advice into consideration in developing the process considerations described below. In addition, a more complete list of programs, projects, and other experiences the interviewees offered as resources for this effort were shared as a separate document with the Governor’s Office staff working on the water vision, and process advice is included in Appendix IV of this document.

FEEDBACK ON THE VISION STATEMENT

During the interviews Oregon Consensus solicited feedback on the vision statement, including the goals and problem statement. A synthesis of interviewees’ feedback was provided directly to the state from Oregon Consensus as they considered revisions to the vision statement. Repeated and overarching feedback from the interviews about the vision, goals, and problem statement suggested that framing is important as an indicator of who is included in the vision and what types of investments are important for Oregon’s water future. Many interviewees expressed positive feedback around the inclusiveness, tone, long-term view, and intention-setting behind the vision. Others expressed concerns about the vision being overly broad, so as to be vague and unfocused. One interviewee said, “I am excited about it, but I don’t know what it means.”

Many said they were confused about the intended scale and scope of this effort. Some wondered if the vision had changed over time and, if so, how it would currently be framed. Put simply: Is this vision an effort toward getting a funding package passed, or are we considering fundamental changes to how Oregon’s water funding, policy, and future looks? These two purposes were viewed as having different scopes and requiring different approaches.

Many appreciated that shifts in climate and population dynamics are core drivers for the vision. However, at least one interviewee noted that a climate change frame heightened divisions, given the politics around climate policy. Others noted that equity and environmental justice concerns were missing and that tribal rights and traditional uses were not described sufficiently to meet tribal interests. Other common critiques of the draft vision were that in-stream water, recreation, and health needs were not clearly articulated as goals, and that current successes (e.g., land use laws and on-the-ground projects) were not obvious goals or elements of the vision.

Several interviewees read the vision as a prioritization of issues and varied in their interpretation about which water needs appeared to have higher priority over others. This perception raised a concern for interviewees that this vision was in some way attempting to indicate priorities. To illustrate, a common comparison was made between *built* and *natural* infrastructure. Some felt that natural infrastructure looked like an afterthought or that there was uncertainty about the breadth of natural infrastructure that was meant by the term. Some interviewees suggested that the use of the term infrastructure limits the ability to focus on water-related topics more broadly, that is, broader ecosystem issues.

OREGON CONSENSUS PROCESS CONSIDERATIONS

The people interviewed for this assessment offered thoughtful and genuine responses to the interview questions. They generally agree that Oregon needs to take a long-range view to create a water vision, and that a critical opportunity exists to develop a coordinated, actionable plan for Oregon’s water future. Set in the context of a changing environment that includes population and climate shifts as well as aging infrastructure, all of which impact Oregon’s water systems, the state should lead and work in partnership with others to define a meaningful vision. Based on that vision, the state should set out to build a cohesive framework for investments.

Oregon Consensus heard that it was in almost everyone’s, if not everyone’s, best interests to proactively set the course for Oregon’s water future. On behalf of those interviewed, and based on the findings, we offer the following recommendations and suggestions to consider as the water vision effort moves forward.

- ❖ *Articulate a clear objective.* Address scope, scale, and framing questions. Start with clarity around the objectives of this process. It would be beneficial to articulate what

the state, as the initiator of the water vision, would like to achieve through the vision effort. The state's thinking could, and should, be shaped by the feedback it has received. Parties would also benefit from clarity at the outset of the process as to side boards for this state-led effort. For example, many parties continue to wonder whether the vision is just about water funding or whether a broader suite of issues will be discussed.

- ❖ *Demonstrate state government commitment and leadership.* This happens in the form of initial investments to organize and move the process forward, clarity around roles of state leadership, and reflecting this initial round of input in a revised vision statement.
- ❖ *Engage communities.* Develop a concept for co-creation of a long-term plan with communities and stakeholders. Concurrent efforts are happening now (and likely will continue) to gather input on water vision issues. Given this fact and an expressed desire from many to continue to engage in a state process as well as independently engage their public and their constituencies, the state should invest time and resources in working with community and tribal leadership for meaningful, inclusive engagement.
- ❖ *Craft a public education strategy.* An effort should be made to educate Oregonians about the current and prospective status of water in Oregon and the importance of investing and planning for shifting conditions. Such an effort would encourage decision makers and the public to become informed and active participants in enabling the success of a long-term water vision for Oregon.
- ❖ *Seek cross-sector representation:* If a group is convened to move the vision forward, it should be composed of cross-sector participants who have a genuine interest in shaping Oregon's water future and a desire to participate in good faith efforts to achieve multiple objectives through a collaborative effort.
- ❖ *Address values and interests.* Interviewees were generous in sharing their ideas about the conditions and needs of Oregon's built and natural infrastructure as well as how to move a water vision forward practically. It was notable, however, that most interviewees expressed their positions, *what* they want to see as an outcome, but few shared their interests, *why* they desire a particular outcome. There is a co-learning opportunity within the vision process to engage parties that are directly involved in water-related work to educate each other on the values and interests that motivate their work. While such efforts do not always result in agreement, they do tend to foster understanding and ultimately can lead to relationship building, which will be critical in solving contentious water issues.
- ❖ *Clarify decision-making roles.* If a group is convened to advance the water vision, it is important that there be agreement up front on what, if any, decision-making role the group has. If the group will have a decision-making role, then clarity about how decisions are to be made (e.g., by consensus or not) will be critical.

❖ *Additional process design considerations.* Based on Oregon Consensus' experience working on complex public policy issues, and on process suggestions from interviewees, Oregon Consensus offers the following guidance in the event that a group is convened to advance the water vision effort.

- Set a clear purpose and side boards that everyone understands. This allows for time needed to establish process structure, which will support the group working through very complex and contentious issues. "Go slow to go fast."
- Jointly develop group norms and ways of doing collaboration (including information gathering, sharing and dialogue, decision making, and communicating outside the group.) Norms often show up in a charter or operating principles, which are codified by the group at the outset.
- Select a convener who is considered a trusted, collaborative leader to work in everyone's best interests toward a common good. Their primary role is to move issues and process forward.
- Enlist a facilitator who operates as a third party, independent process expert who has no substantive stake in the outcome and who can guide the group through an agreement-seeking effort.
- Create methods and channels for learning. Provide technical and other information sources to support the group's learning through different mediums (written, oral presentations, experiential).

Organizations Interviewed

- Affiliated Tribes of the Northwest Indians
- American Whitewater Association
- Association of Clean Water Agencies
- Association of Oregon Counties
- Beyond Toxics
- Business Oregon
- Coalition of Oregon Land Trusts
- Columbia Riverkeepers (written feedback)
- Confederated tribes of the Coos, Lower Umpqua, and Siuslaw Indians
- Confederated tribes of the Grand Ronde
- Family Farm Alliance
- Farmers Conservation Alliance
- Ford Family Foundation
- Freshwater Trust
- Harney County Place Based Water Planning
- Health Policy Board
- John Day Place Based Water Planning
- League of Oregon Cities
- League of Women Voters
- Meyer Memorial Trust
- Mid-Coast Place Based Water Planning
- Mid-Columbia Drainage District
- Network of Oregon Watershed Councils
- Northeast Oregon Water Association
- Northwest Regional Floodplain Management Association
- Office of Emergency Management
- Oregon Association of Conservation Districts
- Oregon Association of Nurseries
- Oregon Association of Water Utilities
- Oregon Business Council
- Oregon Cattlemen’s Association
- Oregon Community Foundation
- Oregon Department of Agriculture
- Oregon Department of Fish and Wildlife
- Oregon Department of Forestry
- Oregon Department of Geology and Mineral Services
- Oregon Department of Land Conservation and Development
- Oregon Department of State Lands
- Oregon Environmental Council
- Oregon Farm Bureau
- Oregon Groundwater Association

- Oregon Health Authority
- Oregon Homebuilders Association
- Oregon Rental Housing Alliance
- Oregon Small Woodlands Association
- Oregon Water Resources Congress
- Oregon Water Utilities Council
- Oregonians for Food and Shelter
- Pinos y Campesinos Unidos del Noroeste (PCUN)
- Resource Legacy Fund
- Special Districts Association of Oregon
- Sustainable Northwest
- The Nature Conservancy
- Trout Unlimited
- Verde
- Water for Life
- Water Watch
- Wild Salmon Center

Organizations that were contacted but did not participate in an interview

- American Society of Civil Engineers
- Central Oregon Health Council
- Coalition of Communities of Color
- Farmworkers Housing Development
- Housing Oregon
- La Grande Place Based Water Planning
- Manufactured Housing Communities of Oregon
- Northwest Environmental Advocates
- NW Health Foundation
- NW Pulp and Paper
- Oregon Affordable Housing Management Association
- Oregon Association of Outfitters and Guides
- Oregon Dairy Farmers Association
- Oregon Forest Industries Council
- Oregon Rental Housing Association

APPENDIX II: INTERVIEW QUESTIONS

1. Tell us about yourself and your organization's history and connection to water.
2. How does the vision sit with you? How does this vision align or not align with what you value? Do you see yourself/your constituencies in it?
3. Are there any goals that you do not share or any goals missing from this vision?
4. Do you see your concerns articulated in the problem statement? Why or why not?
5. What would success look like to you? What happens if the status quo continues?
6. Where do you see the biggest challenges or barriers to achieving the success you just described? Do you have suggestions for how they could be overcome?
7. Are there information, data, or other technical resource needs (sources of data and resources) that you think should be addressed, utilized, and considered as part of informing a water vision effort?
8. Are there lessons learned from past processes or similar undertakings that you think could be helpful in considering a water vision process?
9. If a water vision effort moves forward, what should engagement look like for your constituencies and the broader public?
10. Who else should we be talking with?
11. Anything you wanted us to ask that we didn't?

APPENDIX III: TECHNICAL DATA REQUESTS

The following is a summary of interviewee responses to the question: “Are there information, data, or other technical resource needs (sources of data and resources) that you think should be addressed, utilized, and considered as part of informing a water vision effort?”

- Traditional ecological knowledge
- Economic impacts of investing or divesting in water infrastructure (built and natural), economic value of water quality, ecosystem health
- Groundwater availability and use, aquifer mapping
- Instream flows and needs/demand forecasts
- Groundwater/surface water interactions
- Floodplain status and risks
- Toxics monitoring
- Gaps in wastewater system that could be filled by natural infrastructure
- Ground truth models
- Water supply for individual farms, opportunities for conservation
- Private forest riparian rules monitoring
- Water funding needs
- Election database on water-related topics to inform understanding of public’s perceptions and appetite
- Inventory of access to waterways
- Understanding water quality impacts from western Oregon checkerboard extractive resources and use
- Sea level rise and impacts to coastal communities
- Fish presence or absence
- Feasibility studies for piping and natural infrastructure on agricultural lands
- Linkages between water supply and quality
- Statewide assessment of water security
- Update flood and sno-tel maps
- Water as a factor of social determinants of health
- Access to clean drinking water—disparities impacting communities of color
- Regional needs/demands
- Agriculture resilience studies
- Instream nutrient information
- How energy efficiencies link to water efficiencies

APPENDIX IV: LESSONS LEARNED AND OTHER SOURCES

The following is a summary of interviewee responses to the question “Are there lessons learned from past processes or similar undertakings that you think could be helpful in considering a water vision process?” Suggestions were taken into consideration as Oregon Consensus developed its process suggestions. In addition, some interviewees provided documents and information that they felt could be helpful. Oregon Consensus has transmitted these to the Governor’s Office staff working on the water vision.

Governance

- Look at other successful blue ribbon task forces.
- Gather a “coalition of the willing” to move this forward.
- Include all responsible agencies; de-silo and show linkages and unique responsibilities of each. Include Business Oregon.

Leadership

- To achieve success, include political leadership and doers.
- Acknowledge that personalities matter. The right mindset and commitment are needed for the long haul.
- Rethink who is leadership and how to connect the leadership dots between the state and community.
- Know and work with the decision makers as you start.

Messaging

- Gain clarity around what people are trying to achieve through the water vision and the parameters of the playing field. Be clear about process and goals.
- Show the urgency of the water strategy; Sometimes, action comes through crisis.
- Describe the effort as a cooperative funding endeavor and less like a mandate to get community buy-in.
- Know who could lose up front and address that concern.

Engagement

- Foster shared learning among stakeholders and responsible agencies around challenges and opportunities.
- Be aware of the challenge of power disparities and eleventh-hour deals from outside lobbying groups.
- Look for examples of demonstrated commitment to include tribal communities and other communities of color, and the resulting successes from those efforts.
- Ensure broad engagement, which results in more ownership of the issues and commitment to success.
- Recognize that trusting and solid partnerships are important.
- Look for examples where positive engagement and momentum and buy-in led to long-term permanent funding.
- Use the legislative process for fair, inclusive engagement.

- Be inclusive and transparent *and* keep squeaky wheels from dominating or stalling.
- When some community voices feel outmatched they do not consider themselves included. Make the process a means not an end.

Process approach

- Use a sustainability model or tool for decision making.
- Don't confine local communities to a box. Don't follow strict lines. The state should help locals lead.
- Use the transportation package as a funding strategy.
- Examine the approach of other states that have successful water plans.
- Use professional facilitation; it is critical.
- Make this a bipartisan effort, including work with federal agencies.
- Be more inclusive than the Integrated Water Resources Strategy.
- Take a stepwise approach to the strategy.
- Build trust through pilot projects and shared goals.



Outreach with Boards, Commissions, and Councils

When invited, staff gave informational presentations, and collected feedback about the Vision at organizational meetings, and for state boards, commissions, and task forces.

This section contains the raw notes of feedback collected by the state during outreach events. The following state boards, commissions and council requested presentations and gave feedback: Water Resources Commission, Oregon Watershed Enhancement Board, Ocean Policy Advisory Council, Land Conservation and Development Commission, Sustainability Board, and Regional Solutions Mid-Valley Committee. Formal letters from the Board of Agriculture and the Soil and Water Conservation Commission were also submitted.

Discussion Summaries and Formal Letters

Water Resources Commission 9/05/2019

- Gauge Oregon humanities project – how well is your well?
- Oregon value project
- Outreach – send them to farmers markets or feed store; connect at the local/community level
- Getting people to understand that water is a public resource.
- Want those benefits to be respective to their values.
- Need people to understand that it is a public resource.
- People don't feel limited with the toolkit we have now. Can that be a part of the toolkit? What do we not have now?
- Bring something new. Driven by the values. (legal mechanisms, funding mechanisms)
- State revolving fund – it was hard to get people to articulate their needs. They were concerned about agencies whacking them for identifying the need. We have large deficits.
- If we have a 100 year vision can it be a 100 year strategy so that matches up to where we think the greatest needs are and effort from droughts? There really is common ground if people can get beyond their own visions. Natural infrastructure.
- PBP – the whole picture is working together for those opportunities. Regional success that feeds into the whole. Bend – fairly diverse group. Most of them were water managers. They worked in water so there wasn't the public there. Somehow need to get a wider group of people and not the water works. That was missing. That is an excellent idea. Do some work to what people value about water. Have a deeper understanding of this. Build public support and awareness.
- Spring Creek project at OSU – groups like this are reaching out to people on values – expand the outreach on what people value.
- don't let natural infrastructure take a back seat/need more definition of natural infrastructure restoration projects

- Change in how collectively how we value water. What do people value? Oregon humanities? Public support – only happen if we understand what people value today. Flood retention capacity all sorts of natural infrastructure/put all of the debris in – let it be a floodplain – that work is happening all over the state. It is not just a technical infrastructure – not a technical exercise. Definition of natural infrastructure – very wonkish. 1972 Bend in the river conference. Needs a cultural and humanistic statement – bring in articulate matters – bring in the waters. Open door to Oregon values and beliefs survey. Bend in the River meetings.
- What do we mean by green infrastructure/compare green and built? Seems like competition. Doesn't get at intrinsic value. How do you monetize the intrinsic value of fish, the natural systems? Doesn't follow the equations like concrete. How do we compare the intrinsic value as far as our natural – they felt like it was too human centric. Thought we need to start interacting. Hearts and the emotional value. Need more value statements now and generations into the future.
- More clear goals around conservation. 75% of demand for power could be met through conservation. The vision in some way should acknowledge conservation. Instream, floodplain, floodplain aquifer, deep aquifer, and the uplands (?) are also needed. Need to break up. The work helps people to understand the work. Quality of aquifers need to be protected. The quality has to be there so it can be used by communities. Be specific about natural infrastructure. If too vague people don't know how to respond. Owyhee National Monument – has been contention. They have come to an agreement about wilderness and uses. Wyden is carrying legislation for congressional approval.
- Putting together these broad groups is important – in other places missed = legal battles. Give and take though = success and be proactive and work ahead/need to collaboration and coordination as opposed to having agencies pulling in different directions.
- We would like more communication/outreach – WRD Budget Development – get deeper level of engagement. WRD doesn't have communications/outreach staff. Need that to get people to have broader awareness
- Domestic well owners – they are there because they are concerned about their drinking water. Not just the typical groups but need a broader range. Really important area. How are we reaching out to a broader community?
- Bring in people that have not been typically involved. Need a champion that is not just state or local government.
- Try to get moving and started – local leadership engaged.
- Oregon humanities project– have agencies contract
- Additional specificity of built infrastructure.
- Data collection and info systems. Need to say that; don't let that get behind. Need collection of tools and to manage that data.
- Need to capitalize on this and get broader public support.

Oregon Watershed Enhancement Board 10/16/2019

- Think about the term 'native' in front of fish and wildlife. Is it necessary? Does it cause undue controversy? Side note – Oregon defines hatchery fish as native, so may be ok
- 100 years is a long time – think about phrasing. From others – 100 years isn't long enough
- Define what is meant by inventory
- Goals and problem statement do a good job of defining problem in a relatable way
- Climate change connection helps to raise the profile
- Work to reduce words in problem statements
- Safety – should consider adding fire (sourcewater protection) as a safety concern
- When referencing natural systems – think about using the term 'restored'
- Reminder: water connects people – it's what we have in common – use that
- Just like the 100-year vision, remember that nature works slowly – it commits us to taking time for changes to be made and take effect
- 85% of water is used to produce food and fiber
- Think about how we approach trade-offs. This won't be a win-win
- Need reference to recreation as another way to connect people to water
- Make food production stronger in economic piece
- Missing – importance of conservation as a tool
- Potential for commoditization is a challenge for water
- Do we want to consider food and drinking water security as a goal?
- Think about phrasing the 'generational' approach, even if it isn't termed as 7 generations
- Add adaptation to problem statement
- This is a daunting task – 'simplicity on the far side of complexity'
- Answers are already out there – we need to 'rediscover' what nature provides and how
- Make sure we are maximizing the effectiveness of current programs
- Terms we use today may change – we need to think in terms of success metrics
- Think about regional approaches (ID, WA, OR) for federal dollars
- Need to define nebulous terms (thrive, vitality)

Ocean Policy Advisory Council 10/21/2019

- This is very terrestrially focused
 - There needs to be a watershed-based approach

- What about the ocean?
- Ocean acidification and hypoxia impacts on local communities
- Irrigation efficiencies and water conservation
- Ports and harbor infrastructure
- There is one set of rules that we all play by, but water systems are different across the state
- Grey water reclamation
- The coast is the outflow for the state's water
- Water supply inventory
- Will laws change from this?

Land Conservation and Development Commission 11/02/2019

- Water is a multi-state issue – need to highlight connections with other states – particularly Columbia River
- Irrigated agriculture – collaboration is working (ex. spotted frog) but not necessarily quickly enough; how do we incentivize continued collaboration at the speed needed
- Regulatory framework is critical – strong recognition of the importance of land use program and its relationship to water
- Updates to the vision: acknowledge the land use framework and the importance of keeping it in place in the vision
- Population growth – concerns that we will see climate refugees
- Importance of addressing ocean acidification/hypoxia – does this fit in the vision?

Sustainability Board 11/15/2019

- Water Conservation – state needs to lead by example
- Need to understand and reduce per capita water use (think California in drought)
- Where in discussion is allocation of water – increased efficiency – both on-farm and in cities
- New crops coming north with climate change (almonds, avocados, etc) and increased water use of those crops
- Rainwater capture – opportunity to change policies to better utilize (filtering, etc.)
- Increasing groundwater recharge in urban areas (Portland is an example – BES)
- What's the economic signal? Right now there is no incentive or motivation to conserve
- There is an "Energy Trust of Oregon" – why don't we have a Water Trust of Oregon to help people conserve
- Think of any opportunities for water savings – new and innovative approaches

- Cost savings is on the back end
- Valuation – we are doing this work in other areas (natural capital) – it can and should be done for water
- Increased population increases supply challenges
- Value of collaboration – getting disparate groups together to do this work... but be careful of entrenchment and resistance to this work
- City of Eugene – 200? Miles of sewer lines; replacing 2/year
- Ecological function is important – think beyond ESA
- Climate change – turnover of subalpine forest by 2080 – need to think now about what we plan in our headwaters for the future
- Will our systems be threatened more with climate change by fire, harmful algal blooms
- Wastewater systems are designed in a way that needs to USE water – this means that greater efficiency in water use can actually make those systems fail
- Need to think about the systems we need in the future, not maintaining the ones we have now
- Headwaters; drinking water supply

Regional Solutions Mid-Valley Committee 12/05/2019

- Connect with the Oregon City Managers Association
- Need short, medium, and long-term conversations
- Cost and affordability of water rates
- Geographic distribution of issues
- Use Energy Trust as a model and resource for businesses



Oregon
Kate Brown, Governor

Department of Agriculture
635 Capitol St NE
Salem, OR 97301-2532



October 24, 2019

Jason Miner, Natural Resources Policy Director
Office of the Governor
900 Court Street, Suite 254
Salem, OR 97301-4047

Meta Loftsgaarden, Executive Director
Oregon Watershed Enhancement Board
775 Summer St NE, Suite 360
Salem, OR 97301

Dear Mr. Miner and Ms. Loftsgaarden,

Thank you for the opportunity to comment on Oregon's 100-year water investment vision. The Board of Agriculture advises the Oregon Department of Agriculture on policy issues, develops recommendations on key agricultural issues, and provides advocacy for the state's agriculture industry in general. Water is integrally tied to all aspects of the Department's mission to ensure healthy environment, natural resources, and economy for agriculture and all Oregonians now and *into the future*.

The Board of Agriculture greatly appreciates the state's attention to water resources and the need for long-term focus and investment. We are pleased to see the state considering a model for long-term investment that is similar to the state's investment in transportation infrastructure.

At the Board of Agriculture's meeting in Madras, Oregon on September 25-27, the Board discussed the goals of the vision, challenges the vision is intended to address, stakeholder engagement plans, and other considerations. Our feedback regarding these issues is below.

1. Strengthening the vision's connection to agriculture

While the vision mentions food production, the Board would like to see additional references to agriculture incorporated into the document. Specifically, water is vital to production of food, feed, fiber, seed, livestock, and horticultural products, and more broadly provides for the unique diversity of Oregon agriculture.

We would like the vision to recognize Oregon agriculture's efforts to conserve water and provide for clean water through publicly and privately funded conservation efforts. In addition to state programs that support clean water in agriculture, a variety of federal,

2. Geographic scope of the vision

Reaching over state lines may be helpful in accomplishing the vision and may help the state identify additional strategies and sources of funding. Our neighboring states struggle with many of the same issues, and in some cases, have developed initiatives to address them.

In addition, Oregon shares a very important waterway with our neighboring state to the north. The Columbia River provides irrigation water, transportation pathways, fish and wildlife habitat, and hydropower, and it is important that the vision recognize the importance of the river to the region's future.

3. Scope of the vision and problem statement

While the vision and problem statement cover many critical issues and priorities, we have identified others that could be included in the document.

- Water affordability for a variety of users is one key issue that we believe should be included. This could be addressed by adding "affordable" to the economy goal.
- In the Pacific Northwest, water is an important transportation and power supply source as well as supplying the other needs mentioned in the vision.
- Wetlands and floodplains are not explicitly mentioned in the vision document but provide many important functions for clean and abundant water.
- Invasive species present a threat to clean water and habitat and in many cases, water availability as well.

The impacts of climate change to water supplies and water demand should be included in the premise of the vision. The premise outlines potential disasters associated with climate change but should also mention that in the long term, we are likely to have less water available when we need it. In addition, it would be helpful for the goals to reflect that we need to plan for future water scarcity and changing demographics. We are likely to see dramatic changes over one hundred years, and the vision should acknowledge that.

We recommend incorporating the need for new water storage projects into the problem statement; this language could reference innovative storage projects that allow for withdrawals when water is relatively abundant in the winter. Additional agriculture and water quantity issues, including the need for continued modernization and efficient water use in irrigation systems, could also be incorporated here.

4. Goals and outcomes of the vision

It would be helpful for the vision to articulate the connectivity of the goals, and avoid treating them as separate goals. One way to accomplish this would be a goal specifically discussing an integrated approach to implementation.

Additionally, the vision should also reference adaptive management and continuous improvement based on information about how we are doing to achieve the goals in the vision statement.

5. Stakeholder engagement and communication about the vision

To successfully engage a broad base of stakeholders, including Oregonians who may not typically participate in public processes, it is important for the vision to be worded in as plain-language a manner as possible. The desired outcomes should be worded in such a way that the public is excited and interested about learning more and participating. Include Agency and Governor's office communications staff early and often in the vision rollout in order to assist with accessible communications.

Other states should be considered stakeholders as well as prospective partners in the development and accomplishment of the water vision. Oregon's nine federally recognized Tribes should each have ongoing opportunities for government to government consultations with the state regarding Tribal needs and partnership opportunities with the State.

Stakeholder engagement efforts should include a greater focus on the Columbia basin, particularly intensively irrigated areas such as Morrow and Umatilla Counties. Engagement efforts throughout the state should include county commissioners and legislators.

Communications about the vision should provide clear information about what the state's role will be in achieving the vision. Possible roles for State government, including legislators and state agencies, could include: identifying data gaps needing to be addressed to support long-term planning, assessing and prioritizing needs; providing examples from other jurisdictions on how to address challenges; identifying funding sources, and; encouraging the use of natural infrastructure.

Mr. Miner
Ms. Loftsgaarden
October 24, 2019
Page 4

Once again, thank you for launching this important effort to focus greater attention and investment in Oregon's water resources. We look forward to continued dialogue as the effort moves forward and welcome the opportunity for continued input.

Sincerely,

A handwritten signature in black ink, appearing to read 'M. Myers', with a long horizontal flourish extending to the right.

Marty Myers, Chair
State Board of Agriculture

cc: Alexis Taylor, Director, Oregon Department of Agriculture



Oregon SOIL AND WATER
CONSERVATION COMMISSION

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January 27, 2020

Jason Miner, Natural Resources Policy Director
Office of the Governor
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Salem, OR 97301-4047

Meta Loftsgaarden, Executive Director
Oregon Watershed Enhancement Board
775 Summer St NE, Suite 360
Salem, Oregon 97301

Dear Mr. Miner and Ms. Loftsgaarden,

Thank you for the opportunity to comment on Oregon's 100-Year Water Vision. The Soil and Water Conservation Commission (SWCC) is an advisory body to the Oregon Department of Agriculture that represents all of the Soil and Water Conservation Districts (SWCDs) in the State. The mission of SWCDs is to support conservation of natural resources through a variety of efforts ranging from education to implementing on-the-ground projects. Water is a critical natural resource that is central to the work of SWCDs.

The Draft 100-Year Water Vision document circulated in the fall of 2019 is well written and we support the vision, premise, and goals. The next challenge will be to take this high-level document and drill down to the next level of detail. Following are some comments to help steer the upcoming efforts.

Water Resources Integration

Oregon's 2017 Integrated Water Resources Strategy provides an excellent analysis of the interconnectedness of all aspects of our water environment, the existing institutional framework, infrastructure, and the critical issues that must be addressed. We fully agree that water resources are used for many purposes that are all interrelated by water quantity, quality, and hydrology. Our laws and regulations constrain and promote the actions that we take and our infrastructure provides opportunities and constraints. The management actions that we choose ripple through the interconnections and affect our quality of life and the quality of our environment. For example, irrigation projects affect the quantity and quality of water in our streams and rivers, which affect the suitability of water for a wide range of beneficial uses such as municipal drinking water, recreation, and habitat. Another example is the recognition of the effect of climate change on our water environment and the call to promote resilient systems that can adapt to future changes in climate.

Recommendation: Continue to maintain and update the Integrated Water Resources Strategy over time and use it as a key building block for our future plans. It is imperative that the

interconnectedness of water resources continue to be recognized and promoted in our management plans.

Place-Based Water Management

The 2017 Integrated Water Resources Strategy does a good job of recognizing the diversity of our landscapes, water supplies, and needs. It is also recognized that our management actions need to be tailored to unique circumstances in the various regions of the State. However, the concept of place-based water management remains in its infancy and needs to be taken to a more prominent role in the Water Vision. To make this happen, we need continued emphasis on understanding water resources interconnectedness, the impacts of climate change, and population dynamics coupled with the following:

- Revisions to our laws and regulations that provide flexibility to accommodate regional differences,
- Revisions to our institutional frameworks to allow decision making on water resource matters to be delegated to regional levels,
- Distribution of funding and funding decisions to regional levels, and
- Performance management systems that provide wide-ranging assessments of existing conditions and needs in the various regions of the State to help guide our actions.

To make change happen in the way we address water related issues, it is essential that the actions are embraced by the populations that are served. To get the support, people must have a stake and a say in what happens in their region and this is best accomplished when the decisions about what gets done are made locally. Place-based water management offers an important vehicle for getting support for projects and programs.

Recommendation: The Water Vision should make place-based water management a fundamental concept on how things get done in the future.

Mandatory, Voluntary, and Incentive Driven Water Management

It is recognized that there is an important role for laws and regulations to assure that certain minimum standards are met across the State. These standards must address the full range of the goals in the Water Vision including health, economy, environment, and safety. However, we need to make sure that the standards are appropriate, realistic, and achievable. Then we need to make sure there are adequate resources to implement the minimum standards. In our Vision of the future, there should be no place for unfunded mandates.

Just meeting minimum standards may keep serious problems from occurring, but the Vision needs to go further. The Water Vision must target higher levels typified by words like clean, abundant, resilient, reliable, and healthy. To go beyond minimum standards, we should structure our planning and funding around voluntary and incentivized actions. This discretionary approach to “uplift” will be better supported across the State, especially when it is coupled with place-based water management and regulatory flexibility. Soil and Water Conservation Districts have substantial experience with voluntary conservation and know that it works as long as there is adequate funding and resources to make it happen. This uplift component of our future actions must be seen as essential and funded accordingly.

Recommendation: It is recommended that our Vision for managing Oregon's water resources be structured to recognize the need for minimum standards, assuring achievement of those standards, and then proceeding beyond those standards with flexibility in our laws that will set the stage for voluntary incentives to drive water management actions.

Actions and Funding; Short-Term and Long-Term

The Vision needs to recognize the need for short-term actions within our current funding regulatory, and institutional framework in order to continue progress while we build public support and concepts for bigger changes in the long run.

The proportion of our State budget that goes toward water and natural resources must increase in the future to recognize its critical role in Oregon, putting it in a priority with other big investments such as health, education, and transportation.

We need to view our water resources from an asset management perspective, making sure that they are cared for in the long run. The simple analogy is changing the oil in your car. It is best to incur the cost to change it regularly so that the car will last longer and make sure that the full life cycle costs are optimized.

Recommendation: The Water Vision needs to make a clear case that investments in our water are essential now and in the future. We need to make the case with a long-term view.

Role of SWCDs

Soil and Water Conservation Districts throughout Oregon have been successfully planning and implementing water resource projects for decades and they can play a critical role in Oregon's water future. An example is the many statewide water quality projects that have been implemented by SWCDs through the Strategic Implementation Area plans under the Agricultural Water Quality Program in conjunction with the Department of Agriculture. SWCDs have the knowledge of local conditions and ability to implement projects at the local level and provide a vehicle for place-based water management. SWCDs have proven to be creative and innovative with their solutions and have projects that integrate many aspects of the water environment simultaneously, and SWCDs are anxious to be part of creating and implementing Oregon's water future.

We appreciate the excellent effort to date in collecting community and stakeholder input that will be used to craft the Water Vision and look forward to opportunities for SWCDs to participate in the process.

Sincerely,



Barbra Boyer, Chair
Soil and Water Conservation Commission

cc. Alexis Taylor, Director Oregon Department of Agriculture



Formal Letters from Outside Organizations

Some organizations and individuals submitted formal letters via email about the Water Vision, and the engagement process moving forward. This section contains the formal letters, as received, from the following organizations: Yamhill Soil and Water Conservation District, Coalition of Oregon Land Trusts, Oregon Lakes Association, Oregon Farm Bureau, a joint letter from Oregon Water Utility Commission, League of Oregon Cities, Special Districts Association of Oregon, and Oregon Association for Water Utilities, and the Oregon Association of Conservation Districts. Notes from a discussion at the Association of Clean Water Agencies conference, and a conversation hosted by the Resources Legacy Fund and the Meyer Memorial Trust are also included.

Conversation Notes and Formal Letters

Meeting summary – The Future of Water November 2019

Context

The meeting on November 19, 2019 hosted by Resources Legacy Fund and Meyer Memorial Trust involved a conversation about water with a dynamic group of Tribal leaders, communities of color, funders, and conservation organizations.

The conversation focused on three goals:

1. An opportunity to come together in common purpose and offer ideas for ensuring healthy watersheds and access to clean drinking water for all communities across Oregon based on values of justice, ecological sustainability and cooperation.
2. A time for networking with nonprofits and the philanthropic community on water issues.
3. A learning session about the opportunities to get involved in critical decisions about the future of our community water needs in Oregon and where there are opportunities to work together.

The meeting allowed for the start of a conversation of the water themes of interest to the group, setting the stage for more discussions in the future. This document summarizes information about the brainstorm of themes and issues discussed during the meeting. It is meant purely as a conversation starter about water because this issue promises to be a major focus of conversation by the public in Oregon now and in the future.

This document includes the following information from the water meeting: (1) top line summary of water themes, (2) brainstorm of water themes, and (3) detailed information from a pre-meeting survey.

Again, please note that this information is meant purely as an initial conversation starter to help in future discussions about water quality and quantity - the full themes listed below have in no way been officially endorsed by any meeting participants.

Top line summary of water themes

The situation with water is urgent and needs immediate attention – we need a big cultural and structural paradigm shift.

While we need such a big paradigm shift – we also acknowledge that there are many short-term actions that we can do together, keeping in mind the limitations and

opportunities presented in our current water laws and regulations...we can still change things now to make a difference for the future.

1. We need to include values of justice, ecological sustainability and collaboration in rural and urban communities
2. We need to protect Treaty resources. Treaty rights come with standing and should be centered in the discussion
3. We need to shift paradigms, cultural norms and public discourse about water
4. We need a holistic watershed integrated approach to water across multiple sectors
5. We need to modernize and update our systems to reflect the shifting paradigms
6. We need short term positive actions that will support a healthy water future for all – these short-term strategies can contribute to long-term system change
7. We must communicate the water needs more effectively to the public - and demonstrate a new relationship to rivers
8. We need to address data gaps to learn more and be able to make good decisions

Brainstorm of water themes

“Water is life, and whoever controls it controls the quality of life for all of us in Oregon.”

Voices:

- Recognize that people of color and tribal people have been disinvested and disempowered from setting policies and investments in natural resources issues
- Listen to the Tribes – and go beyond just listening; actually implement/do what they recommend
- Use an equity lens for a just and sustainable future
- Put people of color and tribal people in charge of defining the agenda, deciding who benefits and who carries the burdens
- Create tools and systems so that all communities have access to clean water
- Prioritize investments to build wealth in low-income people
- Base decisions on science
- Learn from communities – both urban and rural - about locally driven solutions
- Bring communities together around shared watershed values
- Have cross sectoral conversations
- Leverage water investments to meet multiple needs both within and outside the traditional water sector (eg: opportunities to partner with wildfire prevention, broadband access, energy generation/conservation)
- Empower the youth voice
- Continue to seek inclusion at all stages of the process
- Be sensitive to groups missing from this conversation about themes, such as – tourism/recreation and industry
- Fund people to engage in the water conversation effectively
- Recognize the special status for tribes or impacted communities; broaden the current involvement in governance of water

- Communicate with the public effectively in the constantly shifting media landscape

Issue themes:

- Clean and affordable drinking water for all Oregonians
- Tighter regulation of point and nonpoint source pollution
- Protect salmon and other endangered species
- Recognize instream needs for healthy rivers
- Invest in efficient water use – educate about the benefits of conservation
- Address climate impacts
- Remove fish passage barriers and obsolete dams that are harmful to streams/fish
- Identify and fill critical gaps in data – need to know more about what water resources we actually have, and make strategy and decisions based on sound data
- Improve and replace aging water infrastructure with green infrastructure
- Support a greater investment of public funding in water projects
- Reform campaign finance laws
- Reform forest practices
- Shift away from the “use it or lose it” mentality
- Responsibly manage groundwater/all water (surface)
- Restore wetlands and floodplains
- Manage non-point source contamination
- Work on superfund clean-up
- Permanently clean up toxins
- Improve state regulations of emerging contaminants in water
- Respond to the over-allocation of our water resources
- Keep agencies accountable for enforcing environmental laws & new plans and programs
- Support capacity building for more effective water management (human capacity/youth programs)
- Support equitable workforce opportunities to manage water
- Identify long term funding sources to implement a water vision
- Support holistic health of communities through water management
- Update building codes to align with vision/plan
- Use a “human right to water” framework
- Educate cultural norms around water; honor water; develop understanding about where water comes from and how we talk about it
- Create an integrated, collaborative approach to manage water at local, regional, state levels
- Modernize our rules and regulations around water to ensure long term protection and health
- Recognize flood management as an increasing driver in helping us rethink how we manage water and the human relationship to it
- Develop a framework that treats water as non-renewable
- Focus on shifting the culture and values that undermine systems change

- Fill data gaps but don't let lack of data justify inaction and rely on science (including the use of research justice) in filling the gaps
- Implement a watershed approach – heal the land and people
- Protect Treaty resources
- Engage rural communities, particularly agricultural communities
- Consider scale (local, regional, state, etc) in how planning process are designed and implemented
- Assess impact of water crises on people – cost of water bills, toxic exposure, etc.
- Address hard truths – e.g. that some rivers and streams may not be able to support fish in the future
- Build a bridge between grassroots and policy experts to build the movement
- Invest in collaborative processes to engage in complex issues – western water law, other regulatory challenges
- Change the way we think about water; need a paradigm shift in the view and culture of water
- Take landscape scale perspective on how we understand and manage water
- Integrate water quality and quantity
- Reclaim water for public purposes
- Think about water systems as critical infrastructure
- Change the current dynamic where water is often the last thing we protect versus thinking about it as a right for everyone
- Support the private and philanthropic sectors to be more involved in playing a bigger role in protecting our water systems
- Integrate workforce development into future water management system
- Need to modernize technology

Q1 What are the biggest opportunities to get us on a positive pathway to a just and sustainable future to improve water quality and quantity in Oregon?

Answered: 17 Skipped: 0

#	RESPONSES	DATE
1	1. Ensuring a robust and coordinated voice for instream needs and healthy rivers in management decisions and processes including (but not limited to) the Governor's Water Vision. This will require capacity and data for NGOs and ODFW. 2. Reform Oregon's campaign finance laws. 3. Coordinated approach to cultivate/establish state leadership for instream needs and healthy rivers.	11/9/2019 5:51 AM
2	Improving aging water infrastructure at scale provides the one of the greatest opportunities to improve water quality and quantity in Oregon. These improvements, such as piping irrigation canals, adding internet-enabled measurement and control devices, or constructing treatment wetlands, enable water users to more precisely and accurately manage water withdrawals, deliveries, and returns at a lower cost. They also facilitate the use of flexible tools (like incentive pricing or water markets) that allow water suppliers and water users to adapt to changing annual conditions. When these improvements are funded through public investments, such as federal and state grants and loans, they typically benefit a range of users and users.	11/8/2019 3:53 PM
3	1. Ensuring a robust, diverse and coordinated voice in all water planning and management decisions, including the Governor's water vision and funding. 2. Shifting money and politics to favor water instream for fish, recreation and Oregon's quality of life. 3. Making sure we have the data on which to make sustainable decisions: in the immediate future the number one opportunity is to ensure that ODFW has the resources to develop the instream flow data that is needed in the Governor's water vision and other processes.	11/8/2019 2:21 PM
4	Address Oregon's campaign finance laws to reduce corporate/agribusiness influence. Address captured agencies/lack of leadership. State NEPA type law for projects and water allocation. Ensure instream interests, values and needs are co-equal to out of stream/built infrastructure interests in Governor's water Vision.	11/8/2019 1:45 PM
5	1) Tribes are doing climate resilience planning and water is a chief concern. Let's listen to them. 2) In E Oregon: Rainwater capture (residential and municipal, in tanks and/or wetlands) has a TON of untapped potential. Incentivize roof rainwater capture systems. 3) Cities should think of themselves as part of an interconnected watershed and divvy water-related funding and technologies accordingly. 4) Opportunities: Tighten state forestry laws. The timber industry profits at the expense of water quality and quantity and thus community health and fish. Protect wild waterways so they remain intact. Watershed restoration activities (dam removal, beavers, removing cows from riparian areas, instream work, etc)	11/7/2019 8:45 AM
6	bringing communities together around their shared watershed-this includes water providers that bring water to people and farms, and conservation groups that ensure we have healthy natural land systems to clean and store water. Having cross-sector conversations will create innovation and synergies we don't have now- especially in the face of climate change and impacts on water.	11/6/2019 8:25 AM
7	Strong leadership from Governor and legislative leadership, together with a strong and coordinated push by conservation and community groups for progressive outcomes.	11/5/2019 10:22 AM
8	Improvement of irrigation and urban water use efficiency with some conserved water returned to streams/rivers. Better review & enforcement of water rights for environmentally critical flows, along with compensated transfer/leasing of otherwise diverted water. New ways to manage upper parts of watersheds to increase flows or groundwater recharge.	11/5/2019 8:26 AM
9	1) Innovations from local areas that will require regulatory flexibility. 2) Addressing the issue of "use it or lose it," a disincentive to conserving water 3) Solutions require balancing needs of working lands, urban use, environment, etc. 4) Water and health	11/4/2019 9:04 AM

Event - The future of water in Oregon - November 12th

10	A "just and sustainable" future begins with starting the analysis with the oft stated but seldom implemented "equity lens" when assessing these matters. For the water quality piece: let it be led by the science, ie - what is the safest, what measures/filters/additives/protections need to be used to ensure sustained quality. For quantity, again, let science and experience prevail. Though not my bailiwick, there are those who know how to calculate rainfall and snowmelt and aquifers and storage: let them lead the discussion.	11/4/2019 8:22 AM
11	I think there are some opportunities presently, but more important to the future of water will be the creation of more opportunities--green jobs, restoration of green infrastructure, tighter regulation of both point and non-point sources of pollution, etc.--via the strong prioritization of clean water in Oregon.	11/4/2019 8:16 AM
12	Water availability is universal to all living organisms. Water supports healthy and vibrant natural social and economic processes and connectivity- collectively we need to set a vision and pathway forward.	11/4/2019 7:21 AM
13	Connecting the forests to the tap in the minds of all Oregonians, making plain the economic value of our water systems, and educating Oregonians to create demand for action to protect the streams, rivers and other water sources in the State.	11/4/2019 6:03 AM
14	Growing realization that the climate crisis will radically alter weather and water patterns in Oregon means that we need to plan now for a much more water scarce future.	10/29/2019 11:51 AM
15	Permanently Clean up toxins in the water to make rivers and other water sources healthy for drinking and consuming fish	10/28/2019 12:43 PM
16	Collaboration between organization, institution or coalitions	10/28/2019 10:24 AM
17	Putting people of color and tribal people in charge of defining the agenda, deciding who benefits and who carries the burdens.	10/26/2019 12:11 PM

Q2 What are your top three priority issues that you think we all should consider when improving water quality and quantity in Oregon?

Answered: 17 Skipped: 0

#	RESPONSES	DATE
1	1. Protect and restore instream flows. 2. Remove environmentally damaging dams. 3. Ensure the state responsibly manages groundwater.	11/9/2019 5:51 AM
2	1. Large-scale state funding for infrastructure projects that address critical agricultural, community, and/or environmental needs 2. Leveraging investments to meet multiple needs within and outside of the traditional water sector (e.g. energy generation/conservation, wildfire prevention, broadband access) 3. Addressing limitations in Oregon water law and policy by allowing for innovative, locally-specific actions that have broad multi-sector support (e.g. allowing for transfers of stored water)	11/8/2019 3:53 PM
3	1. Restore and protect instream flows 2. Ensure responsible water management 3. Remove dams that are harmful to streams/fish	11/8/2019 2:21 PM
4	Protect and restore streamflows through regulation, acquisition, improved water management Remove fish passage barriers Manage groundwater responsibly and to ensure that it can help mitigate the impacts of climate change on streams, groundwater dependent ecosystems and groundwater users.	11/8/2019 1:45 PM
5	1) Improve health of riparian corridors / floodplains / wetland systems (floodplains and wetlands store and filter water as well as providing habitat) (this includes considering nutrient flows--i.e. stricter regulations for runoff, considering the ecological impacts of toxins) 2) Prevent salmon extinction in the whole Columbia basin system 3) Responsible (clean and adequate) recharge of aquifers.	11/7/2019 8:45 AM
6	1. Source water protection and tools and funding to protect landscapes that store and clean water for local communities. 2. Watershed-based plans for climate change and anticipated impacts on water quantity and quality. 3. Equity-no communities left behind. Create tools and systems to ensure all communities have access to clean water.	11/6/2019 8:25 AM
7	Instream flow Improved regulation of streamside areas Measurement	11/5/2019 10:22 AM
8	Prioritized, strategic investment. Assuring adequate resources to make those investments. Much better monitoring: parameters, locations, centralized data storage	11/5/2019 8:26 AM
9	1) Trust between local agencies/populations and state 2) Allocation (or over-allocation) of groundwater 3) The ones closest to the issue have a say in the decisions	11/4/2019 9:04 AM
10	1. Equity (who has access, moderated costs, higher quality) 2. Stratification of who gets water first (people vs. fish vs. tribes vs. ranchers vs. farmers, etc.; basically, a statewide model of the conversation held in Klamath that was resolved and then recently unresolved). 3. Cost	11/4/2019 8:22 AM
11	1. Management of non-point source contamination 2. Examination of flow regulation (i.e. dams) 3. Use of green infrastructure (e.g. riparian vegetation, channel complexity, and stormwater swales) to positively change water quality	11/4/2019 8:16 AM
12	Loss of headwaters, wetlands and floodplains. Waning federal and state regulatory protections of these resources. Values and benefits natural systems play in water quantity and quality.	11/4/2019 7:21 AM
13	1. Update forest protection buffers for rivers and streams (as recommended by Norm Johnson and Jerry Franklin) 2. Limiting cumulative impacts of land clearing and clearcutting on water quantity (Perry and Jones study from HJ Andrews forest indicates short rotation forestry reduces water supplies by 50 percent) 3. Prohibiting/discouraging post fire logging on sensitive burned lands (Beschta et al and others have shown high increases in sediment - 232 times greater than without logging).	11/4/2019 6:03 AM
14	Clean drinking water for all Oregonians. Protecting salmon and other endangered species. Tribal water/fishing rights.	10/29/2019 11:51 AM
15	Superfund cleanup; Just transition; increased state regulation and monitoring of emerging contaminants in water	10/28/2019 12:43 PM

Event - The future of water in Oregon - November 12th

16	1. Budget 2. Political Power 3. Popular Education	10/28/2019 10:24 AM
17	Affordability for low-income residents, accessibility for low-income and people of color residents and prioritizing investments to build wealth in low-income people and address climate impacts.	10/26/2019 12:11 PM

Q3 Why do you believe water issues are important to address today?

Answered: 17 Skipped: 0

#	RESPONSES	DATE
1	1. Climate change 2. Increasing interest/pressure for out-of-stream water uses.	11/9/2019 5:51 AM
2	Growing urban populations, changing climate conditions, and aging infrastructure have increased pressure on Oregon's water resources. They create challenges that cross communities, creating the potential to further unite or divide Oregonians. Collaborative efforts to improve water quality and quantity in Oregon, such as federal investments through the USDA Natural Resources Conservation Service's P.L. 83-566 program, have demonstrated success and received bipartisan support in a sometimes polarized environment. Leveraging existing successes now will help to build a future with adequate supplies of high-quality water for Oregon and Oregonians.	11/8/2019 3:53 PM
3	1. Climate change: Oregon's rivers suffer from many legacy issues (i.e. over allocation, water quality limited streams, species on the brink of extinction) . Climate change will magnify these problems. 2. Water management: there is increasing pressure from consumptive users to build new storage, mine aquifers and otherwise find new "supply". There is a real need to first focus on water management and demand side solutions.	11/8/2019 2:21 PM
4	Because climate change magnifies the inequities of the current system and over a century of mismanagement, unjust allocation and environmental harm. Because of increasing development pressures by out of stream water users. Because if we don't, the problems are only going to get worse.	11/8/2019 1:45 PM
5	Climate change + rollbacks of federal standards. States need to be leaders in protecting their people and ecosystems.	11/7/2019 8:45 AM
6	We live in a region with abundant water, but the patters of change that are before us, pose a threat to fish and wildlife and people. We need to not take water for granted and think holistically about community needs.	11/6/2019 8:25 AM
7	Increasing demand (people) and disruption from climate change.	11/5/2019 10:22 AM
8	Climate change. Population growth. Increased forest fires. Changing crop patterns.	11/5/2019 8:26 AM
9	Water is essential to all aspects of life. Changes are occurring that will impact water -- climate change and corresponding decrease in snow pack (natural storage), increasing population, the ability to create solutions that bring together local communities rather than create divisions.	11/4/2019 9:04 AM
10	Water is life, and whoever controls it controls the quality of life for all of us in Oregon.	11/4/2019 8:22 AM
11	Life depends on clean water. Numerous studies and reports show our water isn't clean. If that's not important I don't know what is.	11/4/2019 8:16 AM
12	1. Water use in Oregon is currently over allocated. 2. In much of Oregon our watersheds (bath tubs) development and increased pervious surfaces are maxing out capacity to absorb water during large weather and rain event. As development and build out continues, it will only deepen the problem.	11/4/2019 7:21 AM
13	We can't make more water. As climate warms, Oregon will face more water conflicts and further degraded water systems, harmful algal blooms and increased treatment costs.	11/4/2019 6:03 AM
14	Given the reality of tomorrow's challenges, and the media attention on basins, the opportunity is now. Water is also not seen as nearly a partisan issue as other environmental priorities.	10/29/2019 11:51 AM
15	It will be the single most important issue facing the survival of Oregonians and our environment and wildlife starting now and into the future.	10/28/2019 12:43 PM
16	Clean and safe water is essential to healthy living	10/28/2019 10:24 AM
17	People of color and tribal people have been disinvested in and disempowered from setting the policies and investments in natural resources issues. Water is no different.	10/26/2019 12:11 PM

Q4 What principles should guide how to prioritize building climate resilient water systems and ensuring healthy watersheds in Oregon?

Answered: 17 Skipped: 0

#	RESPONSES	DATE
1	1. Make decisions based on science; in the absence of adequate data, do not make decisions that further imperil our watersheds, groundwater and aquatic ecosystems. 2. Protecting and restoring healthy watersheds and aquatic ecosystems (including wetlands and floodplains) must be a central goal of all water planning processes and water management decisions. 3. Invest in effective water conservation and efficient water use, including by establishing modern standards, before considering development of new water supplies. 4. Water is a public resource and water use must be accountable including modern water use and reporting ("you can't manage what you don't measure") and enforcement of existing water law and permit conditions.	11/9/2019 5:51 AM
2	- Providing certainty for existing uses and users while allowing for flexibility to meet future needs. - Encouraging multi-sector collaboration to leverage investments in built and natural infrastructure (e.g. upland management that reduces wildlife risks while increasing water yields) - Fostering long-term, large-scale efforts to comprehensively address future needs rather than project-by-project approaches (where appropriate)	11/8/2019 3:53 PM
3	1. Healthy ecosystems need to fully addressed in all water management decisions. 2. Ensure that the state is enforcing existing law and responsibly managing water 3. Restoring and protecting streamflows should be a top priority: this is important for species, Oregon's economy, health, etc. 4. Decisions should be based on science. 5. In modernizing irrigation across the state, we should move away from simply fixing aging infrastructure to looking at solutions that will meet multiple benefits , will help restore streams and ecosystems, and conform with modern day efficiency and management guideposts.	11/8/2019 2:21 PM
4	Protect and restore first. Move away from assumptions and myths about water - for example, assumption that there is a linear relationship between population growth and water demand. Prioritize conservation, efficiency, science, healthy watersheds and fairness. Rule of law - it's not the wild west anymore. Prioritize the long term health of cold water ecosystems. Address the century plus of neglect and lack of acknowledgement of the water needs of streams and healthy ecosystems. Precautionary principle as to new water development. Follow the soft path for water - look to natural systems to do the work before bricks and mortar systems for water supply, flood control and water quality. Recognize limits. We can't grow watermelons and corn everywhere.	11/8/2019 1:45 PM
5	Changes in flow quantities and timing affects all of the above. What is the Pacific Northwest or Oregon without Salmon? We should apply millions-of-years-of-evolution-tested ecological principles to our water systems. No one is better than beavers for ensuring water availability late in the season, for example. Don't get so excited about adaptation and innovation that you forget about mitigation--the role that protection and restoration can play in resilience. E.g. intact forests exhale oxygen and H2O, store carbon, hold onto soil (water quality!) and mitigate local weather extremes, including droughts.	11/7/2019 8:45 AM
6	1. Clean water for all 2. Look at economic cost for green vs. gray infrastructure 3. Bring all sectors together: Water providers, water users and conservation	11/6/2019 8:25 AM
7	Science. Needs of future generations. Sustainability.	11/5/2019 10:22 AM
8	Use "climate smart" principles. These begin with risk assessments/vulnerability analyses: what do our water systems look like under different climate change scenarios?; then ask value questions: looking ahead, what do we most need from the system? ; then look at available management strategies, from persistence to anticipatory/adaptive, including the availability of resources & social capital, and tailor them to the identified needs; then apply them at multiple scales, both programmatic and geographic; then monitor, reassess, and adapt.	11/5/2019 8:26 AM
9	Guided by science Informed by local stakeholders Seek the result, not a process.	11/4/2019 9:04 AM

Event - The future of water in Oregon - November 12th

10	People first, and always remaining mindful of the climate/science implications. Lastly, a healthy recognition (and explanation of how they impact the process) of the power and influence of the entities (governments/utilities boards/etc.) controlling water and making decisions around the state.	11/4/2019 8:22 AM
11	1. Knowing what a healthy watershed is (i.e. the hydrograph of a free-flowing river, acceptable temperature range, etc.). 2. Using green infrastructure and effective restoration to get from where we are now to healthy watersheds. 3. Regular, scientific monitoring and evaluation to make sure what we are doing is working.	11/4/2019 8:16 AM
12	Working with natural systems rather than developing solutions to control them . Thinking on larger spatial and temporal scales- let water's movement across and through a landscape be the story. How have human choices and activities changed and challenged water processes, how have those processes changed and changed again in response to the obstacles.	11/4/2019 7:21 AM
13	Precautionary approach = if study shows potential risk with fair degree of certainty we need to act to protect our water systems instead of requiring endless study and certain proof. We know enough to act and we need to be conservative.	11/4/2019 6:03 AM
14	Racial and environmental justice -- ensuring that most impacted communities are prioritized first. Ensure adequate water for key endangered species. No public investment for private profit.	10/29/2019 11:51 AM
15	Guided by traditional knowledge and ways of knowing of the first peoples	10/28/2019 12:43 PM
16	1. Diverse of Communities should be involve including of color and rural. 2. This a health issue 3. Recognize the expertise of each organization	10/28/2019 10:24 AM
17	4th Grade Latinx students in Oregon are 49th in the country in math scores. Black residents experience disproportionate representation in the corrections system. Residents of the Warm Springs reservation continue to lack access to drinking water. These are not accidents. They are the result of willful policymaking and disinvestment by our state in communities of color. We can no longer afford to continue to ignore the needs and priorities of communities of color and tribes in our state. Our communities are in an all out crisis. We must direct all policies and investments to reverse these trends immediately. Including water policy and addressing climate through water policy. We can do this but we have to upend the existing frameworks and systems in place that operate as conventional wisdom and parameters and instead engage in an effort to collectively understand the challenges these communities face, build the capacity of communities to address these issues and take the time needed to create a process for their priorities to be lifted up and where possible also serve the needs of dominant users.	10/26/2019 12:11 PM

The Future of Water in Oregon

Hosted by

Resources Legacy Fund and Meyer Memorial Trust

Date and Time:

Tuesday, November 12, 8:30AM – 6:00PM

Location:

University of Oregon Portland Campus
White Box Room
70 NW Couch Street
Portland, Oregon 97209

Note:

Meyer Memorial Trust will reimburse mileage for those traveling to Portland from outside the metro area. Forms for reimbursement will be available upon request at the meeting.

Goals of Meeting

1. An opportunity to come together in common purpose and offer ideas for ensuring healthy watersheds and access to clean drinking water for all communities across Oregon based on values of justice, ecological sustainability and cooperation in Oregon.
2. For ample networking time with nonprofits and the philanthropic community on water issues.
3. To learn more about the opportunities to get involved in critical decisions about the future of our community water needs in Oregon and where there are opportunities to work together.

Meeting facilitator: Sybil Ackerman-Munson

Draft Agenda:

8:30 – 9:00AM	<i>30 minutes</i>	Registration and mingle
9:00 – 9:10AM	<i>10 minutes</i>	Settle in
9:10 – 9:20AM	<i>10 minutes</i>	Welcome and set stage for the meeting
9:20 – 9:35AM	<i>15 minutes</i>	Grounding us in justice, equity, diversity and inclusion
9:35 – 9:50AM	<i>15 minutes</i>	Opening remarks from Tribes represented at the meeting.
9:50 – 10:30AM	<i>40 minutes</i>	Group discussion of water themes and issues
10:30 – 11:00AM	30 minutes	Break
11:00AM – 12:30PM	<i>1 hour 30 minutes</i>	Table conversations about water themes
12:30 – 1:00PM	30 minutes	Lunch break <i>(get lunch and sit down with food for working lunch)</i>
1:00 – 2:45PM	<i>1 hour 45 minutes</i>	Working lunch with philanthropic institutions about water themes.
2:45 – 3:00PM	15 minutes	Break
3:00 – 4:00PM	<i>1 hour</i>	Conversation with Meta Loftsgaarden, Director of the Oregon Watershed Enhancement Board and point person for developing the Governor's 100 year water vision.
4:00 – 4:30PM	<i>30 minutes</i>	Transition to the reception with a welcome by Representative Helm, Chair of the Water Committee and Representative Reardon, Co-Chair of the Natural Resources Ways and Means Sub-Committee.
4:30 – 6:00PM		Reception

Participant list for the future of water in Oregon

First Name	Last Name	Organization
Kris	Balliet	Tualatin Riverkeeper
Tomas	Bartolo	Pineros y Campesinos Unidos del Noroeste
Kelley	Beamer	Coalition of Oregon Land Trusts
Greg	Block	Sustainable Northwest
Ralph	Bloemers	Crag
Joseph	Bogaard	Save our Wild Salmon
Lisa	Brown	WaterWatch of Oregon
Direlle	Calica	Affiliated Tribes of Northwest Indians
Jena	Carter	The Nature Conservancy of Oregon Cow Creek Band of Umpqua Tribe of Indians
Kelly	Coates	
Cassie	Cohen	Portland Harbor Community Coalition
Stacey	Dalgaard	Oregon Environmental Council
John	DeVoe	WaterWatch of Oregon
Taren	Evans	Coalition of Communities of Color
Chandra	Ferrari	Trout Unlimited
Lauren	Forman	Jubitz Family Foundation
Jill	Fuglister	Meyer Memorial Trust
Carlos	Garcia	Oregon Community Foundation
Don	Gentry	Chairman, The Klamath Tribes
Lauren	Goldberg	Columbia Riverkeeper
Brett	Golden	Farmers Conservation Alliance
Morgan	Gratz-Weiser	Oregon Environmental Council
Greg	Haller	Pacific Rivers Northwest Sportfishing Industry Association
Liz	Hamilton	
Steve	Hawley	The Jubitz Family Foundation
Allison	Hensey	Meyer Memorial Trust
Denise	Hoffert	Consultant, Resources Legacy Fund
Mitch	Hornecker	Meyer Memorial Trust
Al	Jubitz	Jubitz Family Foundation
Michael	Karnosh	Confederated Tribes of Grand Ronde
Dylan	Kruse	Sustainable Northwest
Sara	LaBorde	Wild Salmon Center
Pat	Lando	ReCode
Bill	Lazar	Lazar Foundation
Esther	Lev	Wetland Conservancy
Peggy	McNutt	Resources Legacy Fund
David	Moryc	American Rivers
Marcus	Mundy	Coalition of Communities of Color

Mary Rose	Navarro	Meyer Memorial Trust
Sara	O'Brien	Willamette Partnership
Mike	Phillips	Meyer Memorial Trust
Kimberley	Priestley	WaterWatch of Oregon
Guido	Rahr	Wild Salmon Center
Bob	Sallinger	Audubon Society of Portland
Abigail	Sarmac	Philathropic Consultant
Michelle	Smith	Coalition of Oregon Land Trusts
Bob	Van Dyk	Wild Salmon Center
Brett	VandenHeuvel	Columbia Riverkeeper
Gregory	Weber	Rogue Basin Partnership
Dennis	Wiancko	Wiancko Charitable Foundation



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Providing Natural Resource Leadership

December 12, 2019

Bryn Hudson
Water Vision Coordinator
Oregon Watershed Enhancement Board
Salem, Oregon
Sent via email to: Bryn.E.Hudson@oregon.gov

REGARDING: Comments on “Oregon’s 100 – year Water Vision”.

Dear Bryn Hudson,

The Yamhill Soil and Water Conservation District (district) is providing the following comments and suggestion on the “Oregon’s 100 – year Water Vision”.

The district has a long history of providing technical assistance to landowners and managers to address both the quantity and quality of the water resources in the Yamhill River Basin for all beneficial uses. The district’s roles and functions authorized in Oregon Revised Statutes Chapter 568 direct the district to provide input on natural resource management and policy, to work closely with state agencies to implement agricultural water quality programs, and to participate with other state, federal and local entities to manage natural resources in Oregon.

The district requests the following comments and recommendations be considered in developing the future long-term vision and plan for water in Oregon.

- The 100-year vision is too long. The vision should be outlined in 10-year increments to adequately identify and address the issues that may be confronted by the citizens of Oregon during the various time periods.
- There is a lack of public awareness on the need to protect, conserve, and improve both the quantity and quality of Oregon’s water resources. There needs to be annual reports of water quantity and quality provided to the general public to strengthen public awareness.
- The quantity and reliability of Oregon’s underground water resources are unknown. Decision makers need an up-to-date data base for each of Oregon’s water basins to make appropriate decisions and policy on withdrawals.
- Each water basin should have a series of uniformly spaced wells that would accurately collect data on annual drawdown and static levels to determine the decline or change in underground water aquifers. This data could be used to establish a “baseline” of historical cycles and trends in known aquifers.

- To protect the owners of older domestic wells and avoid conflicts with owners of new wells, a senior priority rights system should be implemented, comparable to Oregon’s irrigation water rights.
- There have been dramatic increases in the installation of underground drainage systems the Willamette Valley, to remove water for agricultural crop production. The district is concerned these drainage systems have a negative effect on recharging the underground aquifers that domestic and irrigation wells rely on. Tile drainage intercepts rain water and prevents soils from storing water that would otherwise recharge ground water. Research is needed to develop piping systems and management techniques to allow farmers to direct the flow of water to recharge underground aquifers when appropriate. We understand this management approach is used in the Midwest on various types of drainage systems.
- The District recommends the vision plan include strategies for state and federal agencies to implement cooperative working agreements and share data that could be used to plan for seasonal water needs. The Army Corp of Engineers (COE) should work closely with the USDA Natural Resource Conservation Service (NRCS) who measures snowfall accumulations to predict spring and summer run off from snow pack. The state should cooperate and strategize with COE, NRCS, and others to share information and determine the best approaches for fill and release dates of the 13 flood control structures to avoid water shortages in the Willamette Valley Basin.
- Public agencies with jurisdiction of Oregon’s natural resources should be required to develop and implement plans to protect both water quantity and quality. An example is Oregon Department of Transportation, (ODOT) which should implement management practices to establish vegetation along highway shoulder and ditches. Permanent vegetation on along state roadways will filter road water and runoff and limit sediment and contaminants from reaching Oregon’s public waterways.

Thank you for the opportunity to submit comments and recommendations on “Oregon’s 100 – year Water Vision”. Please keep us informed of any information from the outcome of the comment process.

Respectfully submitted on behalf of the District Board.



Barbara Boyer, District Chair



COALITION OF OREGON LAND TRUSTS

511 SE MORRISON ST. PORTLAND, OR 97214 • OREGONLANDTRUSTS.ORG

December 13, 2019

Meta Loftsgaarden
Executive Director, OWEB
775 Summer St NE, Salem, OR 97301

RE: Land Trust Comments on Oregon 100-year water vision

These comments are submitted on behalf of the Coalition of Oregon Land Trusts and the 21 land trusts we represent. COLT is responding to the State's request for feedback on the vision, goals, and problems that have been identified as framing Oregon's Water Vision. **In particular, COLT wants to emphasize the critical role that natural infrastructure and source water protection must play in the Water Vision if the State is to achieve its goal of "preparing a secure, safe, and resilient water future for all Oregonians."**

The health of our water is inextricably tied to the health of our land. Natural lands like wetlands, forests, working landscapes and open space provide critical infrastructure that collect, store and filter water thereby protect the quantity and quality of our water.

More specifically, intact natural lands improve water quality, increase groundwater recharge, stabilize surface water baseflows, reduce capital maintenance costs for drinking and wastewater providers, lower drinking water and wastewater treatment costs, decrease susceptibility to natural disasters and minimize associated damage, build resilience to extreme weather events linked to climate change, improve ecological health, and support economic growth and the health of communities. Conservation of these natural lands ensures that they will continue to provide these critical functions.

Source water protection and the need for increased investment

COLT believes the Water Vision must recognize natural infrastructure as a key component of securing clean water for Oregon's present and future generations. While COLT appreciates the Water Vision specifically recognizing that the lack of investment in the protection and restoration of natural infrastructure is an existing challenge, we believe the Water Vision must go further and prioritize targeted investments in the conservation of natural lands that provide vital natural infrastructure for our water system. In addition, references to infrastructure should

make clear that these must include protection and restoration of the natural lands that are the cornerstone of any resilient water system.

Finally, any secure and resilient water system must include funding to support the protection and restoration of our source watersheds. In Oregon, over 150 public drinking water systems rely on surface water flows from grasslands, farms, ranches, and particularly forests. When managed to protect source water, these landscapes help ensure communities have a clean water supply. Not only is protecting healthy source watersheds a critical piece of a secure water system, it is often a more cost-effective and resilient means of ensuring clean and secure water supply than water treatment infrastructure. Unfortunately, these critical landscapes are threatened by recent changes in ownership and management, climatic trends, and shifting economic drivers. Given these threats, protecting these working landscapes must be an integral part of Oregon’s Water Vision.

The need for funding source water protection is particularly acute. Current state-level funding for land conservation is primarily targeted at projects with the purpose of conserving and restoring salmon habitat. **While these projects may have the ancillary benefit of protecting source watersheds, the lack of targeted funding in these areas means many important and vulnerable source watersheds remain unprotected.** Indeed, a 2015 report from the Oregon Department of Environmental Quality identified 50 communities on the Oregon coast at risk for negative impacts to drinking water quality and quantity in their municipal water sources due to forest management practices, extreme weather events, and seasonal tourist demands. Due to the ownership status of their watersheds these rural communities have little to no influence over land management practices that directly impact their water sources. While there are opportunities for communities to protect their source waters a missing link is often adequate funding. The Water Vision presents an opportunity for the State to not just recognize the importance of protecting these watersheds but also to provide adequate funding for communities to ensure that they have clean and resilient water supplies now and in the future.

Thank you for the opportunity to comment,

Kelley Beamer, Executive Director, COLT

22 MEMBER ORGANIZATIONS: BLUE MOUNTAIN LAND TRUST BLUE MOUNTAINS CONSERVANCY CENTER FOR NATURAL LANDS MANAGEMENT COLUMBIA LAND TRUST DESCHUTES LAND TRUST DUCKS UNLIMITED FRIENDS OF THE COLUMBIA GORGE LAND TRUST GREENBELT LAND TRUST KLAMATH LAKE LAND TRUST LOWER NEHALEM COMMUNITY TRUST MCKENZIE RIVER TRUST NORTH COAST LAND CONSERVANCY NORTHWEST RANGELAND TRUST OREGON DESERT LAND TRUST PACIFIC FOREST TRUST SOUTHERN OREGON LAND CONSERVANCY THE CONSERVATION FUND THE NATURE CONSERVANCY IN OREGON
THE TRUST FOR PUBLIC LAND THE WETLANDS CONSERVANCY WALLOWA LAND TRUST WILD RIVERS LAND TRUST
6 ASSOCIATE MEMBER ORGANIZATIONS: CLACKAMAS SOIL AND WATER CONSERVATION DISTRICT FOREST PARK CONSERVANCY EAST MULTNOMAH SOIL AND WATER CONSERVATION DISTRICT HELVETIA COMMUNITY ASSOCIATION WESTERN RIVERS CONSERVANCY TUALATIN SOIL AND WATER CONSERVATION DISTRICT

Oregon Lakes Association 12/13/2019



President, Oregon Lakes Association
Professor, Department of Microbiology
Oregon State University, 226 Nash Hall, Corvallis, Oregon 97331-3804
T 541-737-1795 | F 541-737-0496 | E theo.dreher@oregonstate.edu

13 December, 2019

Ms. Meta Loftsgaarden
Executive Director
Oregon Watershed Enhancement Board
775 Summer St. NE, Suite 360
Salem, OR 97301-1290

Subject: Oregon Lakes Association Comments on 100-Year Water Vision Data Needs Workshop

Dear Ms. Loftsgaarden,

The Oregon Lakes Association (OLA) appreciates the opportunity to provide written comments on the November 14th data-needs workshop held in Salem. Attending the workshop were Dr. Theo Dreher, OSU professor and OLA President, and Dr. Ron Larson, OLA Board member. We thought there was a lot of positive energy at the workshop and attendees were focused on the data needed to move the state ahead to a more secure water future.

Based on the expertise of the OLA Board and members, we think there are several major areas of water-related data needs, which are discussed below. We would like to emphasize that data needs should not be considered separately from how the data are used, and in fact, we should first consider why the data are needed before collecting them.

Water Quality/Harmful Algal Blooms

Harmful cyanobacterial blooms are a key indicator of degraded water quality. In addition to monitoring and addressing water quality deficiencies through the TMDLs and other regulatory mechanisms, we need to proactively address HABs, which is not included in these management directives. We need widespread and regular data on the extent and severity of freshwater HABs to fully characterize the pace and scope with which this problem is worsening. At present, monitoring is dispersed and mostly reactive, with the exception of drinking water sources determined to be susceptible to HABs (OHA rule). This approach misses the chance to take corrective actions, and to understand causes. A concerted monitoring program should involve the collaboration of multiple stakeholders, including drinking water utilities, state and federal agencies, local residents, and researchers. An excellent example has been the monitoring conducted in the Klamath watershed for over a decade (KBMP website).

Data are also lacking on the critical factors that are driving HAB expansion. However, we know of some factors that are involved, such as excess nutrients, longer periods of stratification in

water bodies due to warming or lower flows, and removal of zooplankton grazers by excess fish stocking. But, we don't know the details that will allow us to best focus efforts to reverse the current situation. Experimental research supported by state-of-the art genomics-facilitated techniques will be needed to understand the growth controls that act on HAB cyanobacteria and to determine which ones are toxic.

New techniques are being developed to monitor HABs that will allow remote and automated continual in-situ sensing to help predict blooms a few weeks in advance. Additional research is needed on promising techniques, such as collecting data signals consisting of multi- or hyper-spectral scans to detect color differences, volatile compounds released by certain phytoplankton, or photographic images of phytoplankton. These input signals usually need to be analyzed via machine learning in order to produce outputs that water managers can use.

An additional emerging concern are the newly recognized toxic "sessile HABs." These are relatives of the planktonic cyanobacterial HABs that occur in lakes, but grow on rock cobbles in rivers or on the shores or dam-walls of lakes and reservoirs. These benthic mats of cyanobacteria are proving to be universally toxic, and we are beginning to learn that they are widespread in PNW rivers. The best study has been in California (Fetscher et al., 2015). We need more data on the situation in Oregon, and data that tells us whether these toxic benthic mats are becoming more prevalent, perhaps in response to declines in river health. These sources, as well as HABs that are transported from lake or reservoir blooms downriver to the coast (Otten et al., 2015), are moving HAB toxins along ocean shores near river outflows. Again, this has been better studied in California and Washington, but is a concern in Oregon that will need to be addressed with data. In this connection, please see the attached slide set provided by Dr. Meredith Howard, who was a leading researcher before recently taking the post as Environmental Program Manager at the Central Valley Regional Water Board. Dr. Howard presented these slides in a plenary lecture at the recent US HABs Symposium. ***By merging HAB-related problems across a lake-river-marine coast continuum, her presentation suggests a need to consider merging units that are now housed in disparate state bodies in order to best address water problems over a multi-decade timeframe.***

Mitigation and Remediation of cyanoHABs: The above steps for data collection will help assure we know the scope and the risk for cyanoHABs in Oregon's freshwaters. They will also serve as a basis for making the needed steps toward preventing, mitigating and especially remediation of those water bodies that have degraded to the point where they support significant long lasting cyanoHABs both toxic and potentially toxic. Methods are being developed and some even exist that will restore small cyanoHAB impacted water bodies to their pre-HAB conditions. The above measures will help assure Oregon meets its goals as outlined in the 100-Year Water Vision.

Hydrology and Climate Data and Modeling

Modeling can provide important clues to where and when a water shortage might occur that could adversely affect both people and the environment. However, to be useful, water/climate models need adequate hydrology and climate data, which may not be available for all areas of

the state. ***One region that is not well covered is eastern Oregon, where there are few streamflow gages and a similar lack of weather stations.*** A case in point is the Chewaucan River system where there is only a single flow-monitoring gage and the nearest climate data comes from Lakeview, which is about 50 miles away and in a different watershed. SNOTEL data is being recorded at one site in the Chewaucan basin, but it is at the edge of the basin and therefore may not be representative of snowpack conditions over most of the area. Recently, two papers were published (Larson et al., 2016 and Moore, 2016) that used a variety of hydrological and climate data for the Chewaucan Basin to understand the causes of a major ecological upheaval that occurred at Lake Abert, a critical feeding area for tens of thousands of migratory waterbirds. In 2014, the lake was so desiccated that salinities became extreme and most of the birds were left with no food. These studies highlighted the lack of data on which to understand the causes of the 2014 event. Even with the shortcomings mentioned above for the Chewaucan example, it is relatively data-rich compared to much of the rest of eastern Oregon, where hydrology and climate monitoring stations are very few and widely dispersed.

To understand how regional hydrology and climate are changing and what impacts might result from that, we need a robust monitoring network and a way to effectively collect, share, and report data. Currently, there seems to be little rationale for the existing hydrology and climate monitoring networks, nor are the existing stations sited to provide the most useful data. Furthermore, multiple federal, state, and local agencies, Indian tribes, irrigation districts, and others are collecting and reporting data, with limited coordination. The quality of the data and whether they are reported also varies substantially. Recognizing that funding is very limited, especially for long-term monitoring, there is an urgent need to prioritize and optimize environmental monitoring so that they provide the most valuable data, and that funding is not wasted by unneeded efforts. To overcome these problems requires coordination between all stakeholders, not just federal and state agencies, but also researchers and other data users. We should also anticipate future data needs, and augment traditional water quantity/quality and climate monitoring with remote sensing, Geographic Information Systems, and other forms of data collecting and analysis. Furthermore, there should be a feedback loop so that collected data are analyzed in timely fashion, allowing further refinement of monitoring needs. It is also important to ensure the data are freely and readily accessible in a usable form.

Aquatic Invasive Species (AIS)

AIS are aquatic organisms that are introduced and become established in ecosystems outside their natural, historic range. Dense growth of AIS can have significant impacts on native ecosystems, water quality and commercial, agricultural, or recreational activities that depend on these ecosystems (Sala et al. 2000, Pejchar and Mooney 2010). They may even harm health – directly or indirectly – by providing favorable habitat for vectors such as mosquitos. AIS come from a variety of taxa. In Oregon, an example AIS microorganism includes the whirling disease parasite (*Myxobolus cerebralis*) that causes disease in trout and salmon that is fortunately considered eradicated. AIS invertebrates include New Zealand mudsnails (*Potamopyrgus antipodarum*) found in many lakes along the coast, and Asian clams (*Corbicula fluminea*), which are widespread in the Columbia River. The most common AIS plants are Eurasian watermilfoil (*Myriophyllum spicatum*) and Brazilian waterweed (*Egeria densa*), but infestations of water

primroses (*Ludwigia* sp.), yellow floating heart (*Nymphoides peltata*), and flowering rush (*Butomus umbellatus*) are an increasing problem. These AIS plants are known to deleteriously affect water quality by disrupting dissolved oxygen and temperature regimes that are critical for a number of taxa, including listed species.

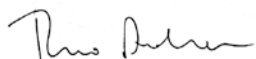
Arguably the most worrisome AIS that threatens to become established in the Pacific Northwest are Zebra (*Dreissena polymorpha*) and quagga (*D. rostriformis bugensis*) mussels. As “biofoulers” they attach to a variety of substrates such as pipes, docks, mooring buoys, and even the shells of other mollusks. Dense growth of quagga or zebra mussels in pipes can reduce the capacity of flow in everything from hydropower facilities to fire-fighting equipment. They are prolific filter feeders, filtering as much as one liter of water per day. This results in decreased food availability for other organisms and increased light availability for potentially nuisance aquatic plant growth. These species have impacted waterbodies across much of the eastern and central U.S., but are thus far relatively less prevalent in waterways of the western U.S. Populations of the highly invasive mussels have established in Arizona, California, Colorado, Nevada, North Dakota, South Dakota, and Utah, with numerous reports of contaminated watercraft from inspection stations and larval detections. The financial impacts of these mussels is great, due to impacts to water quality, hydropower facilities, and tourism. Preventing the introduction of AIS is largely agreed to be the first line of defense. Oregon, Washington, and Idaho have inspection stations strategically located to prevent interstate movement of contaminated watercraft, although vessels are known to by-pass the system.

Given the significant impacts of AIS, more efforts should be put forward towards prevention of introduction. Importantly, as early detection of invasive species leaves more successful and less expensive management options available, it is imperative that more AIS surveys are conducted (both visual and by using environmental DNA methods) and data is better shared among stakeholders. Finally, information is lacking about the impacts of AIS plants on evapotranspiration, water quality, and hydrology of our vital freshwater resources.

More information on AIS is available from the Oregon Invasive Species Council (OISC) website at <https://www.oregoninvasivespeciescouncil.org>

Please feel free to call on us to help develop the 100-year Water Vision and implement Oregon’s Integrated Water Resources Strategy.

Sincerely,



Theo Dreher, President OLA, on behalf of Oregon Lakes Association Board of Directors

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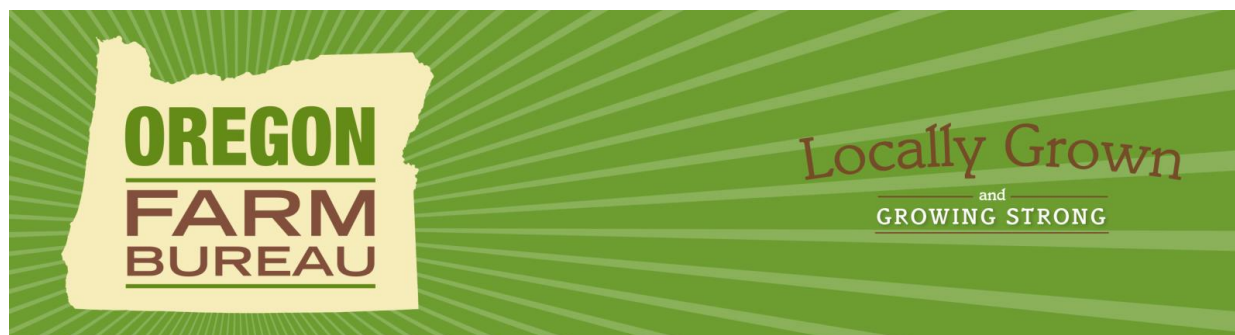
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December 23, 2019

Meta Loftsgaarden, Director
Oregon Watershed Enhancement Board
775 Summer St NE #360
Salem OR 97301

SUBMITTED VIA EMAIL: Meta.Loftsgaarden@oregon.gov

RE: Oregon Farm Bureau Comments on 100 Year Water Vision

Dear Director Loftsgaarden,

Thank you for the opportunity to engage and provide feedback on Oregon's 100-Year Water Vision. We are writing to provide feedback on our priorities and needs through the process, following our extensive engagement in community conversations, interviews, and the technical workshop. After learning more about Oregon's 100-Year Water Vision, the Oregon Farm Bureau (OFB) encourages the state to ensure several fundamental tenants guide its work to develop the Vision. These include ensuring that the Vision is grounded in Oregon water law, is science and data based, is locally driven, is adaptable, recognizes regulatory hurdles, and is not funded on the backs of Oregon's farmers and ranchers.

By way of background, OFB is a voluntary, grassroots, nonprofit organization representing Oregon's farmers and ranchers in the public and policymaking arenas. Comprised of county members from each of Oregon's 36 counties, OFB is the state's largest general agriculture organization, representing growers of Oregon's 200+ commodities, all of which are dependent on water. Our primary goal is to promote educational improvement, economic opportunity, and social advancement for our members and the farming, ranching, and natural resources industry. Today, OFB represents nearly 7,000-member family farms and ranches.

OFB has been closely engaged in water policy in Oregon since our inception in 1932. Since that time, we have seen the water needs and water policy in our state evolve and change. However, the importance of water to agriculture has only increased during that time. Water is the lifeblood for Oregon's farmers and ranchers; it is essential for the Oregon's agricultural economy and many farms and ranches in Oregon cannot operate without secure access to

irrigation water. Agriculture contributes an estimated \$50 billion dollars to the state's economy, making it Oregon's second largest economic driver. Given the importance of water to all of Oregon's 220+ commodities, the state must protect farmers' water rights and ensure that management decisions are workable for Oregon's farmers and ranchers. The state must also plan for future changes in Oregon's agricultural water needs, as farming in this state has evolved considerably over the last 100 years and will evolve even more significantly in the next 100 years.

We are grateful for Governor Brown's interest in long-term planning to meet the state's water needs. Oregon is woefully behind other states in infrastructure investment and long-term planning around water, and we are encouraged by the Governor's recognition of the extent of the underinvestment in water in Oregon. However, we also remain concerned about the breadth of the issues Oregon's 100-Year Water Vision seeks to address and what the process will look like for developing solutions. With that in mind, we offer the following broad suggestions on Oregon's 100-Year Water Vision. We have also included a more detailed outline of how we envision this process to work as an attachment to this letter.

The Vision Must be Grounded in Oregon Water Law

OFB has strong policy supporting the prior appropriation system of water rights. While not perfect, prior appropriations is the bed rock of water management in Oregon, and Oregon's farmers and ranchers rely on and have operated under this system for hundreds of years. While we understand that there may be a need for regionally specific solutions to water issues, those solutions need to be collaboratively developed, have strong local buy in, and not undermine centuries of settled water law in the State.

Further, we were concerned at the technical workshop when we observed a number of suggestions for changes to water use, water quality, and land use laws that reflected significant misunderstandings about how those laws function that were not corrected by the agencies at those meetings. Oregon's 100-Year Water Vision must be based on a shared understanding of how Oregon's regulatory programs work, and those programs cannot be undermined or modified by the Vision. We strongly urge the State to ensure that Oregon's 100-Year Water Vision remains grounded in existing laws.

The Vision Needs to Science and Data Based

Oregon's 100-Year Water Vision must be science and data based and supported by strong scientific evidence. We have grown concerned in the past several years about the number of significant policy decisions made in Oregon that are not data driven or based on sound science. Science must be the underpinning of the Vision, and decisions should not be made in the absence sound science. Further, in the agricultural arena, our sector lacks data regarding our infrastructure needs. While cities, irrigation districts, and other sectors have commissioned reports regarding their needed infrastructure investment, that data has not been developed on the "on farm" side. We believe it is critical that this data is developed, and is developed by an entity who understands agricultural operations and will work with the agricultural community to ensure it is correct. This is an urgent need, as agriculture will

not be able to effectively advocate for our infrastructure needs if we do not have a strong sense of what they are.

In looking at future agricultural demand, we cannot overemphasize the need for data and information to account for changing crop patterns over time. Agriculture in Oregon is constantly evolving as markets and consumer preferences change. There are many crops currently grown in the state – such as wine grapes, hazelnuts, sunflowers, or hemp – that would not have been thought of a hundred years ago, and which are becoming increasingly popular in the state. When we look at future demand and future agriculture water needs, we must account for changes in irrigated agriculture and cropping patterns that will continue into the future to ensure there is water available for all future agricultural needs. This is particularly true given that Oregon’s status as one of the most productive agricultural regions in the world will only grow as conditions in other regions change over time.

The Vision Must be Locally Driven

The development of Oregon’s 100-Year Water Vision must be regional in nature and locally driven. Farmers and ranchers in Oregon largely live in rural areas, and those areas have unique challenges and opportunities compared to urban areas. No one is better suited to developing a list of local priorities than the local community. To that end, we recommend structuring these conversations such that each sector can prioritize their needs locally, and then be part of a cross-sector local conversation about a basin or region’s water priorities. It is critical that this process does not become Oregon’s few urban centers telling rural Oregon how they need to manage their water. The difficult conversations that need to happen around water will only be successful if they are locally driven and reflect each region’s local priorities.

Roughly 15.9 million acres in Oregon is in non-federal farm use, down from 16.3 million in 2012.¹ These acres represent over a quarter of Oregon’s land use, and these acres provide critical fish and wildlife, water quality, and economic benefits to the state. However, the farmers who run these farms make up a very small part of Oregon’s overall population. Decisions made about Oregon water often disproportionately impact Oregon’s farmers and ranchers, many of whom are already struggling to stay in business in Oregon. It is important that these farmers and ranchers are in the driver’s seat regarding any decisions or prioritization that could impact their ability to stay in business and stay viable into the next generation.

The Vision Must be Adaptable

The State of Oregon is grappling with over 100 years of underinvestment in infrastructure and water planning in Oregon. While we very much appreciate the enthusiasm that many groups are bringing to the table around this process, we caution the state not to put the cart before the horse in its eagerness to develop and implement the Vision. We will need

¹https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_1_State_Level/Oregon/st41_1_0047_0047.pdf

significant data, local conversations, planning, and funding before we are able to move forward with any part of the Vision. Further, sound decision making and solid local processes take time. We strongly encourage the state to take an adaptive approach to developing the Vision, ensuring that we are realistic about what can be done now and what needs to be done over the long-term. Incremental progress is the most steady and lasting kind of progress.

The Vision Must Recognize Regulatory Hurdles

There are significant hurdles to infrastructure development in Oregon, including expensive and often duplicative permitting at the local, state and federal level, Endangered Species Act consultation, fish passage requirements, and a myriad of other regulatory hurdles. A single infrastructure project can often trigger 6-8 different permits, each with their own associated costs and regulatory requirements. These requirements are a big part of the reason that infrastructure projects in this state are so expensive and time consuming for those seeking to complete projects, and why so many of the projects that get done are by public entities or using public dollars. Completing these needed projects is simply outside the reach of many small business owners, including farmers and ranchers. We believe the expense and expertise needed to complete projects should be factored into the Vision and provides compelling justification for increased state investments in these projects.

The Vision Cannot be Funded on the Backs of Farmers and Ranchers

Critically, our members strongly believe that investing in infrastructure and water management is a general societal obligation, and any proposals cannot be funded on the backs of water users. The State has several mechanisms to raise funding from the general population and there are a myriad of private funders interested in water policy. Farmers and other water users cannot afford the cost increases that would be associated with any water specific fees or taxes, and we lack the tax base that other water user groups have to fund needed projects. Given the importance of water management for all Oregonians, it makes sense that all Oregonians should fund investment in water in the state.

Thank you for your consideration, and please do not hesitate to contact us if you have any questions.

Respectfully,



Barb Iverson
President, Oregon Farm Bureau Federation
Barb@oregonfb.org

OFB Goals for 100 Year Water Vision

1. How should these conversations be structured?
 - a. Must be locally driven.
 - i. Suggest forming regional workgroups: Local workgroups (like Local Advisory Committees through ODA). Each area views water differently and has different water needs.
 - ii. There should be industry specific work groups – for example, the agriculture sector should figure out agriculture needs.
 - iii. Then move into all sectors – a conversation with everyone around the region’s needs.
 - iv. Tie into place-based planning groups/structure where those programs exist.
 - b. Strong landowner participation/rural community participation is essential: Portland, Eugene and Salem cannot have an outsized voice in what happens in rural Oregon. We are a whole state, and a few population centers should not dictate statewide policy.
2. How should the Vision be developed?
 - a. The Vision must remain grounded in current law.
 - i. Focus on infrastructure investment, not on changing fundamental structure of water quality or water rights. While we understand that there may be a need for regionally specific solutions to water issues, those solutions need to be collaboratively developed, have strong local buy in, and not undermine centuries of settled water law in the State.
 - ii. Funding should be disconnected from all other incentive programs or incentives – you shouldn’t be beholden to other changes on your farm if you accept funding.
 - b. The Vision must be practical and grounded in reality.
 - i. We need to be realistic about what can be done now and what’s more long-term – incremental progress is ok.
 - c. We must provide time for sectors with less data to collect that data.
 - i. Right now, municipalities and irrigation districts have pretty good information on what their long-term infrastructure needs are; we totally lack that data on the on-farm side.
 1. Studies/Data Collection (done by workgroups)
 2. Regional water needs:
 - a. Review all existing studies out there, don’t reinvent the wheel.
 - b. Limited studies: Study viable options for developing additional water/solving water issues, but don’t study it to death or be too broad in studies.
 3. Encourage development of water districts
 4. How do we begin to assess statewide agricultural needs for infrastructure?
 - a. ODA should do a statewide survey that we can help with, but then regional groups should review the data and

- information for their region to make sure it comports with what they think the needs are.
- b. Demand analysis – can be based on aerial assessments that can be extrapolated to help figure out infrastructure needs.
5. Soil and Water Conservation districts should help with identifying the costs of infrastructure.
- a. Make sure that thought isn't always that more efficiency is best – should make sure upgrades won't cause environmental harm in the long run or change when water is available or impact groundwater recharge. Maybe solution is making flood watering more efficient in some areas.
3. How should the water vision be funded?
- a. Funding Source – should be a general societal obligation, not on water users.
 - i. Explore general fund, opportunities to use mitigation dollars, a general obligation dedicated funding source.

Joint letter from Oregon Water Utility Commission, League of Oregon Cities, Special Districts Association of Oregon, and Oregon Association for Water Utilities
1/08/2020



January 8, 2020

Oregon Water Vision
Meta Loftsgaarden, Executive Director, Oregon Watershed Enhancement Board
775 Summer St NE #360
Salem, OR 97301

Subject: Oregon's 100-Year Water Vision

Ms. Meta Loftsgaarden:

Below are combined comments from four state-wide water associations regarding the draft 100-Year Water Vision for Oregon (Vision). We are encouraged by the attention and renewed focus on water in Oregon. For many of our member agencies, water is what we do every day and collectively, we have many insights into examples of the challenges AND the potential solutions that exist in Oregon today and in the future.

Thank you for the opportunities to participate in this process. Many of our members have attended the various sessions held across the state and have participated in the Oregon Consensus interviews. This letter is intended to provide additional comments for your team to consider as you embark on next steps. Our comments are centered around a few themes that emerged from conversations with our collective members. Each association described below, is comprised of a variety of members, and the comments are a representation of some of the feedback we have received, but are not intended to be comprehensive of each and every viewpoint held by individual members.

We would like to offer ourselves as a resource as you move forward in this important work. We would like to request a meeting with you and the vision team soon, to have a more detailed conversation about our comments and how we can assist as you move forward.

Who We Are:

OWUC

The Oregon Water Utility Council (OWUC) is a committee of the Pacific Northwest Section of the American Water Works Association. Made up of cities, special districts, public utility districts and private companies, OWUC members collectively supply domestic water to more than *75% of the population of Oregon*. OWUC's

mission is to promote and monitor legislation, public policies, and regulations that will ensure our communities are provided with drinking water of the highest quality and sufficient quantities at a reasonable cost.

LOC

Founded in 1925, the League of Oregon Cities is a voluntary association representing all 242 of Oregon’s incorporated cities. The LOC helps city governments serve their citizens by providing legislative advocacy services, policy consultation, intergovernmental relations assistance, networking and training, technical assistance and publications.

SDAO

The Special Districts Association of Oregon (SDAO) represents approximately 920 of the 1,000 single service local government districts across the State of Oregon. Our membership includes 34 types of districts which is diverse both in size and geography and includes districts that provide municipal drinking water, sanitary sewer service, irrigation, public utility districts, drainage districts, fire protection, and parks and recreation to name a few. Districts are generally formed by the citizens they serve and are run by elected officials who generously serve without compensation.

OAWU

The Oregon Association of Water Utilities (OAWU) represents over 800 members with well over 500 being a combination of drinking water and/or sanitary sewer/wastewater utilities from cities, districts, cooperatives and private service providers - from the largest utilities and cities to the very small across the State of Oregon.

Comments on the Draft Vision:

Water is uniquely regional in nature, as are the solutions. Without this recognition, state-wide approaches are not typically effective. The needs of one community may not reflect the needs of a community right next door with a different water source and system. Creating flexible tools is essential to providing solutions that work.

Truly long-term planning is always a challenge, and it may be helpful to cast the long-term vision piece of this discussion in terms of scenario planning – building flexible tools and options to address a range of potential outcomes. It’s important to note, particularly with drivers like climate change and population changes, that the Vision is not about predictions, but about building flexible options to address an uncertain future.

As water utilities, special districts, and municipalities, we have been planning for Oregon’s water future for decades, and we are excited to share our insights and experiences with you and your team. In conversations with our members, three themes emerged in response to the Draft Vision –integration of existing water efforts, scope of the Vision, and funding, funding, funding.

Integration of existing water efforts

Our members have participated in many of the recent state-wide water planning efforts, including, but not limited to, the Integrated Water Resources Strategy (2012, update 2017), the Oregon Water Resources Department Strategic Plan (2019-2024), the Secretary of State Audit Report: OWRD: Enhancing Sustainability Efforts and Agency Planning Need to Better Address Oregon’s Water Supply Needs (2016), and the Statewide Long-Term Water Demand Forecast (2015). These efforts, and in particular the IWRS, involved *many* stakeholders and created key documents intended to address the problem statements identified by today’s Vision effort. As stated in the Introduction to the IWRS, “In order to achieve Oregon’s vision for water, a strategy was developed that brings various sectors and interests together to work toward the common purpose of maintaining healthy water resources to meet the needs of Oregonians and Oregon’s environment for generations to come.” The Next Steps section of the IWRS details the need for a workplan – the vision is there, it’s the details of implementation and funding that are missing, and we hope the Vision can be the piece that fills in those gaps.

We support and applaud this renewed focus on water, and hope the Vision can address the following:

- How is the Vision different than the IWRS?
- How will it bring more funding?
- How will it provide better coordination and integration of the issues already raised?

Scope of Vision

While we appreciate the focus on long-term planning, we have questions about a 100-year Vision and viable implementation of that vision. Encouraging all water-users to think long-term is great, and many of the decisions we make each day around our resources and infrastructure needs are 100-year decisions. The replacement of that pipe, the fixing of that dam, the building of that water treatment system – all those things are far-reaching decisions that will affect generations to come. The main concern we have with a 100-year time frame for the implementation side is the disconnect from funding realities and mechanisms that are required to make the Vision a reality. Funding, as noted below, is at the root of several of the most pressing issues. We would like to see a Vision that acknowledges the time periods that connect to statutory and financial frameworks that we all deal with daily such as 20-year master plans or land use plans with five-year updates.

Funding

A 2016 Infrastructure Survey Report from the League of Oregon Cities identified over \$7 billion worth of water infrastructure needs over the next 20 years – just for municipal needs. We would guess there are similar infrastructure and modernization needs for other entities. The need for dedicated funding came up amongst our members again and again. Our associations understand that funding is a challenge across sectors, but the work of implementing any Vision will require reliable funding for diverse water needs, including infrastructure, planning, watershed protection, governance, capacity, and flexible tools.

The list below captures some of our thoughts on current water-related funding and funding-related issues, and how some of those systems are or are not working as intended. Some members noted that the current Vision team does not have specific experience in finance or related funding efforts – this could be a gap to fill as you enter the next phase.

- Strategic investments and existing fund development
 - Several other state agencies administer grant and loan programs that are often poorly integrated into priority needs by region. Putting funding within regulatory agencies also creates challenges. The Special Public Works Fund, administered by the Infrastructure Finance Authority, is an example of a program that is working well, and is well-run.
- Complexity, capacity and governance
 - Currently, Oregon lacks a consistent and widely adopted (or required) framework and funding source for conducting regional or basin water-planning efforts that should turn into projects. These efforts often stall out due to lack of capacity or hit policy, process or funding barrier. We would benefit from expert senior level help from agency staff, particularly with complex issues that the Bureau of Reclamation's Basin study Framework and OWRD's place-based planning pilots address. These provide great models to create a state-wide adopted stepwise process. Senior staffing assistance to help these efforts is currently needed and being discussed.
- Challenges for small utilities and community water systems
 - Smaller utilities and community water systems provide water-related services to many Oregonians and often have the biggest funding challenges. Creating consistent access to funds and providing related technical capacity is an ongoing challenge and must be included in any Vision.

- Equity and affordability
 - This topic was highlighted by most of our members. Solutions for new supplies and updating infrastructure must be equitable across the water user types, and affordability must be defined in a way that responds to the regional realities across Oregon.

Thank you for considering these comments. All the members appreciate the opportunity to provide feedback. A small, representative group of us would like to set up a time to meet with you and your team to discuss our comments and offer our experiences as a resource. If you are amenable, we will contact your office soon to set up a time.

In the meantime, if you have any questions or comments, please contact us. We look forward to meeting with you and your team soon.

Sincerely,

Michael W. Grimm, P.E.

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January 20, 2020

Meta Loftsgaarden, Executive Director
Oregon Watershed Enhancement Board
775 Summer St NE, Suite 360
Salem, Oregon 97301

Jason Minor, Natural Resources Director
Office of the Governor
900 Court Street, Suite 254
Salem, OR 97301-4047

Dear Ms. Loftsgaarden and Mr. Minor,

Thank you for the opportunity to comment on Oregon's 100 Year Water Vision. The Oregon Association of Conservation Districts (OACD) is a non-profit organization that represents Soil and Water Conservation Districts (SWCDs) throughout the State. The mission of SWCDs is to support conservation of natural resources through a variety of efforts ranging from education to implementing on-the-ground projects. Water is a critical natural resource that is central to the work of SWCDs.

We fully support the following recommendations:

- Continue to maintain and update the Integrated Water Resources Strategy over time and use it as a key building block for our future plans. It is imperative that the interconnectedness of water resources continue to be recognized and promoted in our management plans.
- Make place-based water management a fundamental concept on how things get done in the future.
- Recognize the need for minimum standards for managing our water resources, assure achievement of those standards, and then proceed beyond those standards with flexibility in our laws that will set the stage for voluntary incentives to drive water management actions
- Make a clear case that investments in our water are essential now and in the future, encouraging the legislature to support those investments. Make the case with a long-term view.

We want to emphasize that OACD and the SWCDs it represents are eager to play a vital role in shaping Oregon's water future. We would like to remain actively engaged in the Water Vision process and bring to the table our knowledge of local conditions, issues, problems and solutions. We know that a one-size-fits-all water program does not work with the diversity of climate, resources, and culture that we have in Oregon.

338 Hawthorne Avenue NE - Salem, Oregon 97301

It is further recommended SWCDs play an integral role and key partner in implementing future projects and programs that support the Water Vision. SWCDs are uniquely positioned because they have:

- Technical expertise in water resources as part of their broad expertise in natural resources conservation,
- Knowledge of local environments,
- Established relationships with local organizations involved in water resources projects and programs,
- A track record of innovative and creative solutions to water resources problems, and
- A mission that is non-regulatory allowing them to work closely with landowners to get things done without landowner fear of regulatory repercussions.

OACD believes that the draft 100-Year Water Vision document is well written, and we support the vision, premise, and goals. We appreciate the excellent effort to date in collecting community and stakeholder input and look forward to taking this high-level document to the next level of detail.

We are aware that the Soil and Water Conservation Commission (SWCC) will be submitting a letter with additional points on similar issues. That advisory commission works with the Oregon Association of Conservation Districts to assure that the voice of the 45 SWCDs in Oregon are represented in Oregon policy decisions.

Sincerely,



Jan Lee, Executive Director
Oregon Association of Conservation Districts

338 Hawthorne Avenue NE - Salem, Oregon 97301

Association of Clean Water Agencies 07/26/2019

- Vision project should be built from the ground up. What's the vision? What is the trajectory (e.g., climate change water needs)? We need to figure this out first.
- Need to get political buy-in or the effort won't last.
- Need substantial cheerleading.
- What is the call to action? Should be applying a process like Scenario Planning to be clear about the problem(s) we are trying to solve, and the projected targets we need to meet.
- Need to charter the project first.
- Solutions that work in one area don't necessarily work everywhere—be mindful of this.
- Big investment? Big projects get more attention.
- Encourage planning at the regional level.
- Funding assistance is needed to address climate change, etc.
- How do we look at the trends, regulations, etc. as part of this so that the solutions fit the future context?
- Story telling will be important.
- Agency coordination will be important—among the state agencies and with the federal agencies.
- Figure out how to make our kids' water stories be the call to action.
- Baseline information—need for information on storage and alternatives (e.g.'s reuse, conservation, etc.).
- Stormwater—significant needs in the future, and opportunities for capture and use.
- Green infrastructure—how to assess risks to it, and how will we protect it?
- How/who is asking the questions? The conversations need to be a safe space.
- Equity (stormwater, drinking water, etc.) needs to be factored in.
- Developing business models to take care of the infrastructure for the long haul.
- Coordinate across agencies (e.g. roads and water—approaches need to be coordinated).
- Equity and affordability—funding that helps disadvantaged communities will be important.
- Branding—there needs to be one voice from the state—overarching, consistent message.
- Relationship between 100-year vision project and the Integrated Water Resources Strategy—pay attention to and articulate.

- Make sure all the right people are at the table (including small districts); watershed councils can be a great resource and should be considered as conveners.
- Oregon doesn't do a good job in implementing a strategic, coordinated effort to work with the feds.
- From theoretical support of reuse to a real push (need to make it easy for irrigation)
- Recognize four dimensions—X, Y, Z + time (long-term, evolution)
- Development standards that implement IWRS (bringing homebuilders and DLCD along)
- Integrated strategies in permitting—stormwater, wastewater, reuse, drinking water (not innovation within reach?????)
- Coordination across agencies
- What organizing frames (e.g. First Foods) could think about to address biocriteria
 - DEQ is developing—can DEQ use some of the science from Umatilla about what biocriteria should be?
- How to engage the Department of Education to help create a common understanding? Having a water education required
- Connect people to their stories
- Getting people to care—participatory actions; need to reduce fear of failure
- Limitations—City Managers and City Councils
- Innovation examples:
 - Clean Water Services ASR with stormwater in Beaverton
- Need to create business models that care about the infrastructure for the long haul—make the market care
- 100 year vision:
 - create a message platform that is trusted; shift identity; create social policy
 - create a way to welcome and educate climate refugees—build social norms
 - cross-cultural frame
- Water planning is land use planning
- Look @ X-generational transfer of land
- Play with concepts of self-determination and self-reliance
- DEQ+ODA—biosolids and Sherman County/precision nutrients
 - Need for cross-department communications (FOG—plumbing, wastewater, health)
 - Provide avenues for flexibility

- Role for DOGAMI
- Information needs:
 - LiDAR
 - Radar—for tracking weather (Bend uses Portland????)
 - Broadband
 - Sub-surface—Groboy????; Infiltration potential
 - Drinking water protection areas (state data at OHA still rough)
- Transparency on studies that have been done
 - Research questions
 - Planned
 - Completed
- Affordability and scalability—what is needed? Ability to deliver that?
- Identify most critical areas for infrastructure rehabilitation
- What were historic natural conditions???
- Connection between?????
- Hurdle—public hasn't had to pay attention
- Transportation is planning way ahead while water is reactive and is driven by crisis
- How do we get in the driver's seat and not keep sitting in the back seat getting sick
- Can we use gas tax for water under streets? Integrate water into complete streets
- Stormwater—integration for impact????-not part of project????
- Forced annexations— islands of service area which breaks up infrastructure (grey and green); coherent jurisdictions without clear primacy
- Local Engagement
- Agreement from locals on principles
- Principles need to be clear; common status and trends
- Local buy in = legislative buy in; sustained cheerleading
- What is the call to action:
- Vision foundation is valuable
- Why now
- Scenarios on no action
 - Steering group to start framework to go out with communities

- Start with our own personal water stories—what our kids’ water stories are
- Needs
 - Needs for additional storage
 - Efficiency plus reuse
 - Stormwater—green infrastructure; what are risks to riparian areas and to land management
 - Information: Important who asks the questions, especially for small communities
- Equity
 - Stormwater and drinking water
 - Relationship between 100 year vision and Integrated Water Resources Strategy (including conservation, storage, reuse, and OWRD)
 - Get right people (include special districts)
 - Watershed councils as a resource for this effort
 - Do better to connect to feds via the OR delegation
- More thoughts:
 - Place-based solutions and communications
 - Make our water “pot holes” visible
 - Integrated planning at a regional level
 - Hard to match the numeric criteria to natural solutions—looking at trends
- Message:
 - Simple, bold, community based
 - Culturally connected
- Agency coordination:
 - State and federal common answers to local innovation strategies
- What level are we talking about today—refining the vision or creating the process to get a list of projects needing to be funded?
- League of Oregon Cities—261 cities were sent surveys about funding needs—heard from about half about projects.
- Hard to get the information?
- Land use issues around letting areas go natural (as part of 100 year water vision) will need to be addressed

- Brainstorming projects—develop the vision in terms of all the projects, then back down into priorities
- Different cities have different levels of interest—eg. Some may not value a vision...
- When/how will strategy be set about which items to fund—eg. Clackamas County cities may be more concerned with water conveyance than treatment.
- Hard conversation—are there areas in Oregon where we should just not invest in that system in that place? Idana eg—town of 60 people—most expensive plant in the state.
- Question is, what is needed?
- The project needs a clear architecture—how will decisions be made and how will projects be put forward?
- Will need to pay them to participate to gather the data because they may not be able to get the data otherwise
- What are we trying to accomplish, in what time frame, and what are appropriate strategies to use?
- Project needs a steering committee; the Governor should decide on the committee and include elected folks
- Determine a process to figure out who gets what in terms of monies and projects
- Need to look at 100 years out for water needs—completely different infrastructure needs to be created
- Reuse and/or desalinization will need to be considered
- What infrastructure is necessary for population growth
- There needs to be a clear decision about whether this project will involve a “top down” or “bottom up” vision created for this project
- Consider whether the “vision” can/should be broken up by watershed (ie regionally specific)
- Consider a process that is similar to how transportation systems are funded—eg high traffic corridors; could a similar process be applied to water system funding?
- Look at California’s water funding projects for guidance
- People do not know there is a problem we need to spend money on to solve
- Highlight what the issues are around water—what are the best mechanisms to address them? Eg, is it where growth will occur? Or, is it climate change, etc.?
- Agencies can help determine where water strategies are—use data to change the trajectory we’re currently on
- Need to have a clear understanding of the current trajectory (population, water demand, stream flows, snow pack, impacts of climate change, water usage, water quality issues, etc.)

- Need to perform scenario planning and stress/sensitivity testing to determine what is needed—types of watershed/water system/water quality/infrastructure needs
- Agency directors will need to provide grants etc. to help gather the data
 - Scoping project—need to bring together people from all areas of expertise, and charter the project
 - Need to hire qualified consultants, hire experts and establish a steering committee
- Need to determine whether we're looking at watersheds or statewide water issues—there are water issues bigger than that, eg snow pack at 25% of what's needed—how to store?
- This project is dead January 2020—when change in governor/legislature happens. Need the legislature's support.
- City of Portland—26 department heads-like 26 agencies. In commission form of government department heads go to their commissioner. What is the water vision—we can sell almost anything to Oregonians based on clean water
- “Stay out of the weeds in the front end”—big bold vision on what to get done
- Strong sense we're getting from the state agencies—they want it to be easier than it is—get list of projects, get money, do projects
- State asked League to put together a list of economic projects and to figure out the cost and then not all the projects get funded
- In the end “we want to have water in the state 100 years from now”
- Who can kill you—if they decide not to play, then you are done
- Local governments, business, the state, the environmentalists—20 person committee—if you don't include them in the front end, they will kill you in the end
- The scenarios will scare people
- How many sessions did it take to get a transportation package—took ten sessions and if only wanting to raise money is the only thing you're trying to do. Then, you still have to have all your conversations.
- River health needs to be a focus
- The pitch to bring Oregonians in—part of it is making sure up front, many people realize the value of river and water health and what goes with it...eg Willy “Willamette Access Project”
- The difference between the transportation item and doing the vision for water--?????? marginal difference between the amount of cost and work because you will have a hell of a lot of work to get this money. It is not like 10 times more work to get this moving and the money.

- There is a time component—what point do we need to do “x” investment to avert “y” for Oregon
- What is the burning platform? Why 100 years?
- Is it next 50 years? It will be easy...and then not.
- Why doing anything today on this issue?
- What is right here, right now?
- How do we know BES is doing a good job? “when I drive over bridges there are people in the river.” Things like that, like salmon can draw people in.
- What are the water warning bells?
- What are the indicators of the urgency?
- Look at the trajectory if we do nothing.
- Natural Storage (water) and loss because of climate
- Reuse, efficiency as part of infrastructure
- Stormwater infrastructure—DEQ can help set common goals/expectations—role of green infrastructure. Note high cost.
- SRF/Large muni focus. Smaller communities need personal contact—safe space to talk about needs without creating exposure (?)
- Watershed Councils should have a role here
- Lack of understanding regarding who owns uplands. Likely land management practices over the next 20 years—risks to the system
 - EG forest management/health
 - County planners and water providers
 - FEMA floodplain discussion/work. How to translate regarding policy around floodplain management
- Opportunity—(Yachats—gravel pits as water sources)
- Equity: Stormwater infrastructure – effect on home values
- Partners—Parks, public health—resources, access to outdoors.
- Septic systems and UICs—Health
- IWRS implementation and relationship to 100-year water vision—environmental groups are feeling disenfranchised.
- Use water stories as a call to action
- Identified all stakeholders:
 - Junct. City water control districts

- OWRC
- Use watershed councils?—need to engage
- Opportunity with DeFazio: Connect with federal agencies. Do legwork for WRDA.
- Pendleton—big investments in infrastructure—the river system has levy system that “needs to be tight” but some leakage can be good for cooling the river
- Funding is a challenge—how do we fund streets, let alone water infrastructure
- Integrated planning is tough with aging infrastructure
- Resource allocation (is challenging?)
- Klamath--\$45 million in wastewater in 2009--\$ rates are high now—would be tough to go higher
- Lots of planning work is contracted out
- Visible infrastructure drives investments
- Addressing cultural resources and federal reviews takes a lot of time and creates big delays in implementation
- Mix and match knowledge of local systems
- Projects that help reduce temperature but don’t have to be paid for by ratepayers—find ways to capture and cool runoff
- Oregon is unique (Pendleton vs. Portland BES)—are we able to differentiate?
- Look at local situations (eg—using Columbia water)
- Encourage integrated planning on a regional level, rather than within jurisdictional boundaries
- Communities may need legal support (supported by strong technical experience)
- Give flexibility to put \$ in places it really matters
- Make sure to engage litigants
- Have conversation with litigants—can we use investments in different ways? Can we step back and think more broadly about effective approaches?
- Promote local benefits and tie to recreation, restoration, and economic impacts
- New ways to connect people with the river
- Difficult to put numbers/criteria around natural systems—quit focusing on the numbers, focus on trends—great direction
- Investments in non-point sources but also recognition of current conditions as baseline
- Oregon (across the state) look big picture—regional, get away from numbers
- Re: Data—make sure it’s current and makes sense for the need

- Larger data needs at a regional level needs to be coordinated and relevant
- Stories and the way we share information is really important
- Adequate staffing and operations and maintenance are a challenge
- Messaging—community-based and simple
 - Need to connect culturally (how does water connect us with our community; what are the consequences?)
 - Get bolder communications
- Story mapping is key, but need to get past just sharing with ourselves
- We are really missing the messaging around water
- ACWA needs to have involvement—need more thought about what it should look like
- Push agencies to be more coordinated (across regulatory types)—needs to be intentional
- Get government agencies to collaborate to achieve local goals

January 24, 2020



Centering Equity in Oregon's 100 Year Water Vision

A student-led policy paper prepared by the Oregon Water Stories team at Portland State University

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Executive Summary

The purpose of this report is to provide evidence for the need to further intentionally incorporate equity into Oregon's 100 Year Water Vision. Our research has helped us contextualize this need and highlight the variety of water issues throughout the state. As Oregon policy-makers are responsible for ensuring working water systems for all Oregonians, we also suggest implementable criteria for the evaluation of equity in water issues and decision-making. This student-led and interdisciplinary report comes from the Haeffner-Cowal Oregon Water Stories research lab at Portland State University.

Problem Statement

We all acknowledge the necessity of thoughtfully reimagining Oregon's water future. We also know that Oregon is varied by geography, hydrology, climate, and sociodemographics. This policy paper is intended to put forth water justice language that can promote equity for diverse stakeholders in Oregon's 100 Year Water Vision. See Appendix A for a preliminary inventory of the top water issues across the state by region.

The draft of the Water Vision has already begun framing a new approach to Oregon's water that is focused on stewardship, resilient natural and built water systems, and that centers goals around health, safety, economy, and environment. These goals are far-reaching and forward-looking. Our research team has been examining the social and environmental justice aspects of water in Oregon, and has come to believe that equity should be added as a fifth goal. The ultimate aim is for equity to be incorporated into the foundations of any Oregon water policy. However, it is hard to conduct this fundamental transition in policy, so making it a separate fifth goal would put equity in dialogue with the other four goals and at the forefront of the Water Vision. This water policy for the future needs to explicitly recognize and name historical and systemic reasons for the current inequities in water resource management and access. Using language like "for all" and "for future generations of Oregonians" is inclusive, but not explicit enough to undo harms from racism, sexism, and other types of exclusion based on language, ability, ethnicity, and class. For authentic transformation in policy, we must center restorative language.

We define equity as treating people justly according to their circumstances, and environmental justice (EJ) as working for an equitable distribution of environmental burdens, benefits, and responsibilities. Distributive, procedural, recognition, and representational justice are principles of EJ identified by scholars. Centering and

January 24, 2020

being explicit about water equity in this Water Vision would be an important first step to (re)building trust and engagement with Oregon publics, and specifically with groups who are often marginalized in decision-making contexts.

Recommendations

We have developed a list of recommendations to promote equity in Oregon's 100 Year Water Vision.

- Equity could be a fifth goal, and could have a definition such as: "Building from an understanding of historical and systemic reasons for current water inequities in Oregon, provide fair access to water and equitable inclusion in water management processes."
- The specific aim of striving for distributive, recognition, representation, and procedural water justice, the four principles of environmental justice, could be incorporated into the "Vision" section of the document.
- With recognition justice in mind, the broad reasons for past and systemic water inequities that exist in Oregon today could be stated in the "Problem Statement" section or an appendix. For example: "Without acknowledging Oregon's history of racism and oppression of people of color, policy-making will not be able to fully address the water issues created by this history."
- With representational justice in mind, another round of Community Conversations aimed at hearing from groups we know were missed in the last round could be held. For example, Latinx seasonal farmworker communities, people experiencing homelessness, and refugee communities could be particularly invited and could help design the Conversations. These Conversations could be made accessible to the specific group they are aiming to recruit from in a variety of ways. For example, the events could be held in the evening, have childcare and food available, or have Spanish and other language materials and interpretation available.
- With procedural justice in mind, the Water Vision document and web page could be made accessible in Spanish, Chinese, Vietnamese, Russian, and other languages.
- With distributive and procedural justice in mind, the Water Vision draft could be published in newspapers and with a solicitation for comments, either online or through Letters to the Editor sections. Our research team's database of Oregon newspapers could be a resource for this step.

Conclusion

The key element of equity needs to be more intentionally emphasized in the Water Vision, and protocols need to be put in place to codify equity evaluations. As our research indicates, Oregon contains an incredible diversity of water contexts and issues. Because of this diversity, this paper's ultimate recommendation is for Oregon public officials to create and ask evaluative questions to address the four principles of environmental justice around water systems and policies in Oregon.



Technical Workshop

To engage in a conversation about the management and data needs of water managers across Oregon, the state hosted a full day technical workshop to stage that discussion.

This section contains the agenda from the technical workshop, a memo that summarizes the state's current data inventory and framed the data discussion, and a synthesis of key the data needs and gaps that water managers identified during the workshop.

Technical Workshop Agenda



Technical Workshop Agenda

November 14, from 8am to 4pm

Willamette University, Salem, Oregon

Purpose

The State of Oregon is convening this Technical Workshop to bring together data users (people who use the data produced by the state, federal agencies, and private sector to make water management and infrastructure decisions) to identify important management questions that require good data, and what form and function that data is in /should be in to support good decisions for users. The Workshop is coordinated with the 8 regional Community Conversations recently held in late October early November to identify challenges each region is facing and provide input to the 100 Year Vision. The Vision is a way to craft the investment and implementation actions linked to the Integrated Water Resources Strategy.

Objectives

What decisions do we need to support? With information in which form and function? The workshop would ask these questions relative to A) water availability and use, water infrastructure condition, and funding and finance; and B) the 4 goals of health, safety, environment, and economy.

8:00-8:30am Registration and Coffee

8:30-8:45am Introductions and Welcome

8:45-9:00am An Overview of the 100-Year Water Vision

- What's in it, and why now? What comes next for the Vision
- What is the overall frame being used—how's that working for you?

9:00-10:00am Grounding in What We Think We Know

Part 1: Important Water Management Questions

- Brief presentation - examples of water management decisions that need good information
- What are the most critical kinds of water management and investment decisions you need information for right now, in 5 years, in 20?
- Discussion in small groups with large group highlights

10:00-10:15am BREAK

- 10:15am-12:30pm Grounding in What We Think We Know
Part 2: Water Data Availability and Quality
- State agency panel shares highlights of data we have/data we think we need
 - Full group participates in 10 stations focused on the data needed to support the decisions we talked about in Part 1
- 12:30-1:30pm Lunch
- Identify initial data priorities
- 1:30-2:00pm Initial Data Priorities
- Small group and large group discussion
- 2:00-3:00pm Where Do We Go From Here?
- What information/data asks do you have of the state or others?
 - What can you offer?
 - Small group and large group discussion
- 3:00-3:15pm Next Steps and Follow up
- 3:15-3:30pm Closing Remarks and Thank You
- 3:30-4:00pm Data Resources Networking
- 4:00pm Adjourn

Technical Workshop Summary

On November 14, 2019, more than 70 participants from local governments, environmental and agricultural groups, agencies, and others gathered to discuss the current water infrastructure and ecosystem management questions they are actively working to solve. Participants were also tasked with identifying data gaps in five topical areas: water availability and use, water quality, environment, funding and finance, and future trends. Each of these breakout discussions is generally summarized below.

Table of Contents

The Need.....	174
Key Management Questions.....	175
Water availability and use.....	176
Education and culture change	177
Ecosystems.....	177
Funding	178
Future trends	180
Infrastructure	177
Process	179
Water quality	177
Regulations	177
Topical Breakout Groups.....	181
Water availability and use.....	181
Water quality	182
Environment	182
Future Trends.....	183
Funding and Finance	184
Offers and Asks	185

The Need

From the workshop and from conversations and surveys with community water leaders, it is clear that Oregon’s water managers need better, more cohesive, and more usable data and information about water to forecast their community’s water needs and prioritize water investments. Some of the specific needs include:

- Water budgeting—forecasting and tracking water availability, demand, and use;
- Natural and built infrastructure condition and improvement needs/plans/costs; and
- Ecosystem status and trends.

Water managers have clearly identified that they want water information to be current, high quality, transparent, accessible, and usable. There is a desire that Oregon have more integrated water data that are accessible at a regional level for the purpose of enabling Oregonians to make smart water decisions that keep our communities thriving for the next 100 years.

Key terms

Throughout this document, several terms are used that, in other context, can sometimes be interchangeable. For the purpose of this document, however, they have specific meanings.

Key water management question: Significant decisions water managers (e.g., irrigation district managers, restoration contractors, foresters, farmers, city water engineers, wastewater plant operators, county flood managers, etc.) make on a regular basis that require information about current and future water quantity, quality, and ecosystem status and trends.

Framework: The agreements amongst data providers (agencies and others) on digital availability, data quality, format, and privacy protections that make it possible to have integrated access to the information water managers are asking for.

Platform (data and information): The data standards, technological connections, user interfaces, and other aspects of data and information systems that allow water data to be accessed, organized into information, and used to support decision-making.

Information: Data that have been organized, synthesized, presented, or analyzed in some way that begins to attach meaning to the individual bits of data. Information is often what is needed to support decisions, but you cannot have information without data.

Data: Characteristics of water (e.g., water quality, quantity, stream location, groundwater basin boundaries, or water use) that are collected, stored, and made available. Alone, data may have little meaning until they are organized into information.

Water managers: people who manage, plan, and maintain water systems, both built and natural, in communities across the state.

Key Management Questions

Oregon's water managers are making decisions each day about how to advance health, economy, environment, and safety. Many of those decisions require information that is created from high quality, current, and usable data. Participants were interested in a better understanding of which data and information are available, and a clear articulation of how reliable those data are (e.g., some data are better than no data, but really bad data are not necessarily better than no data). There was also interest in getting higher resolution and more real-time foundational data (e.g., hydrology, weather, and hydrogeology).

Overall, water managers were interested in ways to build a more integrated water information framework to make existing water data more usable as information. Questions around managing water data and information included:

- Are there better ways to provide and present information to support water planning;
- What are some indicators water managers can use, both for their own tracking and also for reporting at a statewide level (e.g., for Washington's salmon recovery efforts); and
- Where are there duplications of effort and opportunities to consolidate data collection and sharing across agencies?

This section contains a summary of the key water management questions workshop participants identified as needs for information during the workshop. Based on the input received, questions are organized by theme:

- Water availability and use
- Water quality
- Ecosystems
- Infrastructure
- Funding
- Regulation
- Process
- Education and culture change
- Future trends

Water availability and use

Overall, people were interested in knowing (as close to real time, and as fine a resolution as possible):

- How much water, both surface and ground, is available and used, for which uses, where, and when?
- What are current flows in stream, especially in smaller streams?
- What are sustainable levels of water extraction (groundwater and surface water) that are protective of the environment and practical for communities?
- What is the projected water availability and demand in the future—both near and long term forecasts?

Balancing water needs

Participants recognized that better information was needed to balance the multiple demands on water. What do water users actually need to maintain essential functionality of the activity they are using water for, and how should these needs be prioritized? What are the impacts of these different water uses?

How water flows, and how ground and surface water are connected

Participants were interested in data that could provide water managers more information on how water actually moved through the watershed—from ground to surface, and across the landscape. What are the links between surface and groundwater? How much water flows from public lands and other headwater forests and what is the relationship between forest health/forest management and water?

Agriculture and municipal water

Agricultural and municipal water managers each had specific information needs. For agriculture water uses, how much water is available (when/where/how much) instream and out of stream, actual water usage, and the associated impacts of that usage on water quality, supply, and overall watershed health were of key concern. Managers also wanted to know where the specific places of use and points of diversion for water are, and where water is overallocated.

For municipal water uses, questions around current and future community needs over time, as well as water usage upstream when water rights are considered were discussed.

Water conservation and reuse

Participants were interested in ways to make more efficient use and reuse of the water we have. What is the total potential for water conservation, and where is the greatest opportunity? How do we incentivize water conservation? Can we reuse water? How do we efficiently recharge our ground water?

Storage and backup / redundant water supplies

Participants were interested in how water could be available when needed—either through storage or backup water supplies. What is the statewide and local need for storage in light of climate change? How can local communities site, build, and use resilient storage systems? Where is

and where isn't there redundancy, and where are the greatest opportunities to build in redundancy to water supplies?

Water quality

Water quality is a function of hydrology, surrounding land uses, and pollution loading. Participants were interested to know:

- What current pollution sources and loading are occurring at the tributary scale?
- What drives harmful algal blooms, and how can they be identified and prevented?
- How can safe drinking water be provided to our community, now and into the future, given fiscal and regulatory challenges?
- How can we monitor and prevent introduction of new, and remove existing, emerging contaminants from water?
- What is the future need for water treatment, and how can natural infrastructure be utilized?
- How do we understand ocean and estuary water quality?
- What are status and contamination risks in source watersheds?
- How can we accomplish and understand real-time monitoring of water quality and biological metrics for watershed health?
- How are current sources complying with current regulations?

Ecosystems

A range of topics and questions were identified relative to better understanding ecosystems including:

- Current ecosystem condition and function
- Status and trends of instream flows
- Opportunities for restoration and protection of water instream and of habitat and other natural infrastructure
- Where has flood irrigation existed so long that habitat could be altered with more efficient irrigation systems?
- Mapping to identify land use in relation to coastlines, rivers, seagrass beds, etc.
- How much water and of what quality/location/timing is needed to support fish
- Where should restoration investments occur to respond to climate change? Where are fish passage barriers? What is the potential and opportunity for beaver restoration?
- Where are restoration projects occurring?
- What is the change in fish survival as a result of large woody debris projects?
- What are the key indicators/metrics that drive watershed health conditions in urban and rural areas?

Infrastructure

Participants were interested in answering a range of infrastructure questions, such as:

- What infrastructure investments are needed in next 5, 20, and 50 years?

- How much infrastructure has reached or exceeded its design life/expectancy?
- What contaminants does old infrastructure contain (e.g., toxins in sediment behind dams)?
- Is new infrastructure “properly” built?
- How can infrastructure be kept affordable?
- How will future capital improvement plans for one water collectively impact the ratepayer?
- Is the current pricing/cost of water to companies, residents, and others reflective of the true cost of water?

Natural infrastructure

Many questions centered on the potential for natural infrastructure. What natural infrastructure is there and what are its conditions? Where can we use our natural and working landscapes to clean, manage, and store water? More specifically, how do we restore floodplains to keep our communities and property safe? What built infrastructure needs can natural infrastructure address, and how do we pay for those projects?

Safety

Participants were interested in information that could support preparedness for disasters, especially earthquakes. What is the plan to replace water treatment, delivery, and storage infrastructure post disaster? How do we best communicate with residents about emergency plans in catastrophic events?

Infrastructure removal and upgrades

Not all infrastructure needs to be replaced—some dams, levees, and culverts need to be removed. Other infrastructure needs upgrading. Participants asked which built infrastructure needs to be removed, and which built and natural infrastructure needs to be upgraded/restored to meet future conditions and pressure?

One infrastructure, multiple purposes, multiple benefits

Where are the opportunities to co-locate electric power, fiber optic cable, and broadband data cable with water infrastructure? And how can one infrastructure investment provide as much public benefit as possible (e.g., irrigation modernization also restoring instream flows)? Also, what is the aquifer storage and recovery capacity and potential in each basin?

Funding

Management questions around funding included:

- Into what do we invest limited funding that is most effective?
- Which communities and watersheds are a priority for that funding?
- Where are the current resources to replace, repair, or remove built and nature infrastructure?
- How do you ensure a public benefit from investment?

- What do state agencies need to implement a 100-Year Water Vision?
- What are the resource needs for water planning and infrastructure improvements?
- What is the workforce capacity to implement projects effectively?

Regulations

So much of how water gets managed is driven by federal, state, and local regulatory requirements. Participants wanted answers to such questions as:

- What are current regulatory frameworks and how can regulatory certainty be provided?
- What operational and infrastructure changes will be required by future regulation, and when—with enough lead time to build and make changes?
- What flexibility will there be to adapt existing rules and regulations to today's conditions and future innovations?
- Are there opportunities for outcome-based regulations, rather than practice- or process-based regulation?

Participants were also interested in information that could better align water rights, use, and availability. Questions included:

- Where is water being used without or in exceedance of water rights?
- Where is there opportunity to “clean up” existing water rights to make more water available?
- Where have water rights been adjudicated? Where do they need to be adjudicated? What data are needed to support adjudication?
- How are planned changes in water use communicated to others so that consequences can be better anticipated and planned for?
- What are the levels of compliance with current regulations, both for water quantity and quality?

Process

Participants recognized that much of managing water is getting the information needed to improve coordination and make good decisions. Some of those questions included:

- What are the best ways to value different uses of water, and how do we plan development around those different values?
- What are the policies, regulations, and processes needed to make sure the decisions of one place positively affect the water in the next place?
- What are the communication tools and coalitions needed to create common cause for the long term, especially among municipalities and agriculture?
- What are the best practices for building trust amongst those in conflict, and what are some of the best practices for building partnerships?
- How do we know different voices are being heard in decision processes?

- What are the different roles needed for coordinated water management and encouraging best practices, and who fills them?
- What are the best ways to get to “one water” management across agencies and to integrate agency decision processes and missions so as to enable the kinds of environmental and built infrastructure investments needed to solve problems?
- How can basins and agencies best coordinate data collection, turn it into information, and use it to make technical and policy decisions, and communicate that information and decisions out to the public and other partners?
- How can multiple local governments work together in a process to combine resources and invest in multi-objective projects?
- How can local governments and the state work together to prioritize necessary system improvements, and how will we prioritize investments in Research and Development and in generating water information?

Education and culture change

Participants were interested in the types of messages and strategies that work best to change people’s understanding, dialogue, and behavior relative to water in Oregon. This included questions such as:

- What changes are needed in water user knowledge, attitude, and behavior to match both the current and future water needs?
- What are the strategies that can shift how people understand and talk about the different water needs in different parts of the state?
- What messages and tools are needed to convey urgency to the public?
- How do we implement collaborative planning, equitably invest, and gain the trust of stakeholders and the general public?

Future trends

Participants were interested in more information that helps forecast future trends. Topics and questions included:

- Climate change impacts on the timing, quantity, and quality of water in specific locales
- What is needed to adapt to future climate scenarios given projected changes to snow, runoff, surface flows, and groundwater?
- What are the risks posed to current water resources and water systems?
- What are the future needs for ecological flows—both base and peak flows?
- Where are there periodic water spikes and droughts?
- Population forecasts that anticipate climate change migration patterns
- Projected changes in land use and how that land use can better accommodate ecosystem needs
- Future water availability and planning for land use and economic development needs
- Changing energy patterns and impact on water

- How can technological upgrades, specifically in rural systems, better inform future management decisions?
- Future crop production patterns
- What will the future hydrograph look like so that we can project water supplies when designing an irrigation, municipal, or other water transport system?
- What are the root causes of change in water reliability?
- What is the difference in water planning and needs for “growth in demand” vs. “reliable availability”?

Topical Breakout Groups

Following the discussion of management questions, participants joined a series of breakout groups (each participant joined 3 groups) on data gaps by topical areas, and were asked:

- Water availability and use: How much water do we have? How are we using it? How long will it last?
- Water quality: What do we need to know to ensure our water is swimmable, fishable, and drinkable?
- Environment: What do we need to know to ensure our ecosystems have what they need to thrive?
- Future trends: What information do we need to plan for the future?
- Funding and finance: How do we pay for the investments we need to make?

Across all of the breakout sessions, there were a number of identified gaps that pointed more toward a need for an integrated data platform for water information in Oregon. This was a specific concern for small and rural communities who often lack the capacity to do their own data collection and analysis. Some of those particular gaps included:

- Decision support tools, compatible with GIS, for predictive water planning
- Integrative models that combine the seasonality of snowpack, rainfall, instream flows and uses to predict water availability statewide
- High quality, accessible, public, statewide, real-time, and basin-specific data that has been accumulated, standardized, and aggregated across state agencies in a way that is accurate, accessible, and affordable (water quantity, quality, and habitat)
- Agency agreements for coordinated data collections and analysis
- A tool that harmonizes state, federal, and private sector data to understand climate adaptation and the connectivity between all water users and the ecosystem
- Stable funding for the maintenance of a tool like this

Water availability and use

In the “Water availability and use” breakout groups, participants were asked to identify specific data and information needs that impact the planning and management of water resources. Overall, people were interested in understanding a multitude of factors that impact water availability and use, including:

Ground and surface water connection – Communities need to understand groundwater quality and quantity and the connection between ground and surface water, as well as groundwater recharge rates.

Supply – Information is needed to better understand whether current water supplies in various areas of the state can meet current and future demands. Instream flow data and current and future precipitation trends will also be needed. Higher resolution hydrology data and a more robust stream gage network were specifically cited. Information that helps communities better understand sustainable levels of ground and surface water extraction will help decision-making for communities and the environment.

Storage – Information is needed on where water is stored and where potential/planned storage projects may be considered. For natural infrastructure, information is needed on climate change impacts on seasonal water storage for forests, soils, and snowpack.

Water uses – Information is needed regarding current water use—when it is used, and who is returning water to the river, and when. Seasonal projections are needed to understand water availability during the growing season, along with specific crop water needs. Instream data needs include base, peak, and ecological flow targets for fish, along with meteorological streamflow information.

Conservation and reuse – Information on best practices, policy options, and residential options are needed for both water conservation and reuse.

Water quality

In the “Water quality” breakout groups, participants were asked to identify specific data and information needs around planning and management of water quality. Participants were interested in understanding a variety of water quality factors, including:

Treatment practices – A full inventory and analysis of treatment techniques and key indicators to prioritize and evaluate the cost, benefits, return on investments, and potential unintended consequences of specific water quality treatment options is needed.

Watershed and pollution – Information is needed about nonpoint sources of pollution throughout a watershed, how upstream land use and management affects water quality, and the fate and transport of pollutants within waterways. Furthermore, established best management practices are needed for leveraging natural infrastructure to enhance water quality before toxins can enter aquatic ecosystems.

Public support and education – Communities need a better overall understanding of public awareness of water quality issues and support for water quality investments, especially within smaller water systems that have a larger potential cost burden on rate payers.

Management and regulations – There is a need for more holistic watershed analyses that take social, economic, environmental, and cultural factors, and real-time water quality data into account. Furthermore, case studies of successful management approaches can inform what strategies are improving water quality, effectively leveraging resources and community capacity, and interacting with the state regulatory framework are needed.

Environment

In the “Environment” breakout groups, participants were asked to identify specific data and information needs around water and the environment that are currently lacking in quality, accessibility, or accuracy.

A range of questions were identified relative to better understanding environment and ecosystems including:

Watershed health – Information about overall watershed health is needed in every basin. Communities need information on upstream land use activities and impacts, as well as the ecological impacts of disease, pests, and invasive species. Watershed models that incorporate climate change scenarios are also needed in every basin.

Species and habitat needs – There is a need for general aquatic species distribution, diversity, needs, indicators, productivity, and resiliency. Similarly, there is need for information about optimal habitat and water quality parameters for macroinvertebrates, beaver, and sensitive fish species as well as opportunities for habitat enhancement and restoration.

Instream flow and water quality – Real-time data on base, peak, ecological flows, and the timing of flows are all needed. Similarly, information on the ecological impacts of pesticides and emerging contaminants, such as microplastics and pharmaceuticals, is needed.

Natural Infrastructure – There is a need for standardized best management practices and an inventory of riparian buffers and storage capacity in natural infrastructure. Further discussions expressed a need to identify natural systems vulnerable to catastrophic impacts of climate change and natural disasters, specifically wildfire.

Regulations and management – There is a need for regulatory certainty for managers and natural resource industries (e.g., forests, farming, and other sectors that use natural resources). For regulatory certainty to occur, accurate water budgets and sustainable resource extraction models are needed.

Future Trends

In the “Future trends” breakout groups, participants were asked to identify specific data and information needs around future and emerging trends that impact the planning and management of water. Participants were very interested in more information that helps forecast future trends, including:

Climate Change – Climate models that specifically focus on source water and habitat vulnerabilities, instream flows, impacts on agriculture and utilities, and the overall cost impacts are needed.

Population – Population models that take into account climate refugee movement are needed to predict future shifts in geographic distribution in rural and urban areas.

Economy – Economic analyses that identify market shifts and emerging trends in commercial, industrial, residential, natural resource, and technology industry needs are needed.

Future development and land use – Communities need local housing demand projections as well as analyses of safe locations for future development.

Water quality – Information around emerging contaminants, when and where harmful algal blooms may occur, and best management practices for aquifer restoration are needed. Managers also need regulatory certainty to enable long-term planning.

Water quantity – Forecasts for surface and groundwater supplies, in both built and natural infrastructure, and future water usage for municipalities and agriculture are needed. Furthermore,

communities need to know where back up / redundant water supplies could exist, and which groups of people are vulnerable to water insecurity.

Resiliency – Long-term community resiliency analyses to evaluate the potential impacts of seismic events, wildfires, and other natural disasters on local resiliency and water supplies is needed for future planning. Communities also need more information on decentralized reuse to expand water use efficiencies locally.

Funding and Finance

Oregon water leaders recognize the need for more investment in built and natural infrastructure to support the wide range of current and future water needs. Information needs included:

Revenue – Information on the current revenue sources available to water managers, and what is the current debt capacity for different special districts, local governments, and the state is needed. There is also a need for information on public willingness-to-pay and support of investments that will result in rate increases. The state also needs to identify potential new sources of revenue, and evaluate the feasibility of opportunities such as capturing the value created by “water exports” (e.g., beer, blueberries, or other water-intensive and high value products); and/or different approaches to water pricing to encourage efficient use.

Using the funding more equitably and efficiently – Communities need to identify opportunities to better coordinate and use existing revenue efficiently for better results, and how to ensure equitable access to current and future revenue for water investments. There is a need for information on funding needs and gaps by geography, between urban and rural communities, and across sectors. Resources to raise awareness of different funding sources, and better navigation of existing funding criteria and requirements, are also needed.

There is a need for more information on the opportunities to sync up and integrate different grant requirements, timelines, and loan repayment schedules, and to streamline multiple funding sources to coordinate investment priorities and share services. Communities also need to know the best practices for public-private partnerships. Likewise, there is a need for established strategies for making investments that produce multiple outcomes and reduce future costs.

Needs for more funding and different expenditures – Communities must be able to anticipate a need for additional resources and expenditures in specific areas, like data acquisition and long-term planning for climate change and shifting population dynamics. Similarly, communities need funding for entirely new investments, like building redundancy into existing water systems, or restoring natural infrastructure that protects source water.

Investment prioritization – Communities need to be able to prioritize investments, and to do that, they need first to understand who is the most vulnerable to water insecurity. Furthermore, cost-benefit analyses are needed to determine if money should be invested in built or natural infrastructure to address water quality problems upstream. Return-on-investment analyses of current systems are also needed.

Offers and Asks

Participants were given an opportunity to make particular asks of other participants and the state, and to offer data and information they had to others in the room. Participants asked for a variety of high-level commitments from the state. A few of which were consistent follow-through as well as inclusion. Furthermore, a large number of participants asked for a publicly available, consolidated platform with statewide data on water supply and use, ecological conditions, and population growth, on a basin-specific scale.

Consistent, transparent, good-faith engagement and collaboration were both requested of the state and offered by participants. There were a variety of other specific data and process asks and offers that are in the raw notes and are not summarized in this document.

Understanding the Current Condition and Future Needs for Water in Oregon

Water is perpetually moving. Starting as snow or rain at its source in the mountains, it flows into rivers, wetlands and the ground, supporting people, plants, fish and wildlife often on its way to the ocean. Sometimes there is an abundance of water, sometimes too little. As communities use water to grow food, get a glass of drinking water, generate electricity, make microchips, or sit along a river watching fish swim by—water is moving through both natural and built systems. Those systems need to be maintained, protected, and restored to achieve the goals of supporting health, economy, environment, and safety.

We know we need better, more integrated, and more accessible information to guide water planning, actions, and stewardship. This memo describes some of the important sets of information Oregon uses to better understand current and future conditions.

Figure 1. Oregon's Water System



Key Management Questions

In Oregon, a changing climate, underinvestment in aging infrastructure and natural systems, and rapidly shifting population dynamics, all place stress on Oregon's water. In the face of these challenges, it is important to plan for Oregon's water future. So which management questions should we be asking?

Addressing immediate and future water availability is critical. How much, when, and in which watersheds will water be available? Where is our water coming from, where is demand greatest, and how do we protect it such that it can meet a range of needs?

An evaluation of Oregon's water infrastructure also requires attention. How safe are our dams, tidegates, and levees? How can we prevent water loss from pipes and facilitate efficient irrigation? How can we enhance emergency preparedness for both large and small public water systems? What investments will be needed to modernize community drinking water, wastewater, and stormwater infrastructure?

Ultimately, planning and innovating for our communities—including those most vulnerable to water scarcity—will increase statewide resiliency. Which communities and ecosystems are at highest risk of experiencing water insecurity or infrastructure failure? How can innovative funding and management solutions be equitably distributed throughout the state?

As we attempt to address these big management questions, it's important to assess what information we have, and what information we need. For example, if we want to assess groundwater availability, we must have sufficient data and studies across the state. Do we have the data necessary, for ALL watersheds, to evaluate current and future projections of water availability? And how do we pay for these data and information needs?

This document is intended to be dynamic and will be continuously revised based on the information and investment needs identified by stakeholders. The following is the state's attempt at providing an overview of an inventory of the availability of information about water quality and quantity, natural and built water systems, and innovative funding solutions.

Framework for a Water System

Figure 1 shows how the range of natural and built water systems can provide people, fish and wildlife with the water they need at the right time. Whether Oregonians manage water systems for irrigation, drinking water, energy, or fish and wildlife, there are basic elements common to each:

Water Quantity & Quality: Oregonians, fish, and wildlife need an adequate supply of water that is safe to use and available at the time it is needed for all of our ongoing essential uses.

Understanding seasonal water availability and protecting source water areas is vital to ensure water that falls as snow or rain or is present as groundwater is available and usable. Gathering information on water quality, water availability, drinking water, agriculture, source protection, contaminated site cleanup, septic system inventory, and toxics control helps us identify current and potential gaps in water quality and water quantity.

Storage: Storage includes the dams, reservoirs, water storage tanks, groundwater storage, and healthy forests, rangelands and wetlands that store water and release it slowly for environmental, agriculture, and community uses. Strategies to reduce sedimentation into reservoirs (e.g., reducing fire or landslide risk) are important to protect existing storage capacity.

Transport: Water transport systems allow the movement of water away from a source to where it is needed. These systems include irrigation ditches, drinking water pipes and intakes, wastewater pipes, and pump stations, and the maintenance required to prevent and repair leaks in or out of those systems. Water transport also means ensuring adequate flows and removing obstructions to natural systems so that fish and aquatic wildlife can move upstream and downstream and utilize habitat. Actions such as removing fish passage barriers, protecting water for instream flows, connecting floodplains and estuaries, updating tidegates, and providing the clean, cool water (or cold water refuges) that fish and wildlife need can all improve water transport for natural systems.

Treatment: Usable water must be clean. Water may be used several times after it first falls as snow or rain. Treatment includes the buffering and filtering actions of forests, streamside areas, wetlands, and stormwater facilities and the wastewater and drinking water treatment plants that use technology to ensure water meets safe standards under the Clean Water and Safe Drinking Water Acts. Treatment also includes maintenance of infrastructure and implementation of best practices that limit, reduce, or eliminate the discharge of pollutants to our water systems

Flood Water Management: The magnitude and impact of flood events can be managed and mitigated. Managing flooding includes providing space for rivers and coastal waters to move, through actions such as reconnecting floodplains and maintaining or increasing floodplain storage. Managing flood water also includes placing structures and infrastructure outside of high hazard areas when possible, and when not possible, building structures and infrastructure to withstand flooding. Levees, dikes, tide gates and dams, affect how floods play out on the ground. For example, moving dikes further away from water channels can increase flood protection and water storage while providing enhanced habitat for fish and wildlife and improving downstream water quality. Protecting and restoring floodplain wetlands can

provide similar benefits.

Natural Systems for fish and wildlife: To meet the multiple water needs of the state while maintaining healthy ecosystems, we must understand fish and wildlife habitat needs, including proper flow and temperature of surface waters. Water transport also means adequate flows and removing obstructions to natural systems so that fish and aquatic wildlife can move upstream and downstream and utilize habitat.

All Oregonians benefit from protecting the water needs of fish and wildlife, economic vitality, cultural values and enjoyment are tied to these ecological systems.

Water Use and Innovation: To make wise decisions about water, we need accurate, timely and complete information to know where, when, and how much water is used. We also know that technology can improve water efficiency, through actions such as irrigation modernization that produces water and energy savings, use of distributed wastewater treatment systems, and employing more closed-loop systems that use water several times.

Funding Capacity: Infrastructure throughout the state is aging. We lack the information to evaluate the ways in which the condition of the infrastructure may impact public health and safety, may contribute to inefficiencies and water loss, and may negatively impact habitat and conditions for fish and wildlife. Much of the drinking water, wastewater, and stormwater infrastructure built by previous generations has exceeded its useful life. In order to bring agriculture into the 21st century in the most efficient manner possible, funding for modernization of irrigation equipment is not only needed but required. Without a coordinated effort to strategically finance water system projects, opportunities to leverage grants, loans, and other investments could result in reduced planning and implementation capacity. Furthermore, without baseline knowledge around on-going and future investments, including funding to support agencies and partners, we run the risk of disjointed and duplicated efforts. Water Quantity & Quality

Why It Is Important

The amount of water we have and how water is being used are foundational to managing our water systems. Clean and available water is critical for our environment, industry and communities.

What We Know

Water quality and water quantity data is collected, analyzed and used by several agencies tasked with protecting and maintaining Oregon's water quality and quantity and to understand the state of landscape conditions that affect water quality (streamside vegetation, bare soil, etc.) There have been efforts amongst the state agencies to coordinate collection of stream data for flow, water quality, and other factors.

i. Water Quantity

The Oregon Water Resources Department (OWRD) maintains the Water Availability Reporting System, which calculates natural and expected stream flows, consumptive uses, and water available for new uses based on historical stream flows for many parts of the state. OWRD maintains the Groundwater Site Information System and has completed several groundwater basin studies; however, new data needs to be integrated into the Water Availability Database and more studies need to be completed so the state has a comprehensive understanding to guide decision making. Communities also need more information about water resources including quantity and quality in order to make decisions. The state has locations of water diversions (OWRD Points of Diversion); however, those locations are not always mapped for older water rights. We know where stream gages are located (Gaging Stations Database), and associated stream flows for those gages. OWRD tracks well construction and location (Oregon Water Resources Department Well Report Query); however, not all information has been digitized or verified for accuracy. OWRD also receives water use information from governmental entities, and others that are required to report water use.

In addition to OWRD, other state agencies track a range of factors affecting or related to water resources. The Oregon Department of Forestry (ODF) maintains information on water sources and locations for firefighting. The Department of Land Conservation and Development (DLCD) tracks information about current land use and population projections that can be used to project future water demands. The Institute for Natural Resources (INR) (co-located at OSU and PSU) has land cover data that can be used as a base layer to identify risk areas for source water protection.

ii. Water Quality

The Department of Environmental Quality (DEQ) assesses water quality and prepares reports detailing the condition of Oregon's waters relative to Oregon's standards. DEQ and the Oregon Health Authority (OHA) also know where water treatment facilities are (DEQ NPDES permit locations and OHA drinking water treatment plants).

Drinking water protection is implemented through a partnership between DEQ and OHA. The program addresses over 2500 public water systems in Oregon. More than 600,000 Oregonians get their drinking water from individual private water wells. OHA requires monitoring of municipal and community water systems. Groundwater serves as the water supply for over

70 percent of residents in Oregon¹, and about half are identified as highly sensitive groundwater management areas. DEQ provides ongoing monitoring and assessment of groundwater management areas that cover these public drinking water sources. Business Oregon partners with DEQ and OHA in the funding of drinking water source protection projects.

Forestlands supply abundant, clean water for Oregonians. Oregon communities have identified \$298 million in source water protection investment need.² Fire protection, enforcement of the Forest Practices Act and other laws, active management of forest lands, and voluntary measures by forestland owners all contribute to the health and responsible stewardship of forestlands, which is the source for almost all water Oregonians use.

Gaps in What We Know

Although we know the rough locations of points of diversion and points of discharge, there is limited information about how much water is actually used (diverted) and consumed (evapotranspiration).

We have little or no information about the safety of drinking water served by individual private wells or by water systems so small that they are below regulatory thresholds. OWRD has records of wells; however, there are gaps in this data. We need an accurate inventory of the location, and drinking water quality of small unregulated water systems. We need to know which communities have water supply vulnerabilities and require additional supply due to diminishing sources or increased demand.

There is missing information on which areas are covered by current drinking water source water protection plans, when those plans were last updated, and which source water protection activities are already occurring. We need to identify strategic investments required for source water protection.

For much of the state, particularly on agricultural lands, we need to understand streamside vegetation conditions, opportunities for improvement, and areas in need of restoration.

We also need to better understand, forecast or otherwise anticipate and plan for the likely spatial and temporal patterns associated with climate change. Where is sea-level rise going to impact coastal communities? How will changes in temperature reduce snowpack levels, timing of flows, and instream temperatures at the local scale? Where will changes in precipitation increase floods?

¹ There about 2,000 groundwater public drinking water sources (ASCE, 2010).

² EPA Drinking Water Infrastructure Needs Assessment (2015): <https://www.epa.gov/dwsrf/epas-6th-drinking-water-infrastructure-needs-survey-and-assessment>

IWRS – Recommended Actions

Several recommended actions in the Integrated Water Resources Strategy (IWRS) address water quantity and quality information needs including:

- 1.A Conduct Additional Groundwater Investigations
- 1.B Improve Water Resource Data Collection and Monitoring
- 1.C Coordinate Inter-Agency Data Collection, Processing, and Use in Decision-Making
- 2.B Improve Water Use Measurement and Reporting
- 5.A Support Continued Basin Scale Climate Change Research
- 6.A Improve Integration of Water Information into Land Use Planning (and Vice Versa)
- 12.A Ensure the Safety of Oregon’s Drinking Water

Storage

Why It Is Important

Water storage will continue to be essential in the face of a changing climate. The volume of water stored as snowpack is projected to decrease by 30% by mid-century and by 40–50% by late-century in the Pacific Northwest under low to high carbon emissions pathways (Mote et al., 2014). A well-maintained, safe and modern water storage infrastructure supports Oregon’s economy, hydroelectric generation and is especially vital for those communities that rely on stored water for drinking water, agricultural and recreational needs.

What We Know

Across Oregon, about 1,200 reservoirs (that are 10 feet or more in height and store more than 9.2 acre-feet) are estimated to collectively store about 13,300,000 acre feet of water behind dams. Of those dams, approximately 950 are state regulated, and 234, including most of the largest dams, are federally regulated.

US EPA’s 2015 survey of drinking water providers identified \$1 billion in needed storage project investments in Oregon, and the League of Oregon Cities survey identified 73 communities with similar water needs.

There are over 200 (out of 351 total) communities in Oregon that serve less than 2000 people; of these communities, few have reservoir storage for more than 3 days.

Gaps in What We Know

While we know the total volume of water stored in snowpack will decrease, we do not yet know what that means for water availability in terms of water basins and timing of water runoff.

We do not know the rate of sediment loading going into most of these reservoirs, or the rate at which we are losing storage capacity. We do have information on streams subject to debris torrents on state and private forestlands (ODF), but have very limited direct information on how fast sediment is filling most reservoirs.

There is limited understanding of total groundwater storage capacity, current levels, and recharge capacity. There is limited understanding about where current land use and projected activity pose a risk to groundwater recharge.

We have incomplete information on the forest structure, conditions, and locations most likely to retain snowpack as long as possible into the spring, which forested areas have already been treated and/or restored, and which areas are NEPA-ready and could be restored.

The state's inventory of potential dam storage sites includes very few off-channel sites. Off-channel sites have much less effect on fish and aquatic life, so could be the focus of future investigations.

We need more complete information on current natural storage locations (e.g., alpine meadows, wetlands, near-surface groundwater and natural groundwater recharge areas).

Most state-regulated, high-hazard dams still need to be assessed for seismic resiliency, structural integrity, and spillway capacity to pass flood flows. Evaluations also need to be done for the 146 state-regulated significant hazard dams. These assessments could result in more dams being classified as "poor" or "unsatisfactory." For the privately owned dams that are in poor or unsatisfactory condition, the OWRD does not have a good estimate of the cost to address critical safety improvements. Individual engineering assessments would need to be conducted.

IWRS Recommended Actions

Several recommended actions in the IWRS address water storage needs including:

- 5.B Assist with Climate Change Adaptation and Resiliency Strategies
- 7.C Ensure Public Safety/Dam Safety
- 10.B Improve Access to Built Storage
- 11.A Improve Watershed Health, Resiliency, and Capacity for Natural Storage.

Conveyance /Transport / Delivery

Why It Is Important

Water is moved via pipes, canals, pumps or streams and rivers downhill from point A to point B or uphill from Point B to Point A. Transporting water does not include strategies that

source or store water, or that treat water. Transporting water includes the movement of drinking water, industrial water, wastewater, and irrigation water.

Water transport also includes water to support the movement of fish and wildlife in streams and rivers. Just as water needs to move downstream through a pipe without blockages to a treatment plant, fish need to be able to move upstream and downstream without barriers to upriver spawning grounds or downriver to the ocean.

What We Know

In Oregon, there are thousands of miles of pipes and canals, including pumps and drains that move water to serve almost 90,000 water rights and a population of over 4 million people. Many of these engineered transport systems of pipes and canals are several decades old, some upwards of 100-years old. US EPA's 2015 survey of drinking water providers identified \$3.7 billion in needed distribution system investments in Oregon over the next 20 years.

Streams need to have adequate water and freedom of movement to allow fish and other ecosystem functions to move and flow where needed. In Oregon, instream water rights allow for movement of fish, pollution abatement, and recreation. In addition, Oregon has identified 600 priority fish passage barriers out of 52,780 known artificial passage barriers.

A recent tide gate inventory identifies approximately 1,000 tide gates in the lower Columbia and along the coast. In Oregon, tide gates are commonly used to control water in tidally influenced areas along the coast and lower portions of the Columbia River Basin, but can also impact estuaries and prevent fish from migrating upstream.

Gaps in What We Know

Most of the information on water pipes and canals sit with local municipalities and special districts. They may know the location of many of these pipes and canals, but less information is available on their condition (e.g., water lost to leaks or gained from groundwater seeping in, frequency of service loss from failed pipes, or remaining life).

Tide gates serve a critical role in protecting Oregon's coastal communities, public infrastructure, and agricultural land. A state-wide inventory is still in the process of being finalized. Even with an inventory of tide gates, limited information is available about condition and function.

There are similar issues with Oregon's levees. While dikes and levee-like landscape features have been mapped comprehensively along the coast, and the lower Columbia River, the inventories did not assess construction methods or intent of these features, and

do not contain information regarding feature condition

Oregon has instream water rights on some streams for recreation, pollution abatement, and maintenance for fish and wildlife and their habitats which vary by priority date and location. The state, however, does not know how effective the instream water rights system is in meeting the needs of fish and wildlife, or how fish and aquatic wildlife populations and their habitat will be altered by climate change. While Oregon has identified 52,780 known fish passage barriers, very little information is known about the condition of most barriers or the passability of these barriers for fish.

Larger public water systems typically have master plans and asset management plans to identify the location, age and condition of piping and to prioritize and plan for replacement. Less is known about smaller public water system needs. As of 2018, larger public water systems are required to include in Master Plan updates an assessment of risks and a mitigation plan related to a Cascadia-type earthquake. The costs for mitigating these risks is unknown but will be determined as plans are updated over time.

IWRS Recommended Actions

Several recommended actions in the IWRS address conveyance/transport/delivery needs including:

- 5.A Support Continued Basin-Scale Climate Change Research Efforts
- 5.B Assist with Climate Change Adaptation and Resiliency Strategies
- 5.5A Plan and Prepare for Drought Resiliency
- 7.A Develop and Upgrade Water and Wastewater Infrastructure
- 10.A Improve Water Use Efficiency and Water Conservation
- 11.D Protect and Restore Instream Habitat and Habitat Access for Fish and Wildlife

Treatment

Why It Is Important

Water treatment ensures the water we use to drink, irrigate crops, and release back into streams is clean. Prior to 1970, water quality conditions were much worse than they are today. Wastewater and drinking water treatment facilities were extensively upgraded in the 1970s and 1980s dramatically improving water quality. Now we have better treatment technology available to meet current and future needs for water uses, protect human health, and ensure functioning ecosystems.

What We Know

There are 215 centralized wastewater treatment systems serving 3.6 million people.³ There are 2,699 public drinking water systems⁴ serving more than 3 million people. Seven Oregon municipalities are using both natural and built infrastructure to clean wastewater.

i. Wastewater Treatment

In a 2016 survey of member cities, the League of Oregon Cities projected a need of \$7.6 billion to address municipal drinking water and wastewater infrastructure needs over the next 20 years. Oregon's Clean Water State Revolving Fund has financed over \$1 billion over 30 years in loans to municipalities investing in wastewater and storm water improvements as well as irrigation districts for improving the transmission of water for agricultural uses. Costs can include capital construction and maintenance, transmission, storage, treatment, and distribution. These costs involve routine construction and maintenance, and do not include the billions of dollars' worth of seismic retrofits and emergency preparedness efforts, and infrastructure investments that Oregon needs to undertake in the coming years.

DEQ has information on the location of facilities covered under many NPDES permits, which includes industrial, municipal wastewater and municipal storm water for Oregon's largest communities. DEQ also has water quality information for all of Oregon's watersheds from various sources across the state.

As these investments are made, costs are passed on to ratepayers. In Oregon, 78 census tracts are at risk for rate affordability where sewer treatment costs exceed 2.5% of household income, and where there is a cluster of households with income below \$35,000.

ii. Septic System Treatment

In Oregon, 35% of the population (or about 1 million people) treat their wastewater via on-site septic systems (ASCE, 2010).

iii. Drinking Water Treatment

OHA has an inventory of the regulated public water systems in the state. While many

³ USEPA identifies 182 publicly-owned wastewater treatment plants (down from 215 in 2008).

⁴ These are systems subject to the Safe Drinking Water Act (ASCE, 2010). 882 are community systems serving 3 million people. 346 are non-community systems serving schools or workplaces with independent water supply systems. 1,471 are transient non-community water systems (parks, campgrounds, restaurants). 921 are private very small water systems serving 4-14 homes. 600,000 people get drinking water from individual domestic wells (about 205,000 licensed wells + 150,000 unlicensed wells) not covered by state or federal drinking water standards.

ground water sources require no treatment to meet drinking water standards, public water systems served by surface water typically require disinfection and filtration. In addition, ground water sources that do not meet standards or that are under the influence of surface water also require treatment. Of the 3,400 public water systems in Oregon, 1,442 have some form of treatment system.

USEPA's 2015 survey of drinking water providers identified \$1 billion in needed treatment system investments in Oregon over the next 20 years. OHA and Business Oregon partner to fund drinking water infrastructure projects through Oregon's Drinking Water State Revolving Fund.

iv. Natural Systems Treatment

Wetlands, riparian areas, floodplains, and other natural systems can also treat and clean water. There are several wastewater treatment facilities who have incorporated natural treatment systems into their facilities including Roseburg, Prineville, Albany, Ashland, Eugene, St. Helens, and Clean Water Services in Tualatin.

According to the Oregon Watershed Restoration Inventory, through restoration activities such as replanting riparian corridors, enhancing instream habitat and dam removals, Oregon has restored 7,172 miles of riparian forest areas that not only provide habitat, but also act as filters and natural treatment. Although extensive, the Inventory does not include conservation actions funded by USDA Farm Services Agency or Natural Resources Conservation Service. An example of a state program that supports riparian restoration is the joint state-federal Conservation Reserve Enhancement Program. Between 1999 and 2017, this program has enrolled over 39,000 acres in long-term agreements that protect and restore riparian areas.

DEQ invests in non-point pollution projects via its 319 program. The program distributes grant funds to NGOs and government agencies to conduct water pollution control projects that reduce nonpoint source contributions to Oregon waterbodies. Projects must be designed to achieve measurable water quality improvements. Funded projects are required to report back any measureable shifts in environmental improvement to DEQ.

The state's Coordinated Streamside Management initiative has identified 2,174 watersheds with agricultural activity. Of these, 1,018 watersheds were identified with water quality impairments. This initiative also identified 812 watersheds as priority for fish restoration. ODA completed Strategic Implementation Areas (SIAs) in 29 watersheds from 2013 to 2018 and will be adding approximately 30 watersheds in 2019. ODA evaluates landscape conditions in these areas and works with partners and producers to maintain and improve

water quality. In addition, ODA is working with state agencies and local partners to design and implement monitoring plans in each SIA.

Gaps in What We Know

We do not have an up-to-date and complete inventory and assessment of the location and condition for municipal and non- municipal waste water, storm water, and drinking water treatment systems. Note: EPA has currently discontinued this inventory and the latest published report was in 2012. DEQ's data set on capital investments needs for publically-owned treatment works is out-of-date. The State does not have a complete inventory of the locations of private water treatment facilities, and their effect on water quality. We also need a complete inventory of streamside vegetation conditions, particularly along agricultural lands. This will help agencies and partners prioritize work and identify opportunities for uplift.

IWRS Recommended Actions

Several recommended actions in the IWRS address water treatment needs including:

- 7.A Develop and Upgrade Water and Wastewater Infrastructure
- 7.B Encourage Regional (Sub-Basin) Approaches to Water and Wastewater Systems
- 11.A Improve Watershed Health, Resiliency and Capacity for Natural Storage
- 12.A Ensure the Safety of Oregon's Drinking Water
- 13.E Invest in Implementation of Water Resources Projects

Flood Water Management and Coastal Impacts

Why Is It Important

Flooding is a known hazard, which occurs at various intervals and at various magnitudes throughout the state. Yet, while flooding can and does create hazards, periodic flooding also creates and maintains important habitat for fish and wildlife, enhances soil makeup that benefits plant growth, and provides a filter for pollutants. Over 2 million acres in Oregon are within the special flood hazard area mapped by the Federal Emergency Management Agency (FEMA). Long range Oregon weather forecasts predict more frequent occurrences of flood events, especially west of the Cascade Crest.

Flood water management includes: avoidance strategies to keep people and businesses out of harm's way; regulatory measures to ensure that what is built will withstand flood forces; and flood control infrastructure, to reduce the velocity and elevation of floodwaters so that, when floods occur, the human and economic impacts are reduced. For fish, flood water management means preserving access to slower moving water through access to floodplains and off-channel habitat when rivers are raging.

Maintaining the storage and transport functions of natural floodplains decreases the need for manmade flood control structures and benefits fish and wildlife and their habitats.

What We Know

Climate change is predicted to increase the frequency of flood events. Oregon has 22 communities with FEMA-identified high risk flood hazard areas. Since 2006, Major Disaster Declarations for events that include flooding resulted in \$185 million in uninsured damage to public infrastructure and emergency response cost to local governments. This figure represents only a portion of the real economic, cultural, and social costs of these events.

Some information is available to support flood water management. Oregon has completed a study to evaluate the susceptibility of rivers to channel migration based on generalized basin characteristics, but very few river specific studies have been conducted. State data identify the location of 2,000 miles of human created dikes and levees that affect or constrain the movement of water in estuaries and along the Columbia and Willamette Rivers. Federal data detail the location and condition of levees and floodwalls built specifically to protect communities. Yet both the state and federal data sets are incomplete. Dams also provide important flood management functions. Most dams operated by the Corps of Engineers are managed for flood control. Most other dams provide only limited flood protection. Unsafe dams can cause catastrophic flooding if they fail.

Along the coast and lower Columbia, there are approximately a thousand tide gates. Many protect lands from on-shore flooding and allow for agriculture, development and other types of land use in areas historically subject to tidal inundation. An inventory planned for completion in 2019 will improve our understanding of where tide gates are, their flood mitigation function, and their impact on habitat access. OWRD has an interactive web mapping tool to estimate the magnitude of peak discharges at various frequencies for rural, unregulated streams in Oregon. This tool can be used by scientists, engineers, and land managers to obtain information needed to make informed decisions about development and restorations efforts in or near watercourses. In addition, OWRD's Peak Flow Program can help to estimate the frequency of flood events within watersheds up to 500-year floods.

Oregon has additional data on Debris Torrent Prone Streams and High Landslide Hazard Locations. Like flooding, these hazards are associated with high levels of rainfall and snowmelt and can impact municipal water systems when debris and sediment enter waterways. Data also are available to support natural infrastructure solutions to floodwater management. DLCD and ODFW developed the Oregon ShoreZone Project to plan for the

dynamic changes taking place along the coast (e.g., increasing storm frequency and coastal erosion). The Oregon Conservation Strategy identifies altered flood regimes as a Key Conservation Issue and outlines a series of goals and specific actions to address the issue. DSL also maintains data on removal fill permits for streams and wetlands.

In coastal areas, sea level rise and storm events will contribute to flooding. We know communities have key infrastructure at risk from sea level rise and coastal erosion. Oregon has created models that predict changes to the inland extent of tidal waters and a risk exposure analysis for infrastructure and other assets in estuaries has been completed. The potential effects of erosive wave action on the coastline has also been modeled.

Maps of land use, land cover, and zoning are available statewide. These data aid our understanding of how floods, and other hazards associated with severe rain events, might affect the built and natural landscape, and in turn, how the built environment influences flooding and other hazards.

Gaps in What We Know

There is no state agency that deals with flood mitigation/flood control and other technical aspects of flooding. DLCD coordinates the FEMA National Flood Insurance Program which provides minimal flood management. DOGAMI has mapped floodplains as part of risk map. But there is no agency that handles overall coordination of flooding issues or any other aspect of flood water management especially from a technical standpoint.

Uncertainty in precipitation information coupled with climate change and more extreme precipitation events has significant implications for the safety and resiliency of water resources infrastructure. The design of dams, wastewater facilities, bridges, and culverts depends on accurate precipitation estimates for extreme events. The National Weather Service can update precipitation frequency estimates if it receives funding for such work. Oregon now relies mostly on information from 1973, with a very partial update completed in 2008. An analysis of precipitation frequency information with resulting maps and tables would provide designers and operators of water infrastructure with the most current and reliable precipitation frequency estimates to withstand floods.

While Oregon has over 600 stream gages, there is potential to improve spatial coverage in areas with little data or significant water management challenges. More stream gages are needed in Oregon to improve the accuracy of flood maps and tables across the state.

We need to update our data bases and maps to reflect improved topological data.

We do not have a statewide inventory of the location and condition of all levees and dikes that were built to protect developed areas and converted agricultural lands from flooding.

Information on coastal erosion rates has not been translated into a risk exposure assessment for public infrastructure.

IWRS Recommended Actions

Several recommended actions in the IWRS address flood water management and coastal impacts including:

- 5.5B Plan and Prepare for Flood Events
- 5.5C Plan and Prepare for a Cascadia Subduction Earthquake Event
- 7.A Develop and Upgrade Water and Wastewater Infrastructure
- 11.A Improve Watershed Health, Resiliency, and Capacity for Natural Storage

Natural systems for fish and wildlife

Why It Is Important

Natural systems can provide many of the same functions for people that built infrastructure does—storing water, moving water, and cleaning water, and in some cases at a lower cost. In addition, natural systems also support the fish and wildlife that have thrived in Oregon since time immemorial—salmon that are part of culture and history, beaver that act as nature’s engineers, and elk that rely on healthy streams and forests, among others. All Oregonians benefit from understanding and protecting the water needs of fish and wildlife as our cultural values, economic vitality, and enjoyment are tied to these ecological systems.

What We Know

As climate change causes increases in temperature and changes to precipitation patterns, we know that many fish and wildlife habitats will be impacted. For example, climate models suggest the frequency of extreme winter precipitation may increase, which risks scouring fish eggs buried in the streambed and displacing juvenile fish. Rising air temperatures are also expected to cause earlier snowmelts, which will shift peak annual streamflow to earlier in the season and reduce the quantity of late season flows. This may cause a mismatch between the timing of flows that trigger fish movements and historic fish migrations. Combined with increased air temperatures, these changes also risk exposing native fish to lethal stream temperatures. As a result, cold-water refuges and healthy riparian habitats will continue to be critical to maintaining many salmonid and cold-water fish populations. Coupled with drought and increased fire risk there may be additional factors that challenge natural systems to support water quality, fish and wildlife, and human use of water. The Oregon Conservation

Strategy identifies water quality and quantity as key conservation issues critical to support “at risk” species and their habitat needs. We know that currently there are streams that do not have adequate instream flows or water temperatures to support fish and wildlife during some parts of the year.

Another important strategy is maintaining forestland to ameliorate potential impacts from climate change. Oregon’s Forestry Program supports the goal of protecting and improving the physical and biological quality of forest soil and water resources and conserving diverse native plant and animal populations and their habitats. Nationwide, the total area of private forestland has been gradually declining since the mid-20th century. In contrast, as of 2009, Oregon has maintained 98 percent of all nonfederal land and 98 percent of private land that was in forest, agricultural, and range land uses since 1974.

In addition to adequate instream flow, fish must be able to make their way past artificial barriers to get where they need to go. In Oregon, we have 52,780 known fish passage barriers. ODFW has identified 600 of these as a high priority for removal. The estimated cost to remove these priority barriers, ranging from \$10,000 to upwards in the millions, is highly variable based on type of structure, size, amount of fill, and the hydrological characteristics that determine the constraints of construction.

DLCD and ODFW also developed updated habitat maps of all estuaries in Oregon using the Coastal and Marine Ecological Classification Standard (CMECS). ODFW also maintains numerous data sets related to fish and wildlife and their habitats, including maps of Strategy Habitat, such as wetlands and estuaries, identified in the Oregon Conservation and Nearshore Strategies.

Gaps in What We Know

In order to address current and future water challenges it is critical to understand the needs and vulnerabilities of fish and wildlife species relative to stream habitat, temperature, and flow, now and in a future of climate change.

ODFW is taking a statewide approach to inventory species’ needs and compare them against both current protections and those necessary under a future of climate change. For example, we do not have a statewide map identifying the location of cold-water resources or places that provide refuges for species when stream temperatures are elevated. The effectiveness and extent of current instream protections have not been evaluated across the state nor have they been done at a scale that can be used in local planning efforts. We don’t know the location and extent of aquatic and riparian invasive species that degrade water quality and habitat conditions. We also have not identified the highest priority habitats that will sustain species over time and the risk those habitats face with a changing climate. The ODFW and

OWRD streamflow restoration priorities were developed 20 years ago, and our understanding of species distribution, species vulnerabilities relative to stream temperature, and flow has greatly progressed since then.

Oregon's reliance on hydroelectric generation requires a closer look at the impacts to natural systems. It may be beneficial to include a systematic inventory of hydroelectric generation plants by basin and stream, as they (may) affect water flows, timing of releases, and temperature in streams with cold-water fisheries. FERC relicensing of hydroelectric plants (often/almost always) triggers requirement to improve/add fish passage, it will be useful to know when various licenses are expiring. And finally, adding power to unpowered dam would similarly (almost certainly) triggers a requirement to improve fish screen on intake, and/or allow/improve fish passage, so it would be useful to have a cross-referencing inventory of unpowered dams where hydroelectric development is being seriously considered now or in the future.

Oregon is challenged to quantify how existing regulatory or non-regulatory programs contribute to overall function and maintenance of water quality and fish and wildlife resources. Oregon does not have specific data on how programs implemented by many state agencies may already contribute to improving and/or maintaining water quality and fish and wildlife.

Knowing more about how ecosystems, fish and wildlife interact and may benefit from improvements to the natural infrastructure is fundamental to this long-term vision.

IWRS Recommended Actions

Several recommended actions in the IWRS address natural systems for fish and wildlife information needs including:

- 3.A Determine Flows Needed (Quality and Quantity) to Support Instream Needs-Dependent Ecosystems
- 3.B Determine Needs of Groundwater
- 5.B Assist with Climate Change Adaptation and Resiliency Strategies
- 11.B Protect and Restore Instream Habitat and Habitat Access for Fish and Wildlife
- 11.C Prevent and Eradicate Invasive Species
- 11.D Protect and Restore Instream Habitat and Habitat Access for Fish and Wildlife
- 11.E Develop Additional Groundwater Protections

Funding

Why It Is Important

For the last 50 years, we have collectively underinvested in our built and natural water infrastructure. For example, many of our dams, levees, and tidegates are aging, and we lack the information necessary to evaluate their safety. Without a coordinated effort to strategically finance water system projects, opportunities to leverage grants, loans, and other investments could result in reduced planning and implementation capacity. Furthermore, without baseline knowledge around on-going and future investments, we run the risk of disjointed and duplicated efforts.

What We Know

We know that in a 2016 survey of member cities, the League of Oregon Cities projected a need of \$9 billion to address water and wastewater infrastructure, and \$7.6 billion in water quality and water supply infrastructure needs over the next 20 years. Many of these cost projections involve routine construction and maintenance, and do not include the billions of dollars needed for critical seismic retrofits and emergency preparedness.

We know that there is a variety of federal, state, local, and nonprofit funding opportunities to assist in the planning and implementation of water projects and studies. Water credits, grants, loans, and state revolving funds are just a few examples of the water project financing options available to municipalities, counties, special purpose districts, Native American Tribes, nonprofit corporations, and private citizens. Unfortunately, many communities are unaware of the funding opportunities or do not have the staffing to apply.

i. Federal

The USDA provides multiple planning and implementation grants for water and wastewater systems, built infrastructure repair and improvement, watershed projects and infrastructure upgrades, farmland energy efficiency improvement, agricultural conservation and innovation, and emergency mitigation. The USDA Rural Development offers grants and loans for rural areas.

The Natural Resources Conservation Service (within USDA) provides funding for on-farm water conservation efficiencies and irrigation system improvements for irrigation districts.

The Federal Emergency Management Administration (FEMA) also provides funds for pre-disaster emergency planning, primarily for climate resiliency and flood management projects.

The Bureau of Reclamation, US Economic Development Administration and the Department of Interior offer grants that focus on promoting community based, long-term economic development projects and improving economic stability in historically marginalized

communities. In general, these grants are broad-based and require community widespread community support. The Bureau of Reclamation's WaterSMART program offers grants for small scale water efficiency projects, planning and marketing strategies, and allow for cost sharing opportunities. The EPA administers loans to be leveraged with the DEQ State Revolving Fund program that primarily support drinking water infrastructure projects. EPA also has funding available through their WIFI program for water and wastewater infrastructure through their WIIN Grants for small and disadvantaged communities and for brownfields to assess and implement site water quality clean-up actions.

The Department of Housing and Urban Development offers Community Development Block Grants for infrastructure.

ii. State

The Oregon Watershed Enhancement Board (OWEB), Department of State Lands (DSL), DEQ, and DLCD each offer a range of grants and loans for, surface and groundwater quality and infrastructure improvements, as well as restoration and watershed improvement and monitoring projects.

The Oregon Water Resources Department offers Feasibility Study Grants to investigate the feasibility of water conservation, reuse, and storage projects. Funding to develop water resources projects with economic, environmental, and community benefits is available through Water Project Grants and Loans. Planning has been supported through a pilot phase of Place-Based Planning grants.

DEQ's Clean Water State Revolving Fund provides loans and bonds for planning, designing and implementation of natural and built infrastructure projects. DSL also administers the Removal-Fill Mitigation fund, which provides revenue to facilitate wetland mitigation.

The Oregon Health Authority and the Infrastructure Finance Authority (Business Oregon) administer the Safe Drinking Water Revolving Loan fund for drinking water infrastructure and source protection projects. These agencies also provide Community Development Block grants and the Water Fund, to finance publically owned water system improvement projects.

ODFW offers both a cost-share program and tax credit to assist with installation of fish screening devices and passage facilities.

iii. Other Funding

Rural Community Assistance Corporation environmental infrastructure loans provide support for built infrastructure feasibility studies, and project pre-development, planning, and construction.

The League of Oregon Cities, Association of Oregon Counties, and Special Districts Association of Oregon each have funding mechanisms for their members.

The Energy Trust of Oregon (Pacific Power and Portland General Electric) and some BPA-served public utilities offer incentives for improvements in on-farm irrigation systems, irrigation pumps and controls. Energy Trust Funding and other energy incentive funding is available/has been used as part of total funding packages for irrigation delivery piping projects that add small hydroelectric facilities.

There may be other energy related incentives from utilities for energy efficiency for pumping and water treatment, and for anaerobic digestion biogas and other renewable energy projects at water treatment plants.

Private foundations have begun to offer funds to address community capacity and critical infrastructure needs in some areas.

Gaps in What We Know

With the increasing number of investments that need to be made, it is critical to leverage financing, planning, and implementation capacity to maximize the impact of each water project. In order to strategically implement water projects and investments, we must first identify where there are gaps in funding, in terms of geography, project type, implementation and technical capacity, and state of development (planning, design, implementation, and post-project monitoring). We must also identify where and how gaps may occur due to eligibility criteria. We need this information to help identify where critical investments need to be made in the near, intermediate, and long-term timeframe.

It is also important to address mechanisms for better data sharing amongst federal, state, local, and private entities, to help identify the needs more accurately and reduce disjointed and duplicated investments.

The state is looking to work with our partners – federal and local agencies, Tribes, industry and conservation to help identify the current and foreseeable future challenges, opportunities, and strategies used to finance water projects. There is a critical need to identify innovative mechanisms that expand and maximize the efficiencies of existing and future water funding opportunities.

IWRS Recommended Action

Several recommended actions in the IWRS address funding needs including:

- 13.B Fund Water Resources Management Activities at State Agencies

- 13.C Invest in local or regional Water Planning Efforts
- 13.E Invest in Implementation of Water Resources Project

Conclusion

This memo is intended to be a dynamic document that will be continuously revised based on stakeholder feedback. The information needs and initial investments outlined below give the State and local government together with industry and conservation partners the information they need to invest wisely in water systems both built and natural that reliably meet current and future needs.

Table 1. Identified data gaps and assessment needs: water quality and availability, storage, conveyance/transport, treatment, flood water management, and ecosystems, fish, and wildlife (funding TBD).

Data Gaps	Priority Timeframe
a) Ground Water basin studies and comprehensive view of groundwater	Near term
b) Information about how much water is used	Near term
c) Likely spatial and temporal patterns due to impacts of climate change (flow, temp, persistence of habitats)	Near term
d) Number and type of safety deficiencies associated with state regulated dams and the cost to address these issues	Near term
e) Water quantity in terms of changes to volume and timing of run-off for different basins due to climate change effects	Near term
f) Total groundwater storage capacity, current levels, and recharge capacity	Near term
g) Conditions of conveyance systems (e.g., pipes and canals)	Near term
h) Statewide Tidegate Inventory	Near term
i) Assessment of instream protection and instream demand	Near term
j) Assessment of supply vulnerabilities and future increased demand for	Near term

drinking water, irrigation, and industrial water supply.	
k) Inventory, location and assessment of condition for municipal and non- municipal waste water systems, including septic systems	Near term
l) Inventory, location and assessment of condition for municipal and non- municipal storm water systems.	Near term
m) Inventory, location and assessment of condition for municipal and non- municipal drinking water supply treatment systems.	Near term
n) Gaps in state inventories of dikes and levees (federal and non- federal entities)	Near term
o) Gaps in federal inventories of the location and condition of levees and floodwalls built specifically to protect communities	Near term
p) Inventory of species, flow, temperature and habitat needs	Near term
q) Update streamflow restoration priorities	Near term
r) Recognize which communities are experiencing water access disparities (using existing data)	Near term
s) Update water scarcity models	Near term
t) Stream flow and temperature data (robust system of stream gages)	Intermediate term
u) Drinking water source water protection plans - Inventory and status	Intermediate term
v) Inventory of current natural storage locations that considers forest structure, conditions, and locations most likely to retain snowpack and winter precipitation.	Intermediate term
w) Inventory of potential off-channel storage sites including ecological considerations	Intermediate term
x) Location and quality of drinking water supplied by private domestic wells or water systems. Private wells and small unregulated water systems.	Intermediate term

y) Locations for habitat improvements that could benefit water quality	Intermediate term
z) Location-specific studies on stream segments with high and medium susceptibility to channel migration identified	Intermediate term
aa) Updated flood maps that reflect better topological information	Intermediate term
bb) Coastal erosion rates and risk exposure assessment	Intermediate term
cc) High water mark data set	Intermediate term
dd) Locations of cold-water resources	Intermediate term
ee) Better understand water insecurity challenges faced by communities and households by using proven survey methods	Intermediate term
ff) Complete map of Oregon municipal water systems	Intermediate term
gg) Statewide water quality assessment	Long term
hh) NPDES permits that describe discharges that affect water quality	Long term
ii) Opportunities for restoration based on information about natural storage locations	Long term
jj) Reservoir Sediment loading	Long term
kk) Assessment of infrastructure hazards associated with channel migration	Long term
ll) Statewide mapping survey of points of diversion and water use	Long term
mm) Riparian vegetation conditions	Long term
nn) Precipitation Study	Long term



Raw Note Summaries

Thousands of individual thoughts and comments were collected during the outreach and engagement process. This section contains a complete record of every comment received from the 8 community conversations, the website survey, and the full-day technical workshop.

Community Conversation Meeting Summaries

The state hosted eight community conversations across the state to gather feedback on the Water Vision, and to hear about community specific water challenges. Below is a summary of discussions at all 8 community conversation. After each meeting summary, a word cloud of the challenges and successes discussed in each community represents the major themes, and sized accordingly to the frequency in which the word appeared in the written notes.



Gresham Community Conversation Meeting Summary

October 22, from 9am to 2pm at Mt. Hood Community College

Prepared by: Bryn Hudson, Bryn.E.Hudson@oregon.gov

The Gresham Community Conversation began with opening remarks from Frank Alby, an Inupiat elder and part of the Native American Youth and Family Center community, and Jerry Hinton, Gresham City Council President. In total, 31 people were in attendance, representing federally recognized Tribes, cities, counties, environmental groups, watershed councils, irrigation districts, and many more. We discussed the unique water challenges faced by our local communities, the definition of successful water visioning, and what the current draft of the Water Vision is missing. Jed Jorgensen from the Farmers Conversation Alliance and Kerri Handalay from the Clean River Coalition gave presentations on irrigation modernization and collaboration partnerships for water, respectively.

The bullet points below were taken from the large group conversations and associated flip chart notes. They do not necessarily represent all the viewpoints in the room, and are not intended to be shared opinions across the entire group.

What water challenges we are facing now, and in the future?

Large Group Discussion: Flip chart notes

- Dollars for infrastructure funding, for both build and natural systems, is often limited and competitive
- Limited natural resources agency budgets, as well as the Governor's Natural Resources Office
- Lack of resources available for the enforcement of existing water laws
- Barriers between policy and geographic silos often impede water planning
- Lack of interagency legislative/policy coordination and collaboration
- Outdated and inaccurate water and climate data
- The lack of a full water inventory

- Projections including climate change scenarios and population growth
- Lack of data around soil retention leaves a critical gap in our understanding of how working lands can provide essential natural flood control and water storage
- The impacts of wildfire and current forestry practices on water quality
- Impacts of invasive species on river and stream conditions
- Ensuring cold water refugia for sensitive fish species
- Balancing in-stream water flows, tribal fishing rights, agricultural, and municipality needs
- Ensuring community viability, protecting Oregon's most vulnerable human, fish and wildlife populations
- Preparing agricultural and draught prone communities to deal with water issues
- Preparing communities, small and large water districts, and our natural systems for a Cascadia earthquake event
- Elevating water issues to the public-at-large
- Lack of watershed education and access to outdoor recreation
- Addressing invasive species
- Important to have multi-generational approach
- How to advance the IWRS integrated water resources strategy
- Develop a state of policy options for governor and legislative support NOW
- How to heighten awareness involvement of all key stakeholders (ag; other partners)
- Transport as model
- Storage
- Drought in Ag
- Stormwater
- Pop. growth
- Change in soil absorption of runoff
- Small water districts w/ one intake
- Emerging contaminants
- Regulating contaminants
- Regulation and affordability
- Wildfires and forest mgnt.
- Elevating to public
- Coord- Feds, legislature, state agency
- Invasive species
- \$ landowners, small towns
- Better education of public
- Impact on vulnerable
- Incorp. Climate change into planning
- People should know people are in crisis now!

- Forest Practices Act
- Toxics
- Invest in protection of natural systems
- Data needs
- \$ in community capacity
- Long-term supply + seismic cliff affordability small and big
- Enforce laws
- Agency cooperation
- Will communities exist?
- Get people on same page - common/ens
- Lack of state \$
- Need good, shared data not measuring use
- Recreation water access
- Habitat + buffers
- Homeless
- Water rights

Small Group Discussion: Post-it notes

- 100 years of over allocation of fish, quality, management
- Lack of data on water use--> clarity that investing in protection/restoration is part of the vision + look for opportunities for natural systems to meet goals in more sustainable ways
- More focus on data needs
- More \$ invest. in community capacity engagement
- Long term supply - what happens if we shift to groundwater (sustainability - how will system respond) to seismic issues, asset management, cost and affordability
- Lack of grey water infrastructure in mainstream use (to save water)
- Lack of access to recreational water use (in urban areas like PDX)
- What economic growth looks like when our environment is the basis to future success
- Not enough habitat along the water for 1) habitat and 2) shade for water temperature
- Wider forested buffers along waterways
- Compassionate solutions to homelessness, an issue that also effects water quality
- DAMS (removal needed)
- Water quality in small communities
- Voter rights - getting more
- Warm water create poor conditions for fish + causes aquatic plant population explode
- Storm water runoff wash toxins into waterways
- Dollars for infrastructure - both small landowner to committees
- Human centric approaches to land/water management - we are not the only species

- Not enough opportunities to engage + educate communities in order to engage them in resource protection
- Funding for organizations (especially non-profits) to educate + engage public on water issues
- Toxics in waterways work through food chain
- Water air and land are all interconnected. Let's stop separating these issues.
- Trash in waterways/banks/illegal dumping
- 100 years of over allocation - dry/compromise rivers, listed fish, water quality issues, flow issues general
- Degradation of ecosystems - wetlands, forests, estuaries, rivers, * barriers/dams
- Lack of data - instream needs, groundwater studies, water use
- Wasteful/inefficient use of water
- Protection --> restoration of instream flows NOT adequately represented in vision; it's in "goal" but not part of problem statements, premise
- Vision is too focused on "infrastructure" - need both infrastructure and ecosystems
- IWRS instream/ecosystem protections not visible enough in vision (measures 11A, 11B, 11D, 3A)
- Ecosystems restoral- dams, quality, quantity
- Clarity--> that instream flow restoration and protection is part of vision (flaw, barriers)
- More away from "infrastructure" for natural; include word ecosystems
- Clarity as to funding for data (i.e. instream)
- *Legacy of bad investments for all (some still benefitting)
- *Silo management
- *System fixes/jurisdiction handles
- *Money will go up as time goes by
- *Perception that all is good
- Less snowpack/rain
- Climate refugees
- Water less reliable
- GW supplies gone/flexibility gone
- *Special interests/money driving solutions
- *Data, Data, Data, -- starting from a huge deficit vs. folks wanting progress (5-7 years for Basin study)
- *Ability of small communities to step up/stay engaged
- Long term supply
- Funding expansion, retro fit, asset management, source development
- Seismic resilience
- Affordability
- Need to include disinvestment in the vision

- Ground water quality flood management
- In-stream flow for fish/habitat/WQ
- Community water infrastructure - needs vs. money avail
- Blending built and natural infrastructure
- Source water protection
- What about shovel ready projects that need funding money/or policy changes now?
- Flexible integrated policies and programs - agencies must become less siloed
- We need to see how to incorporate lessons from the transportation package and its process
- Lack of metering on water uses including exempted use
- Flashiness of streams stormwater
- Shrinking glaciers and reduced flows
- Water temperature and thermal refuges for cold water fish
- Action now for what we know we need - process to find out what we don't know we need
- We need an interactive process so that we don't stand still until process is complete
- Want vs. need very important
- Agriculture well had gone dry and overdrawn (groundwater recharge?)
- Municipal water intake overwhelmed by logging sediment and debris
- Compromised riparian vegetation due to development and invasive species
- Water quality 200 + pesticides no one knows how that combination affects people and fish
- Agriculture infrastructure upgrades very expensive. Additional revenue streams can help but regulations make some impossible: example, in conduit hydro not values by utilities
- Are existing laws flexible enough to allow creative water solutions to move forward? Transfers between irrigation districts, etc.
- Drought - low water availability in summer months - hard for farmers and rivers.
- Water cooperation on regional basis PNW OR WA IS MONT and BC
- Consider decentralized as well as centralized water systems
- Population growth and sewage efficient (specifically Sandy, OR) and stormwater
- 20 years population demand for water
- More frequent high flow events, bank instability, water quality, and loss of riparian vegetation (Sandy River)
- Relocation away from floodplain "Warrenton"
- Changing climate, less snow less runoff, not enough storage to meet summer needs. Building new or expanding existing storage challenging
- Development wanting to be in the floodplain and affecting the watershed
- Lack of education about watersheds
- More floods from now melt of the snow cap from mount hood

- Habitat restoration efforts face code issues, land development code needs to be updated so that projects for restoration are exempted
- Better education and speed of action
- Oregon's state and private land forest practices (OFPA) are the weakest in country for stream/water/environmental protections
- Strategies for native species that are lacking but can enhance healthy watersheds and landscapes (i.e. beavers, wolves)
- Climate A
- Current (growth) challenges priorities. i.e. choosing to build bridge over Basalt Creek
- Thinking of our native forest systems not as agricultural products but as the best natural capture, storage, and filtration systems we can hope for
- Dam removal at some level will be essential for river and fish health - how to balance with floodplain issues population growth land use
- Increased community engagement/city capacity
- improved understanding for leadership+ stewardship in my role - diverse roles
- Impact vulnerable populations (both people and in nature)
- In stream flows
- Watershed protections
- Groundwater recharge
- Natural infrastructure
- Funding water regulation: data collection of resources and usage
- Having policies and goals which local governments can adopt and enforce
- The regulatory framework governing Oregon's Forest Practices does not adequately protect drinking water source areas
- Healthy forests = clean water this is not represented in vision
- Coordination at the federal--> state level ---- top-down
- Investment in water rights protection from a state level
- Climate change
- Legislative dysfunction
- Public understanding of the causes of water insecurity
- Instream flows for fish not established so we can plan for them
- Power of corporate lobbies favoring the status quo
- Lack of implementation and enforcement of our existing water protection laws (quantity + quality)
- The ability to trade water in the state for multiple uses
- Short term thinking
- Limited resources
- Weird funding
- Community wealth issues

- Lack of consensus on prioritization
- Changing energy demand + energy renewables and new better technology will have big impact on the hydro infrastructure
- Cascadia event -- building resilient infrastructure both built and natural
- \$ As in, where is it coming from?
- No snowpack
- Population growth
- Fires BIG on the west side
- Community infrastructure
- Forest management practices learning to "California type wilderness"
- Wildfire and forest management
- Public education. H2O and lack of consequences
- Legislative inaction
- Coordination among all state agencies
- Water facilities issues
- Where is the public on this rather than the other 1000 issues
- Getting the public's buy in to funding drinking water systems - see the value of water when it is largely unseen due to being underground
- The public's role in emergency preparedness and emergency measures. How to get them to store adequate water and to take action re: conservation
- To get people's attention w/ water related goals/issues when they have competing items for --->
- Overpopulation of H2O on crops
- Urban buffers streams open water ways
- Current laws/regulations overall water use/ meter heights
- Can we incentivize water use
- Adjudication of water rights across state
- Regulations not regulating challenges
- *Forest practices and buffers + cutting
- *Rates - ability to hire EE
- *Water permits (Wells) disconnected (not integrated w/other district)
- *Oregon's lack of sales tax - conservation needed
- *Scenic area-non-industry. Garden Creek Watershed, community viability
- Corbett Water District - Sara GNGSBY
- TVA and the Tellico Daus 1st Endangered Species Act A rider on a bill passed it. Eminent domain. Sub debris on Blds. Cheap energy. Snail Darter
- Gorge 2020 Mgmt. Plan. Climate change. Cumulative effects. Agriculture
- Metro-watersheds (garden creek)
- "The sins of the father will be wrought upon the sons for 7 generations" Sara Grigsby

- Oregon needs a sales tax will allocations heavily weighted to and valuing Water health communities viability environment safety economy
- Modernize levee systems which often needs modern governance funding structures policy MCDD
- Agricultural impact + use of the crooked river
- Need models to integrate water infra services with environmental quality justice recreation wildlife and other community values MCDD
- Complex regulatory environment and that doesn't think much about levee
- Value water different needs stem from what we value from water
- Add "community viability" as a gapped
- Corbett will not exist without clean adequate water
- Order of Goals in your vision document: Environment, health, safety, community viability economy
- Get Metro involved - their watershed mission and land acquisition
- Get the national scenic area gorge commission involved. They are currently creating a gorge 2020 mgmt. plan (water - ag- forest- land use - zoning etc.)
- the need to recognize the importance of protection and restoration of stream flows for fish, water quality, recreation
- lack of prioritization of in-stream needs for fish and water quality when considering water uses
- lack of recognition of the difference between natural infrastructure and the inherent habitat/water needs of fish and wildlife

Case Study Presentations

Farmers Conservation Alliance: Irrigation Modernization

Presenter: Jed Jorgensen

To address community issues around aging irrigation infrastructure, and chronic water loss, the Farmers Conversation Alliance launched an irrigation modernization effort to retain diverted water, ensure food security, provide new energy opportunities, and enhance safety and resiliency in small communities.

More info: <https://irrigationmodernization.fcasolutions.org/>

Clean Rivers Coalition: Building collaborative partnerships and local knowledge

Presenter: Keri Handalay

Using a creative combination of public and private grants, the Clean Rivers Coalition (CRC) forms a unique partnership over 60 organizations from Hood River to Rogue Valley. Focusing heavily on water quality and community engagement, CRC has spearheaded a variety of efforts

aimed at reaching new audiences and breaking down policy and geographic silos that often complicate effective water planning.

More info: <https://cleanriverscoalition.com/>

What does a successful water vision look like?

Large Group Discussion: Flip chart notes

- Embracing risk and creating strong, trusting, and inclusive relationships
- A fostered environment where all stakeholders and water issues are empowered and respected
- Consistent education of rate payers and future generations on water issues
- An educated, capable and qualified water workforce
- Coordinated and collaborative relationships between all relevant stakeholders and watersheds
- All communities have reliable, clean water
- Fewer clean water act listings, functioning ecosystems, and restored natural systems
- The public at-large has an understanding of planning for seven generations
- Guaranteed fishable native and first food fish populations.
- The 100-Year Vision should be the connective tissue of all water planning and should ensure that environmental and social benefits are the outcomes of public fund investment
- Natural resource state agencies, along with the Governor's Natural Resources Office, are fully funded, with professional and accountable staff
- Systems that "live our shared values"
- Restore faith in public water systems
- Cyber threat resiliency
- Construction projects that promote water conservation efficiencies
- Environmental justice and social equity
- Certainty in environmental equity and economics
- Inspirational and inclusive averting crisis
- Investment of public finds requires clear environmentalism societal benefits
- Remember we learn from failure too!
- Important to have difficult conversations
- Collaboration coordination among stakeholders; watersheds
- Improve WQ in every basin and water supply for wildlife and people
- Don't reinvent the wheel, build on existing plans
- Arm us with the data we need. We need food information
- Staff up at gov. office/agency level well-staffed and balanced among our state priorities professional and accountable

- Everyone is impacted by water. people are empowered to be at the table taking responsibility understanding needs
- Why not get 140 year vision? 7 generations and tribal approach remove cultural barriers
- Functioning ecosystems delisting species harvestable fish levels
- Natural systems nature seen as part of our community to build environment include criteria for how we convert from built to natural
- Being ready for dam removal
- Being prepared for population growth "Water informed Residents" go to where people are
- Being prepared for invasive flux
- Safe and secure systems
- Maximize conservation and water reuse water wise construction practices
- ID basic tenets umbrella themes elements we watch need in our plans

Small Group Discussion: Post-it notes

- Dedicated funding available for community project (small vs. big)
- We KNOW what we are using and who is using it
- Enough water actually instream for fish and wildlife
- Public understands that water can't be ignored and we can't extinguish life
- Consistent public engagement
- \$
- A focal point of the Governor's vision is the protection and restoration of stream flows
- Willingness not to repeat or perpetuate past mistakes, hard decisions get made
- There is no status quo... things will change with or without order
- More streams dry, underserved communities suffering most, more litigation
- Conflict among different communities/stakeholders
- All waterways are clean, drinkable, swimmable, fishable
- 10 million salmon venture to Oregon rivers in the fall of 2040
- My great grandchildren want healthy wetlands around PDX to listen to the frogs.
- Clean reliable water sources for both human and non-human communities both upstream and downstream
- Protecting natural native forests and restoring previously cut/formed forest and to ensure large improved buffers protecting all streams rivers and tributaries
- Tribes fulfilling their traditional ways of life and fishing rights having abundant and protected first foods
- Reliable in-stream flows and cold temperatures appropriate seasonally and year-round for all rivers and tributaries
- Protection of public forestlands and reformed laws (OFPA) to protect state and private forest lands.

- Recovery of native fish and wildlife populations that have declined since white settler colonialism
- Action/result should account for success seven generations in the future
- Better understood so interventions are efficient and effective
- Clean abundant valued stewarded cared for state (I like the 7 generations)
- Increased funding- actions and intervention
- Thorough and accurate data collection analysis and application to sustainable water usage
- The Oregon Water vision needs to include reforms to the Oregon forest practices act (OFPA) to increase stream buffers (both fish bearing and non-fish bearing) to protect against clearcutting and aerial pesticide spray. Retaining 500 ft. + buffers for streams and rivers will aid in water retention filtration temp and overall health of the watersheds and habitat
- Beyond the surface i.e./clean rain protected, found H2O
- Advocated for by more people/groups as every person is impacted
- Success hinges on acting for failure and having foresight to address....
- Add don't stop even with failures and setbacks water is just part of climate challenge
- Good checks and balance between all water needs an annual celebration event to pass our values on the back for our success
- Funding accountability don't give funds to water project without justification and accountable
- Success requires innovative concepts and buy in from all parties affected
- Invasive threats to PNW best position to address now *potential to collapse our agricultural and H2O industry econ....
- Good Data for good management decisions
- Data about volume of resources and amount of use
- Success is building on best practices being used and started right how
- Our children looking forward to great future
- Change of culture behaviors in all communities
- Workforce and education system that leverages water investments to bring good jobs to communities that need them
- People are no longer questioning the health of their drinking water
- Economic environmental certainty. Everyone meeting their needs while having clean cold water
- Make everyone aware of their impact on water
- Transparent funding process state and fed
- Vision needs to be fluid as demands change i.e. population climate and political pressures
- Multiple funding sources to implement the priority projects

- No plastic water bottles
- Statewide leadership GNRO capacity National resource budget goes up
- Local inclusive transparent planning
- Phases short/long term implementation established priorities for each phase
- Great partnership and collaboration. Each entity being able to talk about each other's need
- CRC want to protect outdoor rec opportunities, what about invasive threats to that?
- All communities feel like they have a role in decision making for water resources
- CRC "focus on pesticides" impact of invasive now to deduce peat use later not just rest in the H2O etc.
- Functioning Ecosystems *knowledge of needs vs wants (qualification of adequate, vitality, resilient) *Better understanding of what we have to work on
- Harvestable population of native fish measureable improvements in existing conditions and resiliency *Diverse engagement and success, *diluting ESA, CWA, etc.
*management plans based in reality regional state local *status quo will create litigation
- Success robust water management first before supply side
- Use the words "instream protection and restoration don't obfuscate the importance of this on using terms like "natural systems" or "natural infrastructure"
- Communities have what they need to make better(more sustainable creating infrastructure equitable wise) water decisions and investments going forward (\$, expertise, supportive policy environment, inclusive engagement, data, cross jurisdictional coordination, decision framework
- Adequate flows in rivers that are protected, healthy wetlands, imperiled fished recovery, free flowing rivers, strong water mgmt. (i.e. dam removal), data for good discussions, efficient irrigation, more certain funding for water and fish, sustainable groundwater, clean water (cities, fish, recreation), state framework but local control, political voice for rivers
- Fish and aquatic species at risk, rivers increasingly dry as climate change/drought, costs of clear water measure
- Utility water service governance that can balance multiple needs find opportunities through integration and "one water" thinking
- Increased in strength flow for fish, agreement that water is a priority in urban and rural areas and industry
- Oregon needs a sales tax
- State supports safe modern coordinated levee systems
- Our communities govt., industries, cultures, native peoples and individuals becoming more integrated/aware of each other's needs (water wise that is)
- Success "one water mindset"
- We are prepared for dam removal to restore rivers to natural state
- Modernize prior appropriations hierarchy of value benefit

- Do a "systems diagram" of our water systems and challenges in order to understand what the deepest leverage points are
- Decouple storage from dams
- Urban infrastructure change that can allow for natural systems to functional focused on rivers and streams
- Multi-benefit water infrastructure is the norm \$ flow to those projects and partnership
- Add "community viability" as a good, Corbett will not exist without clean adequate water
- Finding commonalities than insure that we work together on solutions
- Taking actions that ensure everyone's needs are considered and better realized
- Fighting over the same over allocated resources and not getting people to work on this will be a lot harder space to live
- Annual reductions in ag water use, removal of or eradication of toxics in surface and ground water (based on hierarchy)
- Culture that values water as critically important --> wise use
- Laws that support water goals as seen in vision
- Political will to budget and franchise enforcement, infrastructure, maintenance
- Educational curricula core to public education
- Species avid wildlife health and landscape
- Cross organizational agreements and alignment
- Clean water available to all those who rely on it (humans, wildlife, plants)
- Keep water affordable for all consumers
- We're coordinated and collaborating by water sheds
- Inclusive leadership and indigenous leadership
- Large scale coordination whether and watershed level, city/unincorporated areal special district ca...
- Ensuring there is adequate water for all stake holder needs
- Reliable, resilient water systems - both constructed and natural
- Improving water quality in all Oregon basins
- That all our relations have access to quality abundant and resilient long term sources of water our system as a whole
- Make sure our future generations know what water is a precious resource all know value of water
- Rate payers understand the need and reason for funding
- Updated and adaptive infrastructure
- funding at local state regional and national levels streamlined and professional use of \$
- Improved water quality quantity and reliability for rivers communities agriculture
- Water storage solution able to capture higher winter flows under climate change to support summer river, municipal and agricultural water needs

- Long term funding to pay for needed infrastructure improvements for ag and municipalities
- Infrastructure that can pay for itself over time
- Municipal and agricultural resilience to large and small districts
- Resilient integrated water energy broadband and ? (other things) infrastructure
- Trust and understanding between groups that didn't see eye to eye in the past
- Well integrated water systems
- reduced dependence on built infrastructure
- Water equities across
- Healthy aquatic systems, reduced competition, water use reported, adequate data for decision making
- Increased hostilities, increased water inequities, reduced environmental quality, increased infrastructure failures
- Oar Forest can't be expected to finance today population compared to 50 yr old
- Concept at decentralized water system
- Mentioned verbally but not written desalination practice instead of reactive

What's missing for the current draft of the Water Vision?

Large Group Discussion: Flip chart notes

- What is the timeline and what outcomes should the public expect from the visioning process?
- What criteria will be used for investment prioritization?
- Who is going to be providing the strong leadership needed for this?
- Need to include specific language around ensuring that water remains a public resource
- Protection from water privatization from bottled water industries
- Water affordability
- Water planning urgency
- Need for language around protecting water quality for all water and species-not just Oregonians
- Expanding the Vision to reflect the Tribal perspective of "planning seven-generations into the future"
- Expanding the Vision to areas beyond Oregon

Small Group Discussion: Post-it notes

- Affordable water more than economy "ensure clean, affordable, abundant water..."
- Funding at highest levels like a Cruham Con.... level effort for water
- Missing groundwater protection and aquifers
- Biosolids management associated with water/sw facility and wtp operation
- Adaptive systems of frequent check-in updates

- Ensuring water quality protected for all water
- Protection from privatization of water sources and commercial bottled water (nestle in cascade locks)
- LNG pipelines and petroleum infrastructure projects/damages
- Forest wetlands prairie riverbanks restoration to support water habitat systems
- Oregon's plan cooperation and coordination with PNW, N Americas, Americans... World
- Not all built infrastructure needs upgrading some needs to GO
- Action plan
- Economic "growth" must be planned not inherently "good"
- Population growth as a problem that can be managed
- A plan and a time table son action
- Need criteria for investing in built upgrades v natural systems
- A sense of urgency
- 100 years too short
- Recognize as a public resource explicitly
- Time-line for action plan
- Difficult conversations are needed strong leadership needed
- Clarity around the word "investment"
- Clean cold water for all species
- Will not enable this
- ...and built water systems across tribal lands. The state, in partnership with the federal government to support safe and healthy...
- ...Oregon will quickly + effectively steward its water....
- 1. Greater awareness by the public. In all parts of water. Remove the Disconnect
- 2. Water rationing
- 3. Increase in population from outside OR
- Protection and restoration of stream flows for fish, water quality, recreation needs to be a focal point of the Governor's vision
- Water management
- Protection and restoration of stream flows for fish, water quality and recreation



Tillamook Community Conversation Meeting Summary

October 23, from 12pm to 4pm at OSU Tillamook Extension

Prepared by: Bryn Hudson, Bryn.E.Hudson@oregon.gov

The Tillamook Community Conversation began with opening remarks from Councilmember Gloria Ingle for The Confederated Tribes of Siletz Indians, and Tillamook County Commissioner David Yamamoto. In total, 40 people were in attendance, representing cities, counties, environmental groups, watershed councils, irrigation districts, and many more. We discussed the unique water challenges faced by our local communities, the definition of successful water visioning, what the current draft of the Water Vision is missing. Alexandria Scott and Alan Gibson from the Mid-Coast Water Planning Partnership and Kristi Foster from the Tillamook Estuary Partnership gave presentations on the Mid-Coast place-based water planning effort and the Southern Flow Corridor project, respectively.

The bullet points below were taken from the large group conversations and associated flip chart notes. They do not necessarily represent all the viewpoints in the room, and are not intended to be shared opinions across the entire group.

What water challenges we are facing now, and in the future?

Large Group Discussion: Flip chart notes

- Unchecked rural development
- Building too many houses in an area that can't take the use of the water and septic -> without the facilities to support it
- Problem of vacation rentals-> surge in wastewater spikes and water use that aren't manageable for the community
- UGB around the community is limited to how many places can be built-> there is no place for wastewater sewage
- Lack of support of rural and small community water quality testing
- Lack of trained water work force
 - Challenge getting certified and qualified waste water operators
- Water equity
 - Influx of rentals and tourism
 - Allocation between private and public entities
 - Climate change
- Bacteria loading
- Silt and sediment build up
- Wastewater quality
- Forestry impacts
 - value of forests on water quality
 - carcinogens and sedimentation due to clear cut
- Microplastic pollution in waste water

- Cold water refugia
- Impacts of wildfire on water quality
 - Data for forest management
- Detailed water budgets for local and state level
 - Data on water use, ground water availability, vegetative cover, etc.
- Funding for rural development
- Funding for septic system upgrades
- Funding for conservation, habitat, and infrastructure work
- Levees and tidegates conditions
- Water quality testing on wells and septic systems
- Tsunami readiness
 - Seismic retrofitting
- Impacts of beaver on flooding
- Outdated infrastructure

Small Group Discussion: Post-it notes

- Water sources are surface sources. Use it or lose if impoundments
- Coast Range lakes - negatively impacted by population growth
- Forest practices - riparian buffers - steep slopes harvests
- Are invasive species regarded as water pollutant?
- Bottled water bottles
- Climate change
- Climate change & seasonal weather variability
- Challenges 20 years & now: increasing uncertainty ups & downs of water abundance (flooding) and water scarcity (timing & storage)
- Low stream flows, warm summer temperatures
- Water quantity (drought conditions) (how can we share water resources)
- Seasonal water scarcity - low summer flows
- Sharing water between all user groups
- Various ownerships of municipal watersheds
- Vacation rentals - increase of people using individual homes
- private companies using public water sources
- Aging infrastructure
- Leakage from existing systems
- Expense to cool water from treatment plants, going back into the stream. Close to ocean?
- Ageing infrastructure -local -state -private
- Treatment of water concerning prescription drugs in water system
- [...]infrastructure bottlenecks & lack of redundant supply

- lack of[...]understanding how ocean conditions uncertainty impact our coastal communities & industries
- Pro-active steps for climate resilience
- The fact that "sustainability" is not one of the core goals should give us pause in our attempts to frame our water issues
- The coast is experiencing water quantity issues and population increase
- Climate change is a moving target affecting our forests, rivers and the Pacific
- warming rivers - (water quality)
- Our backup wells are tidal - just off ocean - 50 deep - under leaking septic systems
- How do we assess health of our watershed
- Our drinking water is not tested for the chemicals sprayed into our watersheds
- lack of coordinated/standardized monitoring
- There are beneficiaries to lack of data, but not communities
- Water quantity
- Water quality
- Water quality
- Economic impact of development - and who ultimately pays
- - Failing culverts & tidegates block fish passage & cause flooding
- Remove dams, Keep dams, Build new dams -> Big questions
- - lack of up-front capital for restoration/infrastructure updates sustainable funding mechanisms
- Levees - remove or raise? Remove, restore wetlands, build cross levees OR just make them higher?
- Forestry practices :(
- Current forestry practices impact water quantity and quality
- In our county many watersheds are being logged - who is assessing the condition?
- Clear-cutting tree plantations directly and negatively impacts down-stream communities' water quality and quantity. Clean water is a right.
- * Dominance of the timber industry in Salem
- Coastal communities draw their water from timberlands managed for a competing purpose :(
- 20% to 30% of our coastal communities' water has traditionally come from needle-drip from large old-growth trees, trapping fog
- Private timberlands are not managed as public watersheds but they are
- Sedimentation from clear-cuts leads to trihalomethane contamination, a serious cancer-risk
- Slides from logging
- [...]water communities cannot realize goals 1, 3, and 4 now, and less likely in future
- ODF state should follow CZARA standards in Forest Practices Act

- Connection to estuary and ocean issues are needed in water planning and fish restoration
- Cold water for salmon
- Tide gates fish friendly or otherwise
- Water encroachment into agricultural fields
- Water contamination by agricultural uses
- Watershed mgmt.
- Water allocation between uses/needs. Human vs. fish & wildlife
- Understanding efforts underway to protect water quality for humans & fish
- Sustainable tourism to manage consumption and infrastructure capacity/needs
- Regional solutions to water scarcity issues in the future
- Conservation
- Seasonal water demand highest when supply is lowest. (Summer tourism demands)
- Lack of support for small community systems (4-14 connections)
- Lack of trained workforce
- Summer water supplies to fight wildfires
- Supply -large & small systems
- Municipal codes limit creative solutions to reduce consumption
- Municipal water supply issues relating to dependence on privately owned/managed forest lands
- Most current systems not built to seismic standards
- Infrastructure maintenance and upgrades
- Lack of data (current and historical) on domestic wells and their drinking water safety
- Lack of manpower and a regulatory structure to test and track potentially missing or faulty septic systems
- Infrastructural limitations for small community water systems
- Groundwater storage (limited)
- Failing culverts (fish passage barriers & infrastructure)
- Failing tidegates
- Waste water processing with growing visitor & resident populations
- Capacity -water use permits -municipal/private
- Ocean acidification (pH levels & carbonate balance)
- Water quantity in rivers, streams, [...]
- adequate in stream flows
- Bacteria levels in rivers, streams, creeks
- Temperature (cold water for native fish)
- Microplastics pollution
- [...] source protection
- Budget budget budget

- Too much water at the wrong place at the wrong time
- Supply for drinking & industry
- Surface water pollution for community drinking water
- Unrealistic regulatory controls
- Flooding
- Water quality -nutrients -pollution (toxics) -d/o
- Sedimentation
- aquatic connectivity
- [...] -larger water events -longer droughts
- "natural infrastructure" wetlands tidal & freshwater as flood protection & habitat
- Hwy 101
- Sedimentation, dissolved O2, nutrients
- Beavers need more
- Bacteria in streams used for recreation
- Water quality/forestry operations; water quantity/forestry operations; the ocean is to water quantity on the coast what the snow packed mountains are to water quantity in the mountains
- Degradation of healthy ecosystems - especially forests, & impacts on water related to that: improve Oregon Forest Practices document
- Drinking water shortage in Aug & Sept
- Is there a need to harness the output of more springs? Can rain runoff be captured economically? Can more water to irrigate lawns & gardens be granted by the state
- Sufficient water to supply county policies of small job developments & possibly forcing small rural community into urban needs like sewer system
- not enough water; moratorium on new connections; no new home owners/rate payers
- Flooding, fire fighting
- Storm damage to coastal property
- Pesticide and herbicide use
- climate change & coastal erosion & storms
- Missing the impact of wildland fires on water quality & fire danger to people and structures in unmanaged forest land
- Fish passage barriers
- Funding for small community development acquisition, etc.
- Lack of expert local gov/county staff to support data collection & integration of sound water policies
- population surges of 10-30 people per house used for Transient Occupancy per day/often
- Lack of data about water use compared w/ economic benefits of tax base & family wage jobs in farming, tourism, cannabis growing, timber

- regulation & enforcement of rules; transient occupancy
- why no Goal 19 for county comp plan
- State level testing of all water districts how to prioritize
- How can we pay for the changes that will be required
- Things to think about: How can we be sure that our drinking water is safe?
- Habitat - stream WQ
- Levee Infrastructure
- Septic systems - need upgrades
- Stream, river & estuary health as essential to oceans
- Community water systems
- Water Quality Ground water survey
- Climate change the unknowns rising sea level changing hydrologic budgets, population dynamics
- Septic systems
- Summer H2O availability
- Flooding
- Tidegate replacement
- Warming ocean
- Alteration of natural hydrological functions
- Dredging
- National Flood Insurance Program
- Ocean acidification
- Water storage
- Ocean acidification & hypoxia
- Aging infrastructure
- Tourism H2O use summertime
- Water allocation from Columbia River
- river dredging - silt/sediment build-up
- algal blooms in ocean - fertilizer in the water
- Small community funding challenges
- drug contamination clean water storm drain, sewage environmental pollutants
- ocean acidification
- lack of qualified, certified personnel in water treatment & sewer
- drug contaminated water
- lower than average river levels
- changing precipitation trends
- fish habitat
- Infrastructure -bridges -culverts -tide gates
- flood mitigation

- Earthquake readiness
- Security of water resources from intentional contamination
- seismic stability of dams
- Watersheds -protection -sustainability
- fire danger
- A federal, state & county problem - local govt. cannot solve all the problems
- Septic systems - never inspected after initial installations; funding system for upgrade
- Monitoring wells – for inspection & identification of issues – safe oversight & funding
- Interdependence of coastal communities – Health of streams, rivers, estuaries & health of oceans – need to connect ocean to land use - Ocean rise – saltwater intrusion; impact to land - loss of land
- Tidegates
- Dredging
- Levee Infrastructure
- Flood Insurance Program changes
- FEMA map update
- Flooding
- Tsunami effect needs to be better understood what land is going to disappear so we limit building
- Columbia River - same question as land subsidence & loss of future sites – what land area will be inundated & should development occur there?
- Harmful algal blooms
- How to help local Districts test their systems? Learn what improvements need to made
- Education - Outreach to local Districts as to
- Tourism - strain on water & sewer infrastructure. How to cope? Transient lodging tax infrastructure to use on water infrastructure

Case Study Presentations

Tillamook Estuary Partnership: Southern Flow Corridor

Presenter: Kristi Foster

The Southern Flow Corridor project was a collaboration between the community, state, and federal agencies. The result is a project that has significant benefits for both flood mitigation and habitat restoration. In maximizing flood reduction benefits by maintaining as much usable agricultural property adjacent to restoration work, this project was able to balance the needs of land owners, the town of Tillamook, and fish and wildlife.

More info: <https://youtu.be/2GkxvayuLRI>

Mid-Coast Water Planning Partnership

Presenters: Alexandria Scott and Alan Gibson

One size water planning does not fit all, so in 2012 the Mid-Coast Water Planning Partnership was established. With 280+stakeholders (120 actively participating), 12 local partnership meetings since 2016 and 50+ partners signed onto the Partnership charter, trust and shared understanding of local water issues has been established. While collaborative processes like this takes time and money, they are necessary and successful. By promoting open conversations and diverse voices, the Mid-Coast Water Planning Partnership has helped paved the way for more place-based water planning groups.

More info: <http://midcoastwaterpartners.com/about-the-partnership/>

What does a successful water vision look like?

Large Group Discussion: Flip chart notes

- Collaborative approaches with social and ecological benefits with adequate funding
- Built consensus and trust for hard conversations
- Elevated water issues to public view
- Maintained long-term constructive community based energy
 - Exemplified success of communities
 - Capturing and communication of community engagement
- Capable water workforce
- Healthy landscape, planet, and economy
- Plenty of clean water for all species
- Developing our natural resources and an economically sustainable fashion

Small Group Discussion: Post-it notes

- Levy & tidal gates solved
- Clear public understanding of policy
- Coastal communities dealing w/ rising ocean levels w/ climate change
- Working understanding of our natural and built water systems to inform different choices
- Confidence knowing what we can individually contribute to the community in times of crisis
- Watershed managed with public water users in mind
- Water supply _use_ extended 20+ yrs
- Water use conservation projects
- Projects that capture water
- Working lands group meeting with user groups
- Addressing the "low hanging fruit" first
- (knowledge is power) communication & outreach (who knows, how they found out, what they know)
- Balance of conservation, recreation, economy

- Gaining networks initiating conversations / we can't do this alone
- Support for small communities so they have access to clean drinking water
- The adaptive Oregon Forest Practices Act changing with landowner input & support
- Drought resistant communities
- Collaborative approach to solution with greatest social & environmental benefit with adequate funding
- Watershed council format to bring people into the water discussion
- High quality drinking water
- Improve understanding of the resource protection currently underway and continue dialogue based on science
- The Oregon Plan to a point where Coho salmon can be de-listed
- Abundant water supply for communities, agriculture, industry – economic growth
- Adequate funding
- If status quo continues, inefficiencies in our systems that will lead to more water wasted
- Success will look like using historical conditions and use those conditions as a baseline and template for future design
- Resiliency of "projects"
- Additional capacity
- Data on aquifer – what kind of stress load can it maintain. Can we no longer use surface water for drinking – only well water
- Water use protections – population growth
- Community contributes to stay engaged
- Reduced flooding
- We find creative ways to store more water
- Forests that maintain clean, safe, abundant drinking water...and Forest Practices which ensure this
- understanding and seeing the value of forests as infrastructure investments themselves
- If status quo continues, taxes costs will drive citizens from their homes
- Success looks like: (Baby steps -) more of the public being informed of the issues around water in the state
- Adequate supply for the next 100 yrs...avoid going in crisis mode
- A consistent & sustained water policy effort @ state & local (city, county) levels
- Healthy landscapes, healthy people, healthy economy
- 1. No more water problems 2. Implement long range planning teams and stick with it 3. Establish reasonable and achievable goals
- Success looks like: Our community stays rural & all that entails.
- adequate, stable supply of fresh water for personal & business uses all year long
- collaboratively developed solutions to community problems re: fresh & waste water

- Conservation practices by all segments of coastal populations: permanent, weekenders, transient, day trippers
- Long term and immediate planning, based on comprehensive data collection and iterative decision making as an adaptive system
- Private sector investment -> Funding streams that take into account ecosystem services that water provides.
- We are nowhere near a sustainable mode of safe, adequate water supply.
- "Sustainability" should be the fifth identified goal.
- Critical that we truly understand the tiny amount of time we have to successfully address this.
- Minimal litigation
- accurate transparent info about our drinking water/is it truly safe
- success = plenty of clean water at all times for all species
- If you have seen one OR county, you have seen one OR county. Regional H2O coordination must be determined on a more local level.
- One size does not fit all – support place based planning
- Cleaner water & adequate supply
- What does water success look like? Solid access to clean safe water for every resident & every business / plans in place for likely scenarios
- Fed -> State -> Local Rules/Requiring ongoing inspections & enforcement of failing septic
- \$\$
- Facilitated local water meetings
- More public outreach & media info to public
- Community must see value in
- missing – ocean references: acidification; plastics pollution; pollutions from drugs, sewage, fertilizers, etc.
- missing – river sedimentation / dredging issues
- fish (numbers) restoration
- river temps cooler
- removal of Skookum Lake dam
- strong ag program - natural resources education
- multi-generation buy-in and use of waterways
- community education
- incremental progress & improvement
- clean, safe drinking water
- healthy fish habitat
- flood mitigation (So. Fish Corridor)
- Meeting goals of multi-party collaboration / common & individual goals
- partnerships to clean local waterways (Holden Creek)

- Adaptability to changing conditions
- Updated w/ a plan to maintain
- watershed management & protection
- Partnership / security / quality / mutually successful
- multi-agency work w/ watershed councils, farmers, county, state & feds
- training/education for water & sewer - build your own workforce
- community outreach/education (schools)
- Adequate drinking water & waste water treatment
- All water quality standards met
- Short term delivered projects; Long term 100 yr storm w/no transportation structural failures
- Natural infrastructure that protects against flooding & provides filtration
- Drinking water protection
- Robust infrastructure
- Tide gates, culverts, bridges all repaired/removed/upgraded
- Water quality is balanced throughout the year
- Land management that promotes healthy watersheds
- Healthy * watersheds *active
- Restoring natural ecosystems
- Habitat fish & wildlife at historic population levels
- Beautiful waterways for recreation
- Common ground among diverse stakeholders
- All septic systems properly functioning
- Reconnection of aquatic habitats through barrier removal
- Sustainable economic development
- Water mgmt. plans
- Sufficient water supply for industry & agriculture
- A culture of water conservation
- Collaborative efforts to meet multiple objectives for nature & infrastructure
- Fully funded
- Sustainably develop natural resources
- Habitat connectivity
- Strong partnerships & collaborations
- building community to discuss current water health
- Community groups advocating for safe water are growing in education and numbers
- Community collaboration
- We can disagree and respect each other
- Watershed scale lens -> transcends political boundaries
- Learning that a respectful but honest and informed perspective goes further

- We are better understanding watershed challenges with time
- Climate change is helping advance a much-needed discussion on water sustainability
- Habitat restoration - restoring wetlands/building new infrastructure
- Seaside -> reduced flooding
- Resiliency -> Focus -> Build it
- Robust flood modeling -> Early warning flood systems
- Today offered successes we can learn from
- Water' is an excellent starting point from which to seek further growth

What's missing for the current draft of the Water Vision?

- Connections to water across the US (population dynamics)
- Connections to land use (Goal 19)
- Connections to the ocean
- Coordination among agencies and communities
- Water and education → workforce and formal K-12
- Coordination and public involvement
- "Sustainability"
- Natural disaster preparedness
- Emerging tech (desalination, wave energy, etc.)



Bend Community Conversation Meeting Summary

October 25, from 9am to 2pm, at OSU Cascades Campus

Prepared by: Bryn Hudson, Bryn.E.Hudson@oregon.gov

The Bend Community Conversation began with opening remarks from tribal councilmember Will Wewa, from the Confederated Tribes of Warm Springs and a welcome video from the Mayor of Bend, Sally Russell. In total, 50 people were in attendance, representing cities, counties, environmental groups, watershed councils, irrigation districts, and many more. We discussed the unique water challenges faced by our local communities, the definition of successful water visioning, what the current draft of the Water Vision is missing. Eric Klann, from the City of Prineville, and Kate Fitzpatrick and Mark Thalacker gave presentations on the Crooked River Wetlands Complex and Whychus Creek project, respectively.

The bullet points below were taken from the large group conversations and associated flip chart notes. They do not necessarily represent all the viewpoints in the room, and are not intended to be shared opinions across the entire group.

What water challenges we are facing now, and in the future?

Large Group Discussion: Flip chart notes

- Water rights
- Funding/resources
- Need for collaborative partnerships
- Addressing climate change and population growth
- The diverse ways that policies overlap with people, water allocation, and water history
- Lack of knowledge about what our water used to look like-ecological amnesia
- Water infrastructure and the nexus between communities
- Diversity of water interests
- Built and natural storage
- Wastewater treatment plant recovery
- Transport, canals and conveyance of water
- Old/outdated data
- Conflicting values and cultural differences around highest and best water uses
- Lack of flexibility in water use system
 - Need for a menu of options and goals
- Fragmentation of water management-inefficient monitoring data
 - Over allocation-need to reallocate
- Lack of adaptive water law system
- No standardized water governance
- Balancing water allocation and ecological and economic parameters
- Keeping water for in-stream needs

- Funding
- Lack of incentives for general public to engage
- Education K-12 and irrigation end users
- “Us vs Them”-lack of collaboration
- Water infrastructure resiliency
- Regulatory flexibility
- We can’t build our way out
- Meeting ag needs for Jr. users
- Legacy of prior appropriate
- Litigation used instead of collaboration
- Flood safety and funding
- Water quantitative and qualitative
- Standardized water quality monitoring and reporting

Small Group Discussion: Post-it notes

- change perceptions of water ownership
- Restrictive, ancient water laws that impede modern uses and goals and values
- changing 100yr old laws; over allocation
- Tracking water/rights usage
- [Processing] [...] for water rights
- Why aren't we looking more at the needs of wildlife?
- not enough water for the Deschutes habitat
- Water unaffordable for low-income people
- Cost
- High cost of testing
- High cost of sewer hookup, new septic treatments unaffordable; rural growth –
- Storing water data
- Education of individual households – How to conserve water
- Improving community understanding of irrigation practices and water law
- Poor or missing EPA standards for chemical contaminants in bottled/drinking/wastewater; Notification/averaging of test limits
- River pollution, sedimentation low flows, uncertainties, loss of species; communication & education of public is passive
- Inadequate testing of drinking water for emerging chemicals of concern
- Inadequate funding & capacity for state agencies & water managers
- Workforce solutions
- Funding for projects
- 1) water efficiency a) Yes
- Instill values at young age

- Lack of Public engagement & understanding
- Education about responsibility of water rights holders
- Water Policy that does not allow us to do management water efficiently
- ag land changing hands -development -non-farming landholders w/water rights
- Climate change and snow pack implications
- 1) water availability for all (Balance) a) yes for the most part "balance" could be used
- The balance/integration of water use/needs; Health ~ Environment; Safety ~ Economy; *Education
- Water quality issues from irrigated ag
- Industrial ag using loopholes in water laws not intended for that scale
- Water quality threats from concentrated animal feeding operations
- -cleanup and who is responsible (dams, sediment, pollution) *industrial ag and other polluters
- Polarization & how to allocate based on
- regional rulemaking and flexibility
- general public education
- water quality and holding polluters accountable
- Balancing irrigation needs vs. keeping water instream
- Balancing H2O Quantity between Ecosystems and Agriculture and Industry
- Inefficient irrigating or waste-watering Just because you can - Hubby Farms
- Decrease in river flows for fish and other endangered species 20yr could be worse
- balance of environmental preservation & economic vitality
- Water Quality Monitoring and Incentive to Prevent Pollution/Discharge
- not sure how accurate the data is regarding how much water there really is
- Data collection -can't manage H2O if we don't measure it - (need for flow meters)
- Funding & Incentives
- Placing more emphasis on water quality/quantity for younger generations
- Educating the community about the benefits of pressure pipelines vs. open canals
- Everyone being equally on board re: the importance of water for all - especially down stream
- Challenges now: Public perceptions & education about water conservation tools
- Residential H2O users (new to Bend) – Residential landscapes & H2O irrigation practices need education – Central Oregon soil affects H2O use in landscapes
- Addressing over-allocation
- Future cost & availability; equity
- Challenges now: water law and existing system benefits out-of-stream uses to the detriment of ecosystems (not enough water instream for ecosystems); 20yrs: 40-60% less precip/snowpack
- Is it feasible to revisit water laws? Things have changed

- Let go of perceptions/silos & ego; Us vs. Them
- Ensuring tribal communities are included/heard during conversation and action
- End-user's perception about what they use & their responsibilities
- Irrigation Districts all working together for the value of all – open conversations
- Building Resiliency
- Maintaining clean & resilient supply of water in face of growing population
- Smart irrigation is garbage in - garbage out; need to repair upgrade before making "smart"
- Climate change
- storage
- [...] Business limitation due to limited water availability
- Managing what we have
- change in runoff timing
- need for flexibility and certainty
- Wastewater plants and H2O recovery
- Political Boundaries don't align w/ watersheds & basins
- water rights & laws looking @ individual vs entire system
- What is the new normal - climate rainfall patterns - ?
- Funding infrastructure improvements
- access to capital at scale
- End user culture change
- Communication & learning from other successful entities, programs & failures
- Looking @ micro-projects vs macro-scale-Holistic
- Not good infrastructure
- Plans based on past & current & not on future conditions
- Permaculture Practices
- Balancing Public Needs & Ag Needs
- Need goals: Quality; Diversion; Conservation
- Population Growth
- Alternative Options. Example: Prineville Aquifer Storage & Recovery
- [...] Rigid & need to be flexible for Adaptive Management
- Canals; Domestic Water delivery; Well fields; Availability of water; Irrigation efficiency
- [...] customer cultural practices
- What is the "highest" or "best" use? Conflicting values
- Broader public understanding of the issue of water supply & demand
- Lack of connection between activities in upland and effect on water supply
- update/Ancient Water Rights Laws/Traditions
- Cost of conversion
- People & interest groups not willing to work together to address the challenges
- Wide variety of water needs/uses

- Native American Treaty Rights
- Prioritizing real agriculture over "hobby farms" or just flood irrigation to keep green
- Piping canals that people like to see better flow
- Some climate-related trends not adequately monitored - e.g. increasing harmful algal blooms
- invasive species introduction (especially aquatic)
- Limitations on long-term leasing of water to the river
- Ad. water for all needs
- Is there enough water to go around | 20 yrs. from now likely going to be worse
- M[...] of demands for water? Irr., fish hab., quality of water
- Lack of data to prepare for water change -> links to are "what ifs" true
- Future reduced snow packs and more rain on snow
- Lack of ability to plan for climate change
- lack of consistency between agencies in implementing water use decisions/[...]authorities
- Outdated water rights laws
- ecological amnesia
- Priority of first allocation vs. [pict] of price approach instream needs
- What might be a problem in one area might not be a problem in another area
- Effects of pip[...] of individual shallow wells
- Some wells need to be deeper
- Disconnect between local conditions & state/top [down] water policies - e.g. flood irrigation
- Are the projects accurate for water supply or are we going through too many "[...]"
- Water availability to communities and treat[...] of flow-t[...] \$\$ esp. small communities
- Water source area stewardship -USFS -SWCD -BLM -WC's -ODF
- More people coming
- Habitat [...] wetlands [...] support wildlife and maintain healthy and abundant waterways
- Restoring natural flow regimes and river ecology
- Making minimum instream flows the 1st priority
- Increased risk of catastrophic [da]mage from wildfire
- Complex Klamath Basin water issues
- Invasive species - Brown trout; Bull frog; Bull head
- Maintaining important threatened and endangered species habitat
- If we improve the water system too much we will be attracting more people
- Population & land use allocations not in keeping with good planning
- Misallocation of groundwater supplies (i.e. Bend uses wells [...] to supplement [...])
- meeting tribal obligations
- Over-allocation of water rights (primarily groundwater)
- single use water management

- litigation (takes funding away from on-the-ground projects)
- Limited available community-based, collaborative water planning strategies
- funding for infrastructure projects
- challenges now: aging septic systems
- aging infrastructure
- Conservation not widely applied
- Poor understanding of ecological water needs
- Communities based on unsustainable water use with few options (Harney Basin)
- fires
- 20 years from Now - Increasing climate events leading to flooding, heavy snows, drought
-> collapse of agriculture, trade, increasing conflict immigration & emigration
- climate change
- Projected increase in future demand
- Projected changes in hydrologic regime
- Vision does not address legal, regulatory, statutory elements of water
- Regulatory statutes are outdated & hinder progress
- As an ag based community a sustainable, reliable supply of water with certainty to continue to [produce] food & [fiber]
- Irrigation – 20 yrs no farming -ESA loopholes -delivery -infrastructure [...]
- Every basin has unique issues. The vision is infrastructure centric, in the [...] Deschutes a major [...] is regulatory [...]
- Obstructionist to conservation
- Regulation ESA, CWA, etc.
- getting water to the ag producers that need it, particularly if they are junior users
- states commitment for large scale long term funding for Oregon's water future
- Central Oregon Geology and Climate
- Litigation
- instream flows & water quality
- Lack of water in waterways will lead to extinction of iconic species like salmon & steelhead. This will not take 20 years. No, the vision does not adequately address this.
- Challenges Govt Now - Public Awareness/Involvement; 20 - Further Climate Degradation
- Collaborative work
- addressing legacy streamflow issues (vision does not explicitly address)
- water quality - climate change & ^ temp
- water quality - (ex. algal blooms/nitrates) Upper Deschutes; Crooked River; Lower Deschutes
- 20 yrs - Climate change and ability to capture rain versus snow
- Safety Hazards what does the state or federal government plan to do to help with improving safety infrastructure? ((Funding))

- Financial limitations
- lack of sufficient data on hydrologic systems + instream needs around the state
- Sustainability of Aquifers and better Data to understand our limitations in eastern Oregon
- Balancing needs & available resource
- Degraded infrastructure
- Now Realign WR's with current com. needs, including needs of the rivers
- Existing legal (state/federal) frameworks are not adequate to best manage water
- Lack of flexible adaptive water law (multi-benefit)
- Many competing needs/interests
- Aging & inefficient infrastructure
- Overcoming the perception of limitless resources
- Rephrase "capacity" -> Water Governance "Framework needed"
- [...] water for future uses now, with every project
- Managing water for multiple uses given the unknown of climate change
- Managing water resources for multiple uses as opposed to just a few (historical)
- Problem Fragmentation of water agencies retool (local, state, federal) example - monitoring
- Education Lack of knowledge about water resources
- The legacy of over appropriation of water resources should be recognized
- Change is difficult
- Lack of funding for natural resource agency
- Financing
- * No new water to allocated (1909 code) extinct
- More investment in science
- Educating the public about the challenges in melding public expectation with constraints of water law and irrigation district infrastructure limitations
- Funding for watershed projects; Funding for restoration
- Growing population
- Land use disconnect with water planning
- capacity
- Developing a water market strategy that is reasonable & equitable for irrigation district patrons
- Common monitoring framework w/ standards QA/QC, methodology and central hubs for data sharing science [...] for data [...]
- Lack of framework for H2O marketing
- Lack of "one water" framework
- Funding & rate impact equity
- Public communication over water is challenging and can polarize communities
- Stakeholders with an all-or-nothing approach make change challenging

- Water Abusers -cranking it up
- Lack of incentive & regulatory connection between uplands and water supplies
- Conundrum -useless water = less utility revenue

Case Study Presentation

City of Prineville: Crooked River Complex

Presenter: Eric Klann

Due to increased residential growth in 2004-2005, the City of Prineville learned that their existing wastewater treatment system needed to be replaced with a \$62 million mechanical treatment plant. Seeking a more sustainable solution, the City in 2008 began exploring a more holistic and cost-effective way to expand its wastewater capacity. The Crooked River Wetland Complex uses a series of pools to treat waste water naturally and reduced treatment costs to \$7.77 million. This project is easily replicable in other communities that have the same geologic conditions.

More Info: <https://www.cityofprineville.com/wetlands/page/about-crooked-river-wetlands-complex>

Whychus Creek Project

Presenters: Kate Fitzpatrick (Deschutes River Conservancy) and Mark Thalacker (Three Sisters Irrigation District)

The Whychus Creek watershed historically provided some of the best spawning, rearing and/or migration habitat for redband trout, spring Chinook and summer steelhead salmon upstream of the Pelton Round Butte dams on the Deschutes River in Central Oregon. Portland General Electric (PGE) and the Confederated Tribes of Warm Springs (Tribes) are currently implementing an anadromous fish reintroduction program to bring fish back to this watershed for the first time in more than 50 years. With this historic reintroduction underway, efforts in Whychus Creek are focused on restoring the physical and biological conditions necessary to support successful salmon and steelhead spawning and rearing.

What does a successful water vision look like?

Large Group Discussion: Flip chart notes

- Sustainable, reliable, consistent supply of water for the agricultural economy, the environment and communities
- Working from the ground-up, locally to find adaptive solutions that work for the community in the near and the long-term
- Fully collaborative water approaches
- Flexibility in water law to allow for adaptive management to meet water needs
 - Place-based solutions

- Having clear roles and responsibilities for ensuring adaptability and instituting changes to water visioning process
 - Accountability at a local level
- Ownership by all stakeholders
 - There are no losers
- Natural systems and ecosystems are restored
- No invasive species
- New generations are grounded with social norms of sustainable water practices
- Basin-wide programs to educate and provide technical assistance to farmers for water efficient techniques
 - Flow of education to policy makers in Salem
- Enhanced understanding of emerging technology and innovation
- Efficient data sharing and collaboration
- Research coordination
- Sustainable tourism industry
- Reduced litigation
- Reduction of toxins and microplastics before entrance into the water
- More permaculture projects opposed to monoculture

Small Group Discussion: Post-it notes

- Streamline processes for infrastructure improvements (funding/permitting)
- Oregon water law revised to allow for flexibility
- Polarization & how to allocate based on differing perspectives
- #1 supply quality waste prioritization aging infrastructure
- Ag. economics keep/make farming economically sustainable and allow for improvement
- Toxins & pollutants being filtered out from point & non-point sources before hits H2O
- Renewable Energy in every pipeline
- We are increasing local food production security
- Sufficient supply for all users
- Habitat & streamflow restored
- Riparian zones restored
- Prevalence of Permaculture Practices Less monoculture = more diversity
- Collaboration & community pride
- Different interests all share vision and opportunities to achieve it
- No one feels like they* (*or, most people)
- Everyone gets most of what they want most of the time
- An earnest understanding of other stakeholder's values & concerns
- When K-12 students know more than their parents

- When highest & best use (for taxing purposes) recognizes that water and wildlife needs are recognized.
- [...] Water Quality: Healthy standards, comprehensive testing, reporting & notification; Both drinking water, waste water discharge, storm runoff & lakes & rivers
- Vibrant community using water sustainably for people & environment
- Collaboration -Standardizations -Data -Infrastructure
- Innovation -Grey water reuse -Waste water treatment -Treatment techniques - Agriculture/watering techniques
- Remove volatility -in the rages - " " asset lifecycle
- Education Conservation Awareness -new generations with social norms grounded in sustainable practices.
- Water agencies are consistent & collaborate in implementation of water management strategies/authorities
- Building & maintaining relationships thru time
- Clean water for all
- Water law (reqs/policy) is sufficient to protect environmental need & public interest
- Restored ecosystems, natural river flows; no threatened and endangered species; few invasive, exotic species
- Sustainable surface and ground water use
- Water allocation decisions reflect instream needs and good forethought in addressing climate change
- More water in stream for wildlife
- No invasive species
- no water waste; -updated irrigation -education as to save water-every ounce has a purpose
- Question: how manage water with generational change in rural communities?
- Partnering with our ecosystem & emulating natural systems
- State match funding
- Funding availability for projects
- Creative & sustainable funding
- Financial packages for on farm improvements
- Regional education efforts w/ funding support
- Community understanding of issues and solutions
- Basin-wide program to educate/assist farmers in water efficiency improvements
- Community Involvement (positive!)
- Regional flexibility to move & manage water
- Flexibility in water law allowing adaptive water marketing to meet water needs
- Flexible instream water management to adapt for climate change/timing of water supply
- Flexibility of water law to allow innovation in problem solving

- Collaboration not litigation
- Collaborative, incentivized on-farm construction programs
- Reduced litigation to allow projects to move forward
- Everyone accountable [...] their roll
- water for farms, fish, and families
- Planning for the future
- transfer of information
- interdisciplinary integration stakeholders
- Standardized water tracking and data sharing
- Long term solutions for healthy, clean water with enough for everyone Past the 100 years
- Lowering of our carbon footprint to make significant impacts on all our resources, within 20 years
- A sustainable and thriving (social)(eco)(econ)(agri)system that can support a human civilization for the foreseeable future
- Adaptive collaborative water management Efforts/solutions across the state
- Everyone working collectively for the benefit of all, despite differences
- Adequate, safe water supply for all resources
- clean drinking water for all Oregonians
- Healthy Environment w/o impacting Economics
- excess capacity available for further development (water & wastewater)
- maintain stability through seasonality
- Changes: -attitudes -understanding the overall value of water - we need to survive overall
-review water right laws - update
- Success: Ecosystems (Aquatic/Riparian/Estuary) protection & restoration recognized under the vision as integral to sustaining water supplies and supporting human communities & economies
- Protection of fish, wildlife, and endangered species through all improvements & development
- No lawn in landscapes that don't "demand/require" them
- Surplus in the water budget
- No over allocated systems
- Quantifiable savings of water
- Success: Oregon policies and systems, funding, and water law support water supply & management for resilient ecological and human communities
- Enforcement for "abusers" - change perception of waste & "use it or lose it" approach
- Incentive programs for end-users to improve irrigation efficiency & upgrade systems
- Representative
- Adaptive & flexible
- Measurable outcomes

- Clear role & responsibilities
- Adoption & Implementation
- Everyone getting along
- Meeting ALL Needs Instream & Out-of-stream
- Valuing ecological system services
- Flexible adaptive legal framework w/ accountability
- Adaptable systems - Planning Governance infrastructure etc...
- Success finds compromise in co-mingling water resources for multiple uses. In doing so, we take into account legacy of impact to natural systems in developing targets for ecological systems
- Collaboration Break down silos
- Bottom up Not Top Down
- Maintain the long term vision Look out at least 100 yrs. UPDATE
- Green energy & infrastructure
- (more) Consistent Flow Throughout the year in the Deschutes w/ High Quality Water
- Sustainable/reliable supply of water to sustain regional agriculture and ag economies
- Upper D. integrated water management so Ag-envir-community [merits] met (as [...] as possible)
- Broad consensus-based plan on how instream & out of stream uses are met in the basin. Timely implementation. Policy/regulatory frameworks to facilitate.
- Sufficient data on hydrologic conditions. Equal priority to environment.
- Allow for flexibility of management, and diversity of perspective and regulation across Counties to maximize effectiveness of Strategies in each unique region.
- Honest inclusion of environmental needs (and funding for) in the 100 year vision

What's missing for the current draft of the Water Vision?

- Water rights, water law
- Population growth
- Addressing climate change
- Limited resources
- Clean up of mistakes in water management- lack of accountability
- Education for general public
- Not "All Oregonians" → "All Oregon"
 - Inclusive of ecosystem services and environment
- Recreation and tourism
- Prioritization of goals
- Using ecosystem services as the foundation of goals
- What are the metrics for implementation?
- Invasive species



Ontario Community Conversation Meeting Summary

October 28, from 9am to 2pm, at Treasure Valley Community College

Prepared by: Bryn Hudson, Bryn.E.Hudson@oregon.gov

The Ontario Community Conversation began with opening remarks from Harney County Commissioner Mark Owens, State Representative Lynn Findley, and State Senator Cliff Bentz. In total, 40 people were in attendance, representing cities, counties, agriculture, watershed councils, irrigation districts, and even a Treasure Valley Community College class. We discussed the unique water challenges faced by our local communities, the definition of successful water visioning, what the current draft of the Water Vision is missing. Harney Commissioner Mark Owens, and Benda Smith from the High Desert Partnership, and Jay Chamberlin from the Owyhee Irrigation District gave presentations on Harney Basin Place-Based Planning Group and the Malheur siphon project, respectively.

The bullet points below were taken from the large group conversations and associated flip chart notes. They do not necessarily represent all the viewpoints in the room, and are not intended to be shared opinions across the entire group.

What water challenges we are facing now, and in the future?

Large Group Discussion: Flip chart notes

- Aging infrastructure
- Cycles of dry and wet years
- Storage
- Development and cost of technology to increase efficiency in agriculture and waste water treatment
 - Unintended impacts
- Sedimentation
- Invasive species-carp and mussels
- Needs for place-based solutions
- Regulatory red tape and costs associated
- Litigation
 - Lack of trust in state regulatory framework and monitoring
- Lots of federal land-makes conservation/restoration difficult
 - Most restoration occurs on private lands, but water doesn't abide by jurisdiction
- Lack of data and interpretation of data
- Upstream source management
- Federal-state-private red tape
- Issues planning for future funding
- Measurement and accounting of water
- Lack of education around water
 - Funding issues and not mandated education

- Rural-urban divide and misunderstanding of water usage for agriculture and where food comes from
- Reframing water usage
- Lack of ground and surface water to meet current needs status quo
 - Over allocation
- Agriculture is not explicitly addressed as food supply
- Available and qualified of water workforce
- Cost benefits around water investment
- Lack of agricultural story
- Where is the electricity piece?
- Regionalization of “Water Visions”

Small Group Discussion: Post-it notes

- Costs
- Control/Priority
- Regulations/Standards
- Litigation Nightmare
- "One Size Fits All" Statewide Plan
- Storage
- No Incentives for Conservation
- Trust
- Cost
- Meander
- efficient irrigation means
- Flood control
- Pollution control
- Natural river functions
- Measurement/accounting
- Droughts/water supply timing
- Aging supply/delivery infrastructure
- Science/R&D integration
- Policy/rules/laws outdated
- Investments for now and future
- Factors outside OR control
- Flexibility of current rule & law policy
- Funding
- Lack of inaccurate education and knowledge
- Lack of infrastructure
- Water Quality with increased population

- Regionalization of Conservation
- Possibility of ground water lack
- Mitigation of economic disruption change
- Maintain Agriculture Position
- over allocation groundwater over use, variable surface water yearly, low permeability geology, quality of well water for domestic use, conservation is slowed by current policy "lose if don't use"
- Large pivots draining [aqua] 300 gal/min; causing wells [levels] water quality is bad; the crops are not being used but sent from this area; private farms (not large ranches aren't able to grow crops, etc.
- water rights transfers to Riley area from Harney basin; slough water diverted mud grass
- Challenges 20 years from now: potential de-population trend; Disproportionate impact to rural; Negative on agriculture to feed the world
- Challenges Now: Quality - Degraded; Quantity - [decreased] Groundwater; Economic - Ag Economy; Ecological - migratory birds/sage grouse/forest mgmt
- I. Keeping Promises/expectations protected. II. Encouraging higher value crops with an ever more expensive water component.
- Challenges of the "Use it or lose it" nature of the water Law
- All the lateral piping & conversion to sprinklers may have an effect on groundwater quantity. How do we compensate for that? Sometimes a correction results in another problem.
- The reduction in water/run-off is damaging the environment - birds, timber, and groundwater
- What is the proper standard against which use of water is to be measured? - money/cost?; -"public" good?; -first in time?; -export of crops?
- Ag-based communities are supported by water. Without it, everything we do stops. Also there are a lot of exporting of crops, so the ag communities aren't the only issues, it affects further out
- Limits of Technology
- Farming & domestic use will need to change as the climate changes
- Oregon Rules laws - put into use on Great Basin; Lake County Ag depend & more than most counties - no other economy besides government; Revise OW[R]D; non-economical use
- storage built to help [mitigate] dry & wet years.; Feeding a growing population with a larger focus on entertainment & recreation than how food is produced
- Ground water/surface water modeling that groundwater [provisions] are made on are not backed by science locally. Statewide modeling "Hunt 99 & 2002"; Transfers are 2-5 years behind; final proof on water right 10-20 years; Great Basin - totally different; Dams - revisions in Great Basin; Cities [inequitably developed as best last close] to ports etc...now want to repopulate us.

- [Paying] for projects; Find more funds for small communities, keeping up with mandate
- Not enough storage today; Infrastructure; [TMDL]
- Funding Eastside understanding - West/East side issues; Desert; War, water
- 1. Consistent supply 2. Balancing need between City/residential [USFU] Ag/commercial use 3. Technology - costs for upgrades & [infrastructure]
- Regulation - OWRD
- Watershed has lots of pollutants; Water invasive species; cost of water efficient irrigation
- Dirty water in Snake; misuses can damage our farming, salmon & steelhead; dripline irrigation can help; cost of everything affects H2O; legislation help water cost
- To[o] much sediment in Malheur River; Owyhee River had a drought how can we fix this? from coming back; farmers switching their irrigation methods but can't do it cause of the cost
- Cost of irrigation methods; invasive species; funding issues; biofilters lacking
- invasive species; carp in the Snake River; sediment in rivers; most people rely on the Owyhee dam for irrigation; cost of better irrigation practices; funding for sediment basin
- Invasive species
- Now: demand up, supply down; GW Declines [...] 20 Yrs: Pop up, snow down
- Quality: municipal use, industrial, agriculture
- quantity: best practices, infrastructure, water use, actual [measurement]
- Flood control - storage capacity; Flooding - erosion, sediment, flash flooding; Doing more w/ less (conservation); *How to best use science to address the issues - farming practices; R&D
- Clean water; Lewiston has a dam how is it effecting our fish; high water
- Now - flooding, clean water, droughts; 20 years -
- Now/in my town we get high water levels (too much water); 20 yrs/ If weather continues to provide more & more rainfall & snow, then more water will be a danger to community. The vision does not represent around my area.
- 1. Quality 2. Droughts; need science to develop better methods of water transport Example: drip irrigation [with onions] uses 60% of fu[...] irrigation w/ yields increasing by 30-40%, thus 1/2 water per ton
- Workforce! How do we continue to get the younger generations interested and invested into current and future plans? - for failing and ageing infrastructure where do the investments come from?
- What can be done to improve water quality? What can we do to get communities/households involved? Without an open public form/interest how do you get folks to understand the need for conservation?
- Regulatory Hoops to jump through for restoration work. Litigation on federal lands resulting in 0 to little restoration work.

- Water Quality; Aging Irrigation Infrastructure; Drought years; Funding to repair or upgrade infrastructure; Regulations delaying or halting restoration work
- Shortages Drought; Water Quality Issues; Gov. Overreach; Innovation pressures; Changes in land use [with] state & Fed.
- The Cost of Doing Business; Aging Infrastructure; Ag Base Changing with Growth in the Western states. Changing water use.
- Meeting instream [resources]; Crumbling Infrastructure; Perceived Water Quality Issues; Burden of Paperwork; Cost of Management; Watershed Health (Federal Management)
- Aging system; increased demand; changing use/practices; Forecasting data; Finances; Building storage; closing open systems; Area population shifts/changes
- Water Quality in regard to food safety; Public investment; Multiple uses issues; Long Range planning
- Modeling and Data; Capacity
- Lack of understanding of specific needs of individual areas
- Ecological zones should be recognized (including the knowledge that humans are part of and inevitably affect the ecology around them); Economic zones; Watershed zones; "Nature dominated" zones; Areas should be decided by these influences. --> For example a forest/BLM area has a relatively low human influence, so should be rated per a very rough example 1-10 in each of these 3 areas. E 2; W 5; N 9; and the areas needs should be based on that
 - Example (E)conomic areas would include cities, farms, landfills, etc. Areas of high human influence. (W)atershed areas would be big lakes, rivers, reservoirs, etc. where water influence is high
 - (N)ature dominated zones rightly use BLM land, paths for wildlife species, forests, wilderness areas etc. places where flora and fauna influence is high.; Each area of management should be surveyed and given a rating in all 3 (or more as needed) and plans should reflect the specific needs of the collected data. Large blanket plans sometimes ignore important details because of the important factors of a specific area.
- Antiquated water rules
- Is there classroom education in schools showing the issues of water vision before it's too late? Enforcing if school curriculum?
- Increase in wildland fires and consumption of water. Natural disasters! Drought climate Fires!
- Control/water regulation Flooding; pollution going back in Ag [...] work; 20 years from now: over use/population; pollution going back in
- Keeping a healthy ag community & rural economy
- Funding to implement strategies
- Maintaining flood meadow irrigation for ranching & wildlife
- Maintaining an adequate groundwater levels

- Adequate & quality for domestic users
- Climate control
- Land management for healthy, resilient ecosystem
- [Lack] of [EW] & SW to meet all needs; Lack of knowledge of our resource; Lack of flexibility in RPL; [...]
- Lack of storage; outdated water law - water law regional; over use 20 yr - economic change
- Ground water stability recharge; water for future for Agriculture (Food & Fiber) for future (population [increase]); water for rural communities and how/what its used for "people Locally agreeing"; Urban/Rural challenges views

Case Study Presentation

Harney Basin Place-Based Planning Group

Presenters: Harney County Commissioner Mark Owens and Brenda Smith (High Desert Partnership Executive Director)

The Harney County Watershed Council and the Harney County Court are co-convening a collaborative, community-based water planning effort that will examine water needs in Harney County and develop a strategic plan to meet those needs. This local approach gives communities a greater voice in determining their water future. The need for local, collaborative water planning was identified in the statewide Integrated Water Resources Strategy and is being supported by a grant from the Oregon Water Resources Department.

More Info: <http://hcwatershedcouncil.com/community-based-water-planning/>

Owyhee Irrigation District: Malheur Siphon Project

Presenters: Jay Chamberlin

Jay spoke about a variety of issues around the integrity of the irrigation and piping infrastructure that is required to carry the flow of water to the users that need it. Whether it be outdated, broken, or inefficient water infrastructure systems, the District has worked to establish community based partnerships to generate creative funding solutions to conduct these critical repairs and replacement.

More Info: <https://www.owyheeirrigation.org/oid>

What does a successful water vision look like?

Large Group Discussion: Flip chart notes

- Clean drinking for all users
- Creation of a flexible judicial system for water
 - Flexibility and adaptability in regulations, policy, and law
 - Local control and regulation

- Primarily around water conservation (for humans and the streams)
 - Creating laws that incentivize it
- Instream water project permits
 - “Water building code”?
 - Local and state inspectors and codes
- Umbrella for state vision
 - Smaller, more localized vision
 - Adaptable, regional strategies
 - Ensuring equitable and flexible policy for rural and agricultural industry
 - Flexibility vs. control
- Systems and strategies are at their best, funding is not restricted, data is perfect-only thing to worry about is nature
- Funding certainty-federal, state, and local
 - For now, up front, and sustaining
 - Funding efficiency
 - Speed up funding structure
- Using markets to transfer risk and create a market
 - Give space for financial innovation
- Increased natural infrastructure
- Collaborative community based solutions
- Expansion of career and job opportunities around water
- Expansion of technology to increase usage efficiency

Small Group Discussion: Post-it notes

- Updated Infrastructure
- Sustainable water for Ag Communities
- Redefine Residential standards for use
- Local control
- More Money/Faster Money
- Building Code for water
- Different Judicial System
- Federal, Inter-state, Oregon Changes
- Local Leadership Developed
- Flexibility & Adaptability in regulation & policy to get the work done
- Local control
- Learn from innovative industries having defined products/priced allows us to manage risk and access \$ in new ways
- Create the space to allow innovation
- Increase in Natural Infrastructure
- Community is working together

- Career & Job opportunities
- Communities that are able to sustain ourselves economically, socially, ecologically with innovative strategies that are supported with \$\$ through state, federal, local funds.
- When the only variable is Nature
- increase natural infrastructure
- Bottom-Top engagement
- Delisting ESA/CWA/CGAs
- State that supports Local Planning & implementation that utilizes our Public Resource to enhance Ag, ecological, social opportunities
- Adequate water for conservative living, I.E. less focus on lawns etc...
- Sustainable water use for agriculture and future generations in agriculture
- The end result is it works. The Benefit is worth the Investment.
- Projects get done & it does not take 100 years.
- Lasting Effects That Work
- Reliable; sustainable; cost effective; High Quality; All stakeholders satisfied; Funded
- Reductions in pollutant loads to the Snake River & Tributaries to Snake.; Innovative irrigation infrastructure improvements & replacements; Partners working across all jurisdictions
- Team work with all parties working in the same direction. Trust each other; Believe in what is best for all
- That our system stays the same. It is working!
- Vision: Move the first sentence down farther in the paragraph. Steward water use resources to ensure clean & abundant water for our people, our economy and our natural & built...then climate change
- Successful agriculture thriving in the basin; Clean drinking water for all users; groundwater dependent ecosystems are stable; migratory birds are still using the basin as a stopover; local input is valued and used
- Adaptable regional strategies
- The ability to make changes regarding climate issues & changing economics without upheaval
- Water used efficiently; fewer farms going out of business; groundwater management & protection; economic stability of ag-based growers, businesses, etc.
- 1. Reliable consistent irrigation water 2. Economically efficient and locally Approved 3. Quality drinking water in all Oregon municipalities
- We need a 'different' judicial system. Specialized judges, accelerated decisions.
- Updated infrastructure delivery systems; modernize
- We need markets. These may trade physical commodities or they may trade virtual. Markets transfer risk and minimize arbitrage.
- We need to allow the definition of "products" to segregate users/economies/policy. It's not all the same.

- We need Federal & State systems to become less distinct. Changing/Improving state systems does no good if Federal systems are unchanged.
- We need a building code for water infrastructure projects to limit endless litigation.
- We need to enable risk to become associated with monetary rewards and not just legal/litigation penalties.
- We need local decisions, control, and enforcement. A PUC model is bad.
- Measured Improvements All Interests, Needs vs. Wants; Long-term water supply certainty, [...] GW; [increase] Reliance of Natural Infrastructure; Long-term & sustainable data improvements; Bottom ->Top engagement in management; De-listing ESA/CWA/CGAs; Funding Sources not controlled by two yr political cycles
- Generation Farms & Ranches are still in operation and the small town is still prosperous
- Our community is still thriving and Agriculture is still the backbone
- Remain a critical stop on the Pacific fly [way]
- There is funding to implement funds
- Thriving ag & ranching community
- We are a model for how to work through complex issues
- Community is engaged in its future around water not fighting

What's missing for the current draft of the Water Vision?

- Acknowledge impacts from tech bi-products; impact on environment from consumption/affluence
- Addressing policy, rule, law → decision making foundation
- Lack of governance language
- Comprehensive approach
- How are the four goals integrated?
 - Energy, land, and air infrastructure interacts with water
- Geographically → regionally, community-based



La Grande Community Conversation Meeting Summary

October 29, from 9am to 2pm

Prepared by: Bryn Hudson, Bryn.E.Hudson@oregon.gov

The La Grande Community Conversation began with opening remarks from Councilmember Kat Brigham of the Confederated Tribes of the Umatilla Indian Reservation, Eastern Oregon University President Timothy Seydel, and Union County Commissioner Donna Beverage. In total, 40 number people were in attendance, representing federally recognized Tribes, cities, federal agencies, counties, environmental groups, watershed councils, irrigation districts, and many more. We discussed the unique water challenges faced by our local communities, the definition of successful water visioning, what the current draft of the Water Vision is missing. Dana Kurtz and Eric Quaempts of the Confederated Tribes of the Umatilla Indian Reservation gave presentations on the Grande Ronde Place Based Planning group and the Mecham Creek Floodplain Restoration, respectively.

The bullet points below were taken from the large group conversations and associated flip chart notes. They do not necessarily represent all the viewpoints in the room, and are not intended to be shared opinions across the entire group.

What water challenges we are facing now, and in the future?

Large Group Discussion: Flip chart notes

- diminishing ground water → shift to surface water and issues with surface water quality
- intergovernmental barriers
 - lack of collaboration, everyone has an agenda and history
 - there needs to be shared benefits for all groups to feel like it's worth it
 - alignment
 - cross agency coordination
- limited resource with unlimited demand and uses
 - culture needs to balance
- infrastructure talk needs to focus on upstream impacts
 - storage upstream → reduction of flooding
 - How can we quantify amount of water coming off federal land?
 - Rate and volume
 - Federal collaboration on public lands
 - Restoring streams on public lands
- Trustful data sharing
- Aging water workforce
 - Creating jobs for incoming workforce and ensuring proper education
- Need good data instead of defensible
- Engage younger generations to ensure farming stays alive
- Ensuring inclusivity and equity

- Crop selection
- State (OWRD) money to manage water
 - Intersections with Tribal Rights
 - State needs to have data and confidence to regulate water
- Data privacy in working with land owners or other private entities
 - We should use bottom up systems to ensure trust in data sharing
- Beaver trapping on public lands

Small Group Discussion: Post-it notes

- Water and land use -- plan to be there
- Oregon Water Resources Department and Department of Land Conservation and Development should work together to plan/regulate
- Legal, defensible Data- connecting ground water and surface water
- partnerships with all local entities, tribes, state plus federal
- trust, respect, listening among all
- don't know how old the water infrastructure or how much it will cost to repair
- We need good clean cold water for all
- Linkage between all water areas-- land, air plus water
- No ocean/land connection
- water quality
- minimum instream flows
- Climate change
- Water conservation a priority for all water use
- Columbia River Treaty
- Bad areas reviewed to avoid in future plans or amend to avoid the situation
- River vision
- Current water permits be monitored and enforced by a local water master
- Farmers feed the local area/us
- Chemical impacts to water and land
- Agriculture Crops being grown in the Grande Ronde valley for profit but not designed for our dry region-- I.E. Kentucky blue grass, peppermint uses 10x the water of dry land wheat local food water quality chemicals
- Climate change causes less snowfall earlier snowmelt, less summer surface water, higher water temperature, higher evaporation, and therefore less healthy forests fish recreation poorer economy and irrigation
- Taking flood systems for granted: How will Oregon supply food to a growing population by 2050? Aging farmers, water access, urbanization, 9 billion pop by 2050, food doesn't come from Safeway!

- Preservation and future access to water for people and for agriculture-- large farms and small farms (3 very different issues) DATA: What is our resource? GAP! How can we know what's going on?
- People are left behind due to a lack of political and economic power - small farms and towns
- Reliable irrigation water access either from storage or river
- Where are the water masters in this discussion?
- CLIMATE CHANGE MORE PEOPLE MORE MIGRATION
- River access for transport systems
- Irrigation from ancient aquifer -- 1000 ft down uses 2 million 200 thousand gallons of water/day (pivots) -- moratorium on new wells drilled prompted many to be put in before the date
- Ancient lake was never tapped before-- will not recharge forever is my guess with climate change
- Data needed to verify storage issues (mining/stock) not assumed
- Need data on aquifers and chemistry at source
- Flooding spring-- not enough for agriculture in the fall
- Need water storage in union county to help fish, tourism, energy, agriculture, towns
- Need data more gauged to know what we need and where we need it
- No data for groundwater
- Funding needs based on local issues
- Municipal water supply located in National forest that needs treatment (Baker city)
- Water assumption "We have water in abundance AND... we do not need to plan for it..."
- Water needs to be center of conversation vs lateral conversation
- Impact from water users to decision makers
- Projects that can harm neighbors no public input
- Projects funded in a vacuum no public input
- Local state federal government to government dialogue
- Water distribution for irrigation needs infrastructure (pipelines/pivots/etc.)
- WATER STEWARDSHIP EDUCATION OFTEN DOES NOT INVOLVE THE FINAL USERS
- LIMITED RESOURCES... UNLIMITED NEEDS
- Share data
- Resiliency community departments understand their roles to coordinate in an emergency
- Lack of future water/infrastructure operators - jobs
- Lack of rural capacity to seek funding time staff knowhow
- move to regional (basin) financial infrastructure system/process
- Policy
- Funding plus funding through grants

- Flooding
- Shift of funding decisions gross roots and local
- CLEAN DRINKING WATER
- Flooding in the Grande Ronde Valley potentially worse in the future
- Equity, access, awareness
- GROUNDWATER RECHARGE
- ABILITY TO CHANGE MOVE WATER INFRASTRUCTURE
- Water available when its needed
- WATER AVAILABLE SURFACE GROUND
- Inadequate aquifer mapping
- Uncertainty about groundwater aquifer capacities sustainability levels
- DAMS STORAGE
- Climate change/drought
- Too dense forests
- Antiquated water rights policy
- Increase population
- Irrigation efficiency
- Inadequate education
- Inequity in cost/value of water
- Fish
- Commercial shipping
- Superior quality standards implemented at all times
- Waste!
- Ocean temps
- Surface water deficits in late summer- potential for snow pack infrastructure advancing hydrograph -- associated water quality
- Data gaps (groundwater impact of flood irrigation on late -- season stream flows)
- Quicker action on the ground is needed rather than multiple years feasibility studies projects now not later
- tension around flow minimums
- Public awareness of various needs
- Information gaps data gaps
- Aquifer recharge
- Clean water for communities
- Water for agriculture
- WATER EFFICIENCY AGRICULTURE plus URBAN
- Water quality (livestock, sediment, turbidity)
- WATER QUANTITY
- WATER TEMPERATURE (COOL WATER)

- Adequate WATER FLOW
- WATER QUALITY STANDARDS
- WATER timing availability through summer
- FISH PASSAGE
- WATER STORAGE ON LANDSCAPE
- TARGET TIMING AVAILABILITY THROUGH SUMMER
- WATER WASTE
- Diminishing groundwater levels -- municipality concerned about access to drinking water (Hermiston)
- Water quality of surface water sources -- municipality with right to Columbia river, spring runoff in spring '19 increased turbidity to a point that we couldn't process it, fear that breaching lower-source dams could make this worse
- Lack of management incentives
- Infrastructure delivery for growth
- Conservation and safety -- municipality (Hermiston) with 80 miles of aging piping which leaks and is corroding
- Ability to re-use effluent beneficially -- many examples of using industrial process water for multiple uses (irrigation), challenging to implement affordably, amazon web services (morrow plus Umatilla counties)
- Not having "quality" plus "quantity" in same agency
- Infrastructure grey water
- Quantity -- critical demand
- Inequalities state to state etc.
- Exempt wells should not be...
- Collaboration individual needs
- Competition among jurisdictions
- Quality temperatures GWAMA
- Low funding/high cost to develop alternatives
- Bringing water out of the Columbia down to recharge aquifers -- yes
- Municipal fish irrigation power (electricity) environmental
- Critical ground water
- Declining Aquifers
- WAIT
- Cumbersome regulatory process
- 1. degraded streams on public lands results in low base flows, high peak flows
- 2. Little information on amount of water coming off public lands v few stream gages
- 3. lack of public land agencies ODFW interactions so their decisions support restoration of stream systems on plus BLM rather than negate each other's efforts 4

- 4. ignoring contributions of beavers plus wolves in restoring water systems on public lands - see water plus wildlife as distinct rather than overlapping in influence
- 5. Lack of trust between groups related to land management decisions b/c no effectiveness monitoring to see what does/does not work
- 6. Unwillingness/reluctance of put land owners to share info they have plus add it to the pot of knowledge
- Lack of funding to restore forests to restore forests plus lack of willingness to allow public participation
- DATA and INFO TO SUPPORT DECISIONS (Missing from Vision)
- LACK OF TRUST AMONG WATER STAKEHOLDERS (Missing from Vision)
- Lack of reserved water rights for instream flows and consumptive uses
- Water quality impairment temperatures
- Insufficient instream flows for fish
- Impaired flood plains
- Over developed basalt aquifers in Umatilla basin
- Cost effective instream flow measurements stream flow gages
- Continued commercial and recreational trapping on public lands
- Flood control catastrophe
- Recharge upper aquifer soils
- Adequate water for irrigation needs spring through fall
- Develop water recreation opportunities in Grande Ronde system
- Consideration of downstream consequences from upstream engineering
- Water quality: Stream temperature rising
- Poor water quality in some of our streams
- Water quality: temperature and chemicals
- public education re: water resources and use
- Tribal treaty rights not clear on quantified
- No surface storage in the Walla Walla Valley
- Water Markets: Wall street investments in surface water and ground water in the west
- Supply: Not enough water in river for fish and farms in the same summer ESA fish and tribal reintroduced species
- Supply: Lack of instream flow
- Supply: Water deficit in summer months
- Supply: Small streams going dry earlier and more often
- Declining Aquifers
- Lack of knowledge about aquifers and how fast they are potentially being drawn down
- Shallow aquifer dropping 5 feet a year over 80 years wells going dry
- Basalt aquifer dropping 3-5 feet a year in ground water management plan area
- Aquifer: Groundwater declines

- Aquifer: Levees -- old falling apart -- impacting fish -- lack of habitat
- Aquifer: flood control levee fails every 5-10 years and it does not meet fish passage requirements
- Aquifer: City water infrastructure needs repaired/replaced
- Aquifer: Reliable clean drinking water into the future
- Flooding in spring
- Flooding: Forest management practices
- Funding: 4 water planning efforts ongoing but no consistent funding for stakeholder encouragement
- Funding: Small towns struggle with water infrastructure costs
- Politics and Regulation: Water regulation
- Politics and Regulation: Limited understanding of what water supplies exist EX: not enough funds for stream gauging
- Politics and Regulation: Limited funding to implement infrastructure projects at scale
- Politics and Regulation: Flexibility of how to use storage water if there is community support e.g. ability to release and protect instream as we flow for fish and other culpable uses
- Politics and Regulation: Long time to process funding applications
- Politics and Regulation: Integrated water management ground water and surface water
- Politics and Regulation: Money to back state OWRD in regulating water and reserving court battles
- Politics and Regulation: Not everyone understands or has same understanding of water law e.g. "use it or lose it" without understanding interest/buy in projects
- Politics and Regulation: Funding requirements don't match on the ground realities e.g. OWRD grant require every single landowner to signoff before a piping project even though the 1 has easement

Case Study Presentations

La Grande Place-Based Planning Group

Presenter: Dana Kurtz

The Upper Grande Ronde River Watershed (UGRRW) Partnership has been participating in a 5-step place-based integrated water resources planning effort since late 2016. The steps have included: 1) convening a diverse partnership, 2) characterizing basin resources and water supply, 3) quantifying demand for water quality and quantity, 4) developing strategies to align supply and demand, and 5) creating a strategic action plan for implementation. The group is currently working through developing solutions to address critical water issues in the watershed (Step 4). We hope to use our completed plan to implement projects that will improve water quality and quantity throughout our basin during critical times of the year.

More info: <http://union-county.org/planning/place-based-integrated-water-resources-planning/>

The Confederate Tribes of the Umatilla Indian Reservation: Mecham Creek Floodplain Restoration

Presenter: Eric Quaempts

The First Foods approach (to protect, restore, and enhance the First Foods - water, salmon, deer, cous, and huckleberry - for the perpetual, cultural, economic, and sovereign benefit of the CTUIR) is used by the Confederated tribes of the Umatilla Indian Reservation to inform population and habitat management goals and natural resource policies and regulatory mechanisms. Sound river (water) management and restoration include the need to develop a systemic and holistic vision of a functional river. The CTUIR River Vision provides a framework for planning management or restoration efforts, a benchmark for assessing management progress and outcomes, and a context necessary for understanding the role of any specific management decision or action in the context of other decisions or actions.

What does a successful water vision look like?

Large Group Discussion: Flip chart notes

- Have water quality and quantity that meets multiple needs and uses
 - Ensuring we have the data necessary to use groundwater sustainably
 - Sustainable uses and balance
 - Ensuring multiple uses for that same water
 - Have water quality and quantity experts all under same roof
- No 303d listed streams
- Usage of natural infrastructure as a management tool
 - Flooding in the spring and low water level in summer
- Increased agricultural efficiencies to create a water bank for emergencies
- Abundant and stable beaver dams complexes
 - Flood and flow control
- All watershed level participation in planning
- Use a CREP approach to private land owners to help manage water/flooding
- Education and understanding from all users about conservation
- Safe drinking water for all
 - System resiliency after natural disasters
- Upgraded pipe infrastructure to increase efficiencies and reduce loss-conversation
 - Proactive infrastructure management
 - Quantification of water usage, waste, and conservation
 - Active recharge of groundwater resources
- Continuous state and federal funding for monitoring water data
 - Consistent storage, access, availability data

- Comprehensive information systems
- Interagency coordination and responsibilities
- Publicly available data about water and investments
- Ensuring public participation in restoration and monitoring efforts
 - Strong community engagement and public buy in
 - Promotion of new businesses to promote conservation
- Have consensus for community based implementation
- Promotion of new ag
- Ensuring strategic data collection methodology
 - Ensure private land owners have accessibility and can tell their story
 - BE COMFORTABLE WITH RISK AND LEARNING OPPORTUNITIES
- Embracing new technology to enhance data collection
- 100 year vision as a good place to start to do good
 - Do good, not look good
- Ensure equity
- Adequate valuation of water in the future
 - Allow ag users to see benefits of water conservation
- Clear connection from water to our food system in order to meet population needs
 - High farm productivity, sustainable, with an enthusiastic young workforce
 - effective flood mitigation on ag lands
 - support behind ag
 - modernized irrigation efficiencies
- increased soil productivity and decreased cost of farming
- water in a basin, remains in the basin to assist with fish population, farms and economies in the basin
 - keeping dollars and waters in communities
- increased awareness

Small Group Discussion: Post-it notes

- Water quality and quantity that meets multiple needs and uses
- 100 year vision planning is already a successful strategy
- Sustainable management of water
- Natural storage
- Resilient water distribution after a natural disaster
- Shared water resources such as infrastructure staffing and funding
- Built storage for flood management and water deficit in fall
- I really like tribal approach "natural infrastructure investments"
- Multiple uses of the same water amazon web services in morrow and Umatilla counties sends their warm cooling water to irrigate crops and keep out streams
- Working collaboratively with area partners to solve regional problems

- Add language to "goals" (economy) to "specify"... support local economic vitality... or "support Oregon based economic vitality"
- Beneficial reuse of municipal wastewater city of Hermiston discharges class a to westland irrigation district ZMGD
- Aquifer storage and recovery i.e. injecting water in winter to when it is not needed - challenge is ensuring that the entities who engage in ASR can actually get the benefit
- Partnership within basins; Oregon Water Resources Department and Department of Land Conservation and Development plan regulate the resources together
- Collaborative approach
- Sustainable water resource to secure livelihoods
- Aging infrastructure have been replaced
- Ability for rural communities to thrive in the future
- Better living conditions in the future than in the past
- Community infrastructure involvement
- Enough water for municipal agricultural and instream demand
- Data to ensure groundwater use is sustainable
- Accurate and available data for decision making
- Efficient infrastructure
- Infrastructure to capture spring runoff/release later in season
- Infrastructure in place to prevent catastrophic events
- Healthy stewardship economy
- Water for people and nature
- Lasting fish passage partnership
- Cooperative local water planning
- Rebuild (reinforce) Wallowa Lake dam
- Easy fast grant applications and deployment
- Healthy (fire resistant) forests
- Lots of fish
- Keeping water in the watershed longer multiple uses storage for timing recharging aquifers
- Systems that are considerate of water conservation and sustainability
- Public awareness of the water system and roles of different collaborations in conversation
- Funding for monitoring (DATA collection)
- Easy access to data from all agencies (federal and state)
- All levels (private urban federal farmer) Participation in conservation
- Consistent technology between monitoring groups
- Promotion of new businesses and collaborations that promote the vision
- Conversion to efficient irrigation practices/uses

- Collaboration between agency and landowner
- Incorporating groundwater recharge into irrigation district projects
- Public awareness of the importance and scarcity of water and water bearing watersheds
- Restore surface water and groundwater levees from fish recreation cool groundwater returns and for well use
- Updated restored infrastructure provide water efficiency for out of stream and out of grow uses municipal farm
- Proactive management cities levees
- Sustainable municipal water supply
- Limited liability when sharing data
- State wide engineering lidar
- State wide bond to match federal funding
- Enabling irrigation districts to self-fund projects e.g. collocating fiber optics with irrigation district infrastructure e.g. hydropower installation
- Funding: Water management and irrigation districts through installation of telemetry and SCADA
- Funding: Open up the small scale hydro market
- Clean drinking water for future generations
- Use water resources efficiently plan
- Robust agriculture economy with efficient irrigation
- Sustainable groundwater use
- Balance of water use Instream economy municipal etc.
- Community resilience in the face of climate change and disasters
- Healthy watershed that meets the needs/wants of local communities
- Beavers across the national forest
- Flood management with multiple purposes
- Increase in summer base flow and a decrease in summer stream temperatures
- Open up the small scale hydro market
- Water quality and quantity to support aquatic species
- More floodplain area allowed to engage with high stream flows
- Functioning floodplains storing water cleaning and water reducing floods
- All diversions screened
- Agriculture efficiencies so groundwater aquifers are no longer depleted need data
- Completed design and annual operating budget of a comprehensive water data base and established division of authorities among state agencies
- Happy farmers tribes fish beavers elk people
- Transparency of water rights allotment for all users small farms large farms rural residents city users
- Adequate water available for all needs nature industry water ag municipal recreation

- Efficient use of surface water resources in multiple use
- Abundant fish populations, cooler rivers, rivers connected to floodplain, local distribution of local ag production, publically available data about public water flow aquifers
- Safe drinking water
- Engagement of community members from grade school on up to adults in public lands restoration leading to improved mental and physical healthy and increased social connection
- Strong awareness on the value of H2O and public lands active participation in their care
- Ease of data sharing and limited redundancy
- Abundant and stable beaver dam complexes on public lands with abundant beavers
- No 303d listed streams good base flows abundant wildlife decreased community sensitivity to drought floods
- Abundant private land areas that serve as temporary flood storage zones by reach modelled on a CREP approach
- abundant widely distributed monitoring site for temperature flow wetland creation etc. that capture change overtime and can tell the story of change

What's missing for the current draft of the Water Vision?

- Local economic vitality
- Speak to equity
 - For fish and wildlife too
- Oregon will be aware of, value, and steward water resources
- Keeping a water a public resources
 - Protection of privatization
- Adaptive management
- Agency collaboration and streamlining (state, federal, and local)



Albany Community Conversation Meeting Summary

October 30, from 9am to 2pm, at Linn-Benton Community College

Prepared by: Bryn Hudson, Bryn.E.Hudson@oregon.gov

The Albany Community Conversation began with the reading of a letter from The Confederated Tribes of Grand Ronde and opening remarks from City of Albany Mayor Sharon Kanopa, and Governor Kate Brown's Natural Resources Policy Director, Jason Miner. In total, 50 number people were in attendance, representing cities, counties, environmental groups, watershed councils, irrigation districts, and many more. We discussed the unique water challenges faced by our local communities, the definition of successful water visioning, what the current draft of the Water Vision is missing. Alison Hensey from the Meyer Memorial Trust gave a presentation on The Willamette River Initiative and Rebecca McCoun from the North Santiam Watershed Council and Danielle Gonzalez from Marion County Economic Development gave a presentation on the economic importance of water in the North Santiam Basin.

The bullet points below were taken from the large group conversations and associated flip chart notes. They do not necessarily represent all the viewpoints in the room, and are not intended to be shared opinions across the entire group.

What water challenges we are facing now, and in the future?

Large Group Discussion: Flip chart

- Lack of collaboration between agencies and local government
- Lack of data sharing
- Place-base planning should be highlighted
- Water affordability
- A trained and qualified water workforce
- Lack of regional water plans
- What questions to ask today to plan for 100-years tomorrow
 - Siloed policy
- Protection of head/source waters
- Keeping in water on the landscape (i.e. flooding)
- Ensuring future continuity and planning for leadership transitions (elected officials)
- Dealing with limited resources
- Built relationships in community and in regions
- Water quality and quantity
- Impacts of climate change, and data around climate change and projections
- Population and economic growth
- Managing nature for land supply not water supply
- Engagement of business and other new partners

Small Group Discussions: Post-it notes

- increasing demand for our water resources due to growth
- lack of data concerning water resources esp. groundwater
- drought and natural disaster resiliency (e.g. earthquake, flood, drought)
- water conveyance (e.g. irrigation district) modernization (piping); need to eliminate 30%-70% lost to seepage and evaporation
- irrigation districts: in-conduit, low impact hydro-development needed to help fund modernization (piping)
- lack of significant investment in our water infrastructure
- Long term projects need continuity - difficult to do with elected changing regularly
- "in-stream" use of un-needed groundwater as an alternative to using it or losing it.
- More emphasis on green infrastructure
- Planning for climate change - alternative storage?
- Data - reliable? available? usable?
- Groundwater data
- Water laws not keeping up with modern issues
- Funding for Infrastructure
- Arsenic in well
- Expense of failed infrastructure and logging impacts externalized
- drain tiles as accepted farm practice and increasing acreage/flashiness of outflow
- lack of lower Willamette "basin-wide" coordination
- water quality for swimming/boating
- tribal treaty rights and fish passage
- local water, state "control"
- climate change impacts on every day
- quality, quantity, movement data on surface and ground water
- getting regulated off surface rights
- priority dates on drinking and surface rights
- only tribal attention on water for habitat in [...]
- Lack of data (local/regional) systems and types of organizations within the system
- Failing lagoons and other systems
- lack of [broadband] for meters (real time data)
- Reactive now - not proactive response
- SDCs not keeping up w/ need for maintenance and operations and need for future revenues
- Lack of regional approach (creating collaborative (shared) systems)
- Workforce in water systems
- We need to know how much water we have to use.
- Timely communication [from] state [and federal relationships]
- Regional wastewater systems

- [...] burden on local government for upstream activity
- Access to water data
- Dam decommissioning debate
- City capacity funding
- I need qualified people to clean the water
- [certified] operators
- water literacy
- challenges of decision making (crisis management)
- Sustainable funding
- Clean water for crops, houses, and wildlife
- water quality and aquatic species needs
- outdated water allocation system and archaic water rights
- Groundwater recharge -> no data, decreasing availability of recharge
- Groundwater is lower eliminating or ruining shallow domestic wells
- Cost of fish ladder upgrades for minor dam repairs
- Aged water systems
- setting priorities
- Plentiful water in winter and [often] drought conditions in summer?
- Aging Infrastructure
- [...] energy efficiency
- Are we using the best infrastructure we have available?
- climate change
- 100 year - water migration from other parts of the country
- population changes
- population increase vs. infrastructural capacity and water availability
- research for water technology and innovation (use and conservation)
- Infrastructural funding
- Collaboration
- Conservation
- Relationship building
- Lack of flow data/funding
- Understanding how shifts in agriculture affect water usage
- Extremely low [avoided? associated?] power (wholesale) prices for renewable energy generation projects
- State funding for irrigation modernization
- Monetizing more energy benefits [associated] with hydropower projects on farm, on ranch, at irrigation districts
- Data
- Community messaging centered around the value of water

- Lack of built and natural water storage
- Maintaining water quality
- Updating water infrastructure
- Water supply
- Global demand for water intensive agricultural products
- Water quantity and quality
- Water availability for municipal use > 20 yr
- revising vision periodically
- Water runs off. How to hold? Dams?
- Balancing competing demands
- water runoff in urban/suburban areas
- Impacts of invasive plants and climate change on water quality, habitat, and recreation
- Archaic policies around beaver management -> beavers are critical for healthy watersheds, water storage - Oregon needs to change its policies
- Lack of motivation or incentives for water conservation practices (urban, agricultural, industrial) before we get to a crisis
- Affordability for all rate payers
- educating community members on these issues
- Protecting our watershed quality and restoration
- Aging septic/wastewater infrastructure and costs in rural areas
- Workforce development -> lots of retirement, need for training pipeline/new [workforces]
- A need to balance development and growth with stormwater management, old infrastructure and hydrologic and water quality impacts, especially in small cities
- What if the SW wants our water
- residential demand
- Emerging water quality concerns: harmful algal blooms, PFAs, micro-plastics, endocrine disrupters
- groundwater contamination - urban, agricultural, industrial
- city water, wastewater infrastructure; funding
- more data on water use, water quality, and water quantity
- Competing needs - water allocation on Willamette
- Translating the value of water to investments for rate payer [buy: no]
- Climate disruption: quality, availability, emergencies
- Changing water quantity w/ climate change
- Funding for investments in infrastructure
- Difficulty in partnering [in] place-based planning
- Allocation of water usage on rural, farming community

- A need to increase awareness and education for Oregonians around water issues so informal community members can be engaged and support prioritizing these investments
- annual rainfall and seasonal changes (less snowfall)
- Land conversion out of agriculture
- Adequate for irrigation/agriculture
- Timely issuance of water quality permits
- Uneven application of water quality permits (DMAs)
- Now: Lack of new generation of workers in the infrastructure work force (not paying enough?)
- We need a sense of urgency; Decision makers today need a list of questions they ask today e.g. should I approve the development of an additional 200 houses?
- Not enough water
- Raising regulation concerns among rural
- Polluting the watershed
- Regional perspective on groundwater resources - "mining" by certain enterprises beyond replenishment rates sustainability
- Balancing hydropower (renewable energy) and environmental needs
- We need to think about these things now!! Answer questions now that decision makers need to make land/water decisions
- Lack of data on groundwater use rates around the state
- We have silos of excellence; Need to dovetail efforts; Communicate
- Awareness of the complete water relationships in the brains of the decision makers at the city, county, state and federal levels – need to be on the same page –
- water leaders committed to follow through
- Small communities w/ fewer people but same amount of old infrastructure to maintain (eg. former timber economy towns)
- Awareness of water changing demands
- lack of investment from city in updating tech and infrastructure
- Aging Infrastructure
- Challenge now: Resources (staff and funding) and support to make informed long-term decisions about water infrastructure
- Increasing regulatory burden for business
- Growing population
- summer elevated temperatures in streams
- Water wars between communities -> the stream itself should have water rights
- climate change and wildfires
- beavers are listed as predators and killed, without records, by industry
- reduction of wetlands: development on floodplains and wetlands

- lack of environmental justice, We need more engagement from all communities
- Effect of flow variation from climate change
- status of Columbia River Treaty?
- With 93 high hazard dams, how do we protect people?
- Lack of groundwater information
- Legal opportunity to shift water use outside priority date
- Resolution of First Nation water rights (reserve right
- Small, dense populations high cost of infrastructure
- Basin scale allocation scheme that is sufficiently flexible to respond to economic changes. e.g. shift in agricultural products and changed water demand
- Lack of wastewater solutions
- The focus on a perfect solution rather than an optimized solution
- Flooding - now and in future - is referenced in Vision - need better flood plain development roles
- Growth both population and economic - No address the issue that perpetual growth is unsustainable
- Willamette Reallocation
- Need for precision agriculture to keep farms viable
- Willamette being disconnected from floodplain
- People and politicians not having strong will to enact sweeping change
- [...] protected drinking water sources
- [...] groundwater in order to determine county development
- [...] water systems to upgrade or replace -drinking water -sewer -stormwater
- Access to Broadband Fiber (water data)
- Money for updating water infrastructure
- Preparing for 2 million more people, climate change, and clean water
- How to keep/enhance wetlands while also allowing development in Willamette Valley
- [...] all state agencies who work with water to coordinate?
- Climate change and data
- Stop pushing decisions to the course. We could spend that funding doing important and impactful stuff
- Siloed funding systems
- Lack of local capacity to take on big challenges
- Lack of coordinated efforts that also have authority to act
- As we increase density in cities, how do we repair/replace old pipes?
- Who will train staff to work on water systems in the future? (aging staff)
- Lack of political will to take on hard challenges
- Coast Range watersheds and aquifers need as much attention as Cascade Range ie: very little storage and ground water dependent systems

- Tourism replaced Timber, negative economic impact
- Where is data from prior study work? i.e. Willamette 2100 OSU NSF project
- Diverse water users all think they are most important use
- Competition amount different regulatory and advocacy groups
- Are there places where the data exists that can/should be shared more globally?
- Obviously, aligned and strategic funding
- Different needs for different parts of Oregon
- Authority is not given locally
- [...] users outside of watershed
- GIS mapping not shared/aligned
- Access
- Some small communities (Monroe) don't have reliable access to sufficient water
- Using science to inform water decisions
- Over allocation of water -such as for senior water rights (more than needed)
- Addressing flooding through improvements and protection of natural systems - wetlands/riparian
- Keeping water on the landscape (habitat, cleaning, groundwater recharge)
- Habitat loss
- Address equity on how decisions impact those with little voice
- Vision needs to include "ALL" Oregonians and specifically aim for equity in access to quality and quantity
- Too many different agencies dealing with water issues; not always working together
- Water policy and law and enforcement
- Federal funding and programs
- Contaminants of emerging concern (PFAS, pesticides, pharmaceuticals, etc.)
- Outreach and education -water conservation
- Loss of wetlands and wet habitats
- Lack of data:1 [flow/CFS]
- impacts of other community systems -sewer- to water systems
- stormwater
- Increasing development (runoff, veg removal)
- Climate change and decreasing water supply in summer
- Harmful algal blooms
- Disconnected floodplain
- Natural systems are not robust and connected enough to provide the clean sustainable water they have historically and could again, at low cost
- Reducing water temp through habitat protection and enhancements
- Lack of data: 2 - temperature
- Invasive

- Wetland mitigation is managed only on land supply basis but not also water supply basis, creating another practical implementation misstep in recognizing and sustaining worth of natural systems
- Ability to invest in and implement green infrastructure projects
- Water 1. Management 2. Efficiency 3. Conservation
- Improve irrigation efficiency to keep more water in natural system
- Vision - Add - protection and integration of headwater source areas, forested and otherwise; benefit of keeping water on landscape, connected and active floodplains

Case Study Presentations

Meyer Memorial Trust: The Willamette River Initiative

Presenter: Alison Hensey

In order to ensure a Willamette River system that is swimmable, fishable and a reliable source of water for Oregon's growing human population, while providing ample habitat for a diverse array of native plants, fish and wildlife, the Meyer Memorial Trust launched an effort in 2008 to implement a 10-year funding commitment to support efforts to steer the Willamette River and its tributaries toward a cleaner, healthier future. Investments have restored habitat for federally protected salmon, helped combat invasive plants that threaten the region's landscapes, funded scientific research to better understand the watershed and supported river stewardship groups in their efforts to better represent diverse Willamette Basin communities.

More info:

<https://mmt.org/initiatives/WRI#:~:targetText=Willamette%20River%20Initiative%20%E2%80%94%20place,term%20impacts%2C%20including%20climate%20change>.

North Santiam Watershed Council and Marion County Economic Development: The Economic Importance of Water in the North Santiam Basin

Presenters: Rebecca McCoun (NSWSC) and Danielle Gonzalez (MCED)

North Santiam Watershed Council and the Oregon Business Council partnered with ECONorthwest to compile economic information about water use and value in the North Santiam Watershed. This analysis is posed to assist watershed managers, water users, and other stakeholders in identifying and prioritizing actions intended to improve the quantity, quality, and distribution of water or water-related goods and services in the NSW. It may also help managers secure resources for and justify investments in the watershed's water-related built and natural infrastructure.

More info: http://northsantiam.org/wp-content/uploads/Economic-Importance-of-Water-in-NSW_REVISED-DRAFT_2018-1029.pdf

What does a successful water vision look like?

- Bold and broad scale cultural and systemic change

- Resilient economy, community and habitat
- When resources are equitably distributed and cost shared among
- Infrastructure tourists are visiting Oregon
 - Innovative infrastructure for agricultural and natural systems
 - Efficient and sustainable
 - Use resources in new way
- A mechanism for recognition of existing and persisting conflicts around local uses
- Water rights and appropriation free from litigation
- And informed and engaged population
 - Watershed curriculums in schools
 - Educated elected officials
 - Visual representation of data for decision making
 - Education for water conservation and good stewards
- Uniform data across the State of Oregon
- Full OWRD funding
 - And all NR agencies
- Cross agency collaboration and coordination
- New funding sources
- Sustained, long-term commitment to funding and understanding of issues
- Healthy ecosystems, aquatic organisms, human, and drinking water, More beaver
- Acquisition restoration of habitat lands in ways that protect sources
- Investments of green and grey infrastructure
 - Connect these conversations
 - Systematic look
 - Connect funding streams
- Understanding the strengths/weaknesses of our water systems
 - Interdependent resiliency
- Have a plan that we have confidence in
 - Community capacity
 - Sustained investments
- Long-term financial stability
 - Pay it forward
- Effective prioritization process
 - Long-term look, plan and invest
 - Logical and fair
 - Efficient use of \$\$
- Streamline/efficient funding opportunities
- Public feels good and supports decisions
- Each system at all levels has the information to know what their current and future needs are and can communicate

- Greater water conservation
- Use of smart technology, reduce water demand and heighten awareness
- Less human water demand, more water for wildlife and instream needs
- Smart tech/innovation can reduce demand when population grows
- Sustainable flood plain management

What's missing for the current draft of the Water Vision?

- Public education and outreach on water values
- Affordability
- Workforce
- Protection of head/source waters
- Population and economic growth
- Impacts of climate change
- Natural hazard resiliency/Cascadia event
- Stronger equity lens- "for all" and "seven generations"
- Funding
- Non-traditional partnerships
 - Business and economic development
- Justice, responsibility and ethics
 - A plan for everyone
 - Need a "we" lens
- Recreation
- Focuses on supply-side, where is the reduction of uses
 - Duality of competing interests that make money from water use
- Water reuse
- Regulation, policy and enforcement
 - Enforcement of water law
- Innovation
 - Funding, infrastructure, prioritization
- Expansion to a regional perspective
- Leadership and authority to implement and follow through
- "Silos of Excellence"-break those down
- Innovation, multi benefit and cross sector solutions
- Reframe it from Oregon stewarding to Oregonians will steward-make it about the people
- Following other successful models
- **Conservation** is key-use the word



Medford/Central Point Community Conversation Meeting Summary

November 7th, from 10am to 3pm, at OSU Southern Extension

Prepared by: Bryn Hudson, Bryn.E.Hudson@oregon.gov

The Medford/Central Point Community Conversation began with opening remarks from Kelly Coates and Rhonda from the Cow Creek Band of Umpqua Tribe Indians, Jackson County Commissioner Colleen Roberts, and Oregon Water Resources Department Director, Tom Byler. In total, 45 people were in attendance, representing federally recognized tribes, cities, counties, agriculture, watershed councils, irrigation districts, and many more. We discussed the unique water challenges faced by our local communities, the definition of successful water visioning, what the current draft of the Water Vision is missing. Jeb Jorgensen (Farmers Conservation Alliance) and Larry Martin (Rouge River Valley Irrigation District) gave a presentation on irrigation modernization, and Chris Chambers from the City of Ashland gave a presentation on the Ashland Forest Resiliency project.

The bullet points below were taken from the large group conversations and associated flip chart notes. They do not necessarily represent all the viewpoints in the room, and are not intended to be shared opinions across the entire group.

What water challenges we are facing now, and in the future?

Large Group Discussion: Flip chart notes

- How can we store water upstream in the wet season and deliver it downstream in the dryer season
- Less snowpack
- Full reusing our wastewater
- Streamside buffers-ODF rules
- What does it mean to think 100 years?
- Managing whole landscapes
- Future and emergent pollutants
- Jordan Cover pipeline
- Who is missing from the table, what are the unintended consequences of under representation
- Impact of policy on private land owner rights
- Political instability in small communities-electoral turnover
- Inadequate oversight from state agencies
 - Wastewater and drinking water
- Balancing water rights and other needs
- Climate change threats and wildfire threats
- Lack of money for infrastructure upgrades
- Water energy nexus
 - Energy incentives to upgrade, but none exist for water

- What data and accessibility
- Agency and tribal coordination and consultation
- Groundwater assessments
- Fish and water shed benefits vs economic benefits
- Need a valuation of our natural systems
- How do we shift thinking and prepare people for change
- Lack of aggregated database
 - Privacy issues
- Lack of use and distribution data
- Lack of technical staff and resources for small communities
- Need for trained water workforce
 - Waste water
 - Recreation
- Resources for planning efforts
- Where is the interface with fresh and salt water
- Regulatory environment disincentives building of new infrastructure
- Pesticide on landscape (forestry and agriculture)
- Water rights and illegal water use
- Operation, maintenance and engineering (OME)
 - Lack of long term thinking to address OME
- Do we have enough data and how do we pay for that data?
- How can we include everyone, and gather respect around EVERYONE'S water challenges
- Framework for prioritization
- Integrating holistic ecosystem based practices in forestry agriculture and urban design that stores water, protects native species

Small Group Discussion: Post-it notes

- Create experimental areas with SWCD's, others to discover plus research/test other ways to maintain roadsides with less pesticides
- Rogue Valley has a very complicated geohydrology (us., e.g., NE Oregon) Limited aquifer based storage solutions
- Develop regional positions
- Water quantity and quality: Cattle grazing on public lands
- Water quality and quantity issues affecting bear creek and the Rouge river both flow and temperature
- Resilience and flexibility -- but current regulatory framework doesn't allow for it
- Regenerative agriculture
- Need limitations/incentives to reduce uses that export Oregon's water resources out of the Oregon Community directly and indirectly

- Illegal water use wells and surface water quality
- Municipal water supplies and climate change but compare Medford's system (not so snow pack development) with Ashland's (very snow pack development)
- Education of landowners to reduce pesticide usage and escape into environment to affect pollinators, fish, wildlife, people
- 60% of rivers in US have pesticide levels potentially dangerous to aquatic life (90% in urban US Geological survey)
- Develop state funded regional condition organization similar to federal transportation metropolitan planning organization
- Water quantity and quality: Holistic, integrative forestry practices
- Ability (inability?) to regulate dramatic (vs the more roads shifts historically experienced) changes in agriculture irrigation use. E.g. industrial heap with 5000-6000% instream increase
- Rewrite regulations and rules to be outcome based instead of process oriented
- About 20000000 lbs of pesticides are used in or annually (with potential for leaching and runoff)
- Local cooperation land use public works ID emergency planners lots local silos
- Energy use and generation
- Lack of common and shared vision for what Oregon should look like in 100 years
- Sediment in water drainage systems along roadways from annual scraping of road shoulders and herbicides with that
- Funding for redesign of roadsides to add native plants especially to exclude nonnative invasive to retain water and reduce fire opportunities
- Consider using roadsides as water filtration systems and pollinator habitat as other states are doing
- More funding for water testing of water wells, streams, TID to identify locations of pesticide inflow
- Pesticides in water from multiple sources, Roads, ag, home/landowners, agencies like TID, Arial spraying (forestry)
- Educate and help fund landowners to manage land to capture more water onsite. With native plants (deeper roots) and water storage
- Consider where to include more per... Surfaced to reduce flooding in cities on roads etc.
- Challenges of scale- ocean climate impacts do matter to inland residents
- Runoff from pesticides on ag land to creeks, organic farms, water tables and the ocean due to potential floods from climate change
- 50 year OMER Operation maintenance energy replacement
- Helping population understand importance of investing in infrastructure before there is a problem
- Yes- need a system to assess and prioritize all the needs like ODOT system
- Reservoir sedimentation life span

- Tendency for agencies and public to separate healthy soil from conversation about water. Healthy soil must be part of conversation
- Storytelling: difficult for grasp how we can do this
- CLUA fishable drinkable swimmable
- What do we believe to be true, that if it were not true, would completely change the way we look at this and or acted?
- Strive for true balance instead of pendulum swing every 15-20 years between interests
- Having sufficient water and land both of high enough quality and affordable to produce healthy food for growing population
- Encourage/acquire for transparency/public participation in irrigation district grievances
- Look at better and more conservation minded alternatives to flow being perfectly good water!
- Equity: Farmworkers drink pesticide-contaminated water at orchards/farms
- Aerial spraying from clear-cuts and forestry leaches into groundwater, runs off into creeks and streams
- Holistic organic forest management (instead of clear cutting) -stores water -sinks water - solves soil erosion
- Funding for data collection is never adequate
- Really consider and plan for unintended consequences
- Impact to water quality and quantity in the event of ...
- Regulations on water usage by hemp and all future boom and bust monoculture crops
- Encouraging capture and infiltration of water high in watershed key lining mall ponds and retention ponds
- Access indigenous/ancient knowledge of resources to better manage land and water
- Privilege of water for drinking and sanitary/hygiene only exists for those who can pay lots of money
- Diverse interests to collaborate successfully
- Flexibility/availability of the historic water rights system to meet current challenges: EG, How can most senior privileged water rights holders be most motivated to manage use efficiently or to save water
- Need better stream buffers. Logging often goes straight to bank.
- Tension between efficiency objectives of direct to pope conversion and public desire for aesthetics of open waterways
- Salmon 2100
- No mention of recreation or consideration in vision
- Use of infrastructure in relation to natural systems and if that is good or misleading term
- What is missing that would bring others to the table? Landowners (private), businesses, timber, hemp, etc.

- Lack of awareness/public knowledge about how drinking/sewer/irrigation systems work. Integrate into schools
- Mega wildlife threat to stability of watersheds and domestic water supplies
- Increasing water temperatures impact/negatively/ fish habitat -- see need for stream buffers
- Water infrastructure what do we do? (drinking water pipes) Identify issues need to know what we are working with and what the needs are
- Benefits vs economic benefits valuation of natural systems
- Education about the integrated water resources strategy
- Tribal coordination and consultation
- Water rights and new economic developments
- Agency coordination fed and state
- Water data and accessibility
- Groundwater surveys what is in our aquifers?
- Impact of increased residential diversity and water table
- Funding
- Education incentives to get people to the table to discuss the issue
- My dad, born in 1936, was always concerned about the temp of the water and how it relates to the healthiness of a stream --traditional tribal knowledge
- Built infrastructure not substitute for natural infrastructure. Built and natural infrastructure must be given equal consideration
- Broader acceptance of necessity of big change
- Major water quality issue leads to blue green algae
- Use conflicts one example is storm drain and irrigation systems. Irrigation systems are being piped but they carry urban runoff stormwater. How to size pipes, pay for projects given development is an issue
- Public attention span
- How to realistically balance and prioritize effectively between uses (e.g. drinking vs irrigation vs fish)
- Ocean health
- How wide to coast the net? Riparian areas lead to uplands lead to watershed and their relationships
- Fires catastrophic wildfires and need for supply and consideration of damage to infrastructure
- Maintenance of natural systems is not enough. Improvement of natural system is required
- Better legal tools for enhancing stream flow i.e. increased flexibility for water transactions
- Natural infrastructure should be defined

- ag/forestry toxic runoff
- Pesticide/herbicides in ag/forestry equals toxic runoff
- Lack of capacity for enforcement of illegal water use/withdrawal
- Lack of clarity on who to contact no clear access pathways to water resources dept./water masters
- Use of most needed and new infrastructure
- Protection of instream flow allocation/legal ordination on water supply to fish and wildlife as competition for water increases
- Need to prioritize protection and restoration of natural ecosystem function--needs emphasis
- Allocate resources to rearrange water resources and information we currently have -- needs more emphasis
- Allocate resources to understand water use and water supply -- needs more emphasis
- Need for standardized and locally specific monitoring SOPs
- How are you economic measures taking into account the death of fossil fuel driven growth based wasteful economic norms? AKA death of capitalism
- How to quantify externalized costs? Measure the previously immeasurable benefits of ex. healthy forests and healthy watersheds
- Algal blooms and stagnancy/bad water quality in manmade lakes
- Waters at green energy so. wind plus dams
- Regulatory processes which can delay schedules for years and add substantial costs disincentives new infrastructure or even improving existing infrastructure may as well just put a band aid on your canal treatment plant dam etc. and hope it lasts until you retire
- Capacity to implement forest restoration project i.e. workforce development restoration economy
- Forest restoration
- Forest data informed decision making (access to data especially fish)
- Flexibility for more instream flows in forests
- Statutory and administrative limitations on maximizing beneficial use of water (not represented in vision)
- Wildfire threats to water quality needs source water protection (reflected)
- Ocean water quality (not reflected)
- Water bodies at part of transportation system: underinvestment in port infrastructure (not reflected dredging)
- Small communities access to funding of personnel to assess and upgrade systems. How to best share technical knowledge and skill?
- Impact of agriculture on water availability. How large hemp and marijuana are grows impacting water use vs orchards vineyards hay etc.
- Proposed fracked gas pipeline (Jordan Cove) is a huge threat

- Evaporation loss from existing canals
- Ability to do headwaters restoration - funding process based restoration red tape bureaucracy
- Oregon forest resources act to protect *stream buffers* and stop aerial spraying
- Reduction in snowpack will decrease ground water recharge and late season runoff
- Increase in rainfall vs. snow will increase flooding and decrease water availability in late summer and fall
- Climate change is represented in the vision, but many of its impacts are unforeseen or underestimated creating uncertainty
- Nutrient loading in streams
- watershed water quality
- Water quality is limiting ESA listed populations in our basin
- Restore/protect natural environmental function
- Opportunities for recreation on streams (so people value them)
- Balancing energy with fish habitat
- Regulatory uncertainty related to future wastewater plant upgrades e.g. tertiary treatment processes have decades long planning horizons
- Regulating water withdraws
- Overlapping agencies when dealing with water issues
- Clinging to water rights for non-beneficial uses
- Political stability in small communities affects functioning of wastewater and drinking systems
- Inadequate technical oversight and guidance provided by state to small communities potential solution equals more collaboration among state small communities and neighboring large communities
- Small struggling systems are isolated not sharing
- Water rights meeting the needs of grandfathered water rights irrigation water streams and drinking water
- Short staged state regulatory agencies (OWRD)
- State tax credits or incentives for water related upgrades. Need a program similar to the state energy programs homeowners, private sector
- Energy and water nexus - climate change
- ODF rules for riparian areas not applying to Siskiyou region. This has set the Siskiyou region back a decade
- Water quantity and water quality limited supply from drought water quality issues from pollution and water conservation resources
- Modernize ag infrastructure for efficiency and conservation
- Stormwater management infrastructure
- Outdated infrastructure meters distribution city hall on wells!

- Residential water conservation
- Lack of economic incentives to increase efficiency or improve infrastructure
- Wildfire threats to public water are increasing and funding to address those concerns are challenges to secure
- On farm irrigation efficiency funding is challenging to secure on large enough scale for positive effect
- Well water quality and quantity (inconsistent water tables)
- Instream water quantity is lacking in small streams during irrigation season
- Water being taken for granted in many parts of or. Ex. lawn irrigation in central Oregon and rogue valley in summer? Wasteful. Not in vision: public education
- Adapting water use to declining snow packs
- Inconsistent snowpack and storage
- Money to upgrade infrastructure
- Money to meet new regulations
- Funding infrastructure upgrades -seismic resiliency meeting new regulations and redundant sources add water rights
- Ground water pollution and quantity management we need to manage before its polluted not after
- Science and research into emerging sources of pollution to inform systems design and permitting
- How to preserve space for rivers to inhabit their historic floodplains?
- Fish... process-based restoration tech like Beaver Dam analogs in addition to nonlethal beaver tools like pond levelers and beaver deceivers
- How to inform and share with people the time value of water and how degraded our hydraulic cycle has become?
- How to implement low tech process based in stream restoration techniques to rehydrate the landscape?
- Increased rate of change and higher level of unpredictability in weather and water availability in the future
- Designing systems that provide flexibility in management for future generations. The conditions ahead are hard and impossible to predict now.
- Erosion of open drainage banks due to removal of vegetation along them. Citizens wish to recreate along these drains (they often run through properties)
- Lack of ability to upsize storm drain system underground to cool water before it enters rivers or streams from impervious grounds
- Education to all with regards to keeping trash. Vegetation and debris in general out of both closed and open drainage systems
- Tension between reconnected floodplains a channel roughness with timely water delivery and irrigation infrastructure
- Use of groundwater strategy for track conservation and recharge.

- Modernizing ag and other water infrastructure requires long term stable funding sources
- Process based instream restoration with FEMA floodplain requirements
- Diminished snowpack and late season flows-- partnering with beaver for water sequestration in the headwaters
- Water storage may be required to meet ag/muni and instream flow needs under climate change scenarios where we have less snow pack. Permitting processes these projects to over forward at the speed at which they may be needed
- There are opportunities to collocate other infrastructure upgrades when water infrastructure is upgraded. At present there are no incentives or funding sources to help pay for the coordination requires to integrate planning for different infrastructure needs
- Need to modernize irrigation water infrastructure
- How to obtain funding to meet that need
- How to speed the pace of implementing irrigation efficiency projects
- Storm water is often managed through agriculture infrastructure. If that infrastructure is modernized that storm water has to still be managed. Coordination is required to help address these impacts locally.
- Data
- Aging infrastructure
- Institutional knowledge
- Weak forest management laws and practices on private industry forests to protect water
- Wildfire threats to build and natural systems
- Drought water retention in reservoirs and forests
- Irrigation upgrading systems to conserve water for ag
- Seismic retrofits and upgrades for dams
- General integration of land use planning and water use planning
- Process fatigue how much time do people have especially nonprofessionals not represented
- People who are harmed by projects do we need a mechanism to compensate them? Make them "whole"
- Changing land use patterns especially with ag ex. hemp
- Need to talk about reducing pollution and improving water quality as well... missing from vision
- With so much emphasis on pumps what happens when there is no power? Should we be giving gravity systems another look?
- Shady core. Drinking water combination of wells and private water systems arsenic naturally occurring in soils paying to hook up to private water system
- Cultural value and expectation of clean abundant water vs lack of investment and connection to natural system we rely on

- Providing clean water in quantities to serve domestic and farm uses using the same water table for future
- The value in our wildfire prone county of ponds and dams holding water for firefighting efforts. See the value and vision and priority to keep stored water systems
- Insufficient incentives for increased water use efficiency implicitly
- Multiple agencies managing different aspects of water
- Challenge of an entity like a state to do responsible planning of the future when proposed prospects with massive potential adverse impacts are largely ignored. This is specifically concerned highly impactful fed regulation that would and are designed to negate state decisions...
- Lost creek dam water gate needed for program flood control needs replacement. Army corps engineers acknowledge urgent need--no federal funding
- Integration of forest riparian and aquatic habitat management implicit in references to "watersheds" but the later emphasize water no land
- Deep seated fear that any government action involving water will increase taxes and enforce water rights
- Water is over allocated and climate change and population growth equals even harder
- How to keep water affordable for people's basic needs? Do we make investments?
- Unlike transportation systems some water "belongs" to landowners with legal water rights how do you see Oregon 100 year vision "policies" imposed on these landowners
- Land use regulations (forest and Agriculture) and lack of enforcement wading to water impacts. How to engage and incentivize?
- Who is missing from the conversation? Where are people feeling the biggest impacts?
- How are we prioritizing water reuse as we think about sustainable supply and water conservation
- Jordan covering pipeline damage to water bodies riparian areas and contamination of drinking water. Cross 400 water bodies big effort on water and water shed
- More focus on storm water management and systems to clean and retain before discharge to streams
- Floodplain recharge vs more dams. Cost comp over next 100 years
- Reduce permitting needs/path for "restoration" projects to increase pace and keep resources going into projects "more programmatic permits"

Case Study Presentations

City of Ashland: Ashland Forest Resiliency Project

Presenter: Chris Chambers (City of Ashland)

The Ashland Forest Resiliency Stewardship Project is a partnership of four organizations: The City of Ashland, Lomakatsi Restoration Project, U.S. Rogue River-Siskiyou National Forest and The Nature Conservancy. The AFR Partners are implementing a ten year stewardship project

designed to reduce the risk of severe wildfire in the watershed and to protect water quality, older forests, wildlife, people, property and quality of life.

More info: <https://www.ashland.or.us/Page.asp?NavID=17364>

Irrigation Modernization and the Bradshaw Drop Irrigation Project

Presenter: Jed Jorgensen (Farmers Conservation Alliance) and Larry Martin (Rouge River Valley Irrigation District)

To address community issues around aging irrigation infrastructure, and chronic water loss, the Farmers Conversation Alliance launched an irrigation modernization effort to retain diverted water, ensure food security, provide new energy opportunities, and enhance safety and resiliency in small communities. The Bradshaw Drop project uses gravity to reduce energy costs, while also delivery irrigation water to the users who need it. This project is a key example of modernizing our infrastructure to accommodate modern needs.

More info: <https://irrigationmodernization.fcasolutions.org/> and <https://www.rrvid.org/bradshaw-drop/>

What does a successful water vision look like?

Large Group Discussion: Flip chart notes

- Interagency coordination
- Community and society acceptance of the value of water and the systems that support our use
- Wise uses of public money
- Streamlined regulations and processes from the agency side
 - Outcome based processes
- Regional flexibility
 - i.e. place based
 - collaborative networks
- Increase water availability and quality
- People are involved and engaged before tragedy
- Technical expertise is funding and available to plan and problem solve locally
- Sustained collaborative partnerships
- Future management decision are based on data and science
- Sufficient resources for small communities
 - Resources for construction and operation of infrastructure
- Accurate climate projections
 - Plans adequately address climate
- Vulnerability analyses to identify weaknesses to prioritize projects and investments
- Abundant, clean, accessible water

- All goals are met
- Source water is protected
- All natural systems and watersheds have the capacity to store water to promote biodiversity
 - “health landscape management”
- One water management
 - Small, rural stormwater management is incorporated into all projects
 - Water reuse
 - Water management for the highest good
- No sunk costs
- All voices are at the table
- Traditional ecological knowledge
- Our growth is now hindered by water availability
- Oregon is a destination for climate refugees
- People 100 years in future look back and say thank you
- Use of beavers
- More water for salmon

Small Group Discussion: Post-it notes

- Reestablish a healthy water cycle to help hydrating the landscape
- Quantify natural resources i.e. wetlands, floodplains, beavers, forests to establish their importance in the water equation
- Establish water as a national priority to fund its enhancement and protection through civil conservation corps movement
- People choosing Oregon because of its clean water/forest resources
- Resilient natural process and strategic water use community trust around water management
- Beaver created and maintained wetland, riparian and riverside habitats
- Sustainable fisheries and vibrant wildlife habitats set within the context of our communities and economy
- A decision/management structure that provides visible flexibility for response and adaption to climate population political challenges ahead
- Balanced approach to water management with allowance for economy and environment
- Clean surface and groundwater to supply community environment economy
- Access to clean water for environment economy and communities but also for recreation and relaxation
- Access rec social justice
- Trust building network and collaboration

- Model decision process after natural process not a fixed vision rather a decision support tool
- Flexibility in regulatory processes to facilitate scaled up implementation and creative local solutions
- A holistic approach to creating climate resilient built and natural water resources to ensure clean water for communities and ecosystems
- Continued collaboration and partnership with all stakeholders around water. Data/transparency. ESA flexibility that can benefit species and protects where needed
- Increased funding for the whole range of challenged
- Increased awareness by public and knowledge about challenges and solutions
- A strong community structure with resilient agriculture municipal and business uses and a healthy environment
- Strategic investments may also be required to facilitate and maintain community engagement needed to ensure all community voices are heard and the local vision is embodied in the outcome
- Progress towards piping of the delivery systems of irrigation districts
- Retention of more water in our mountain reservoirs
- Increase in the use of more efficient irrigation systems like sprinkle and drip systems
- A shared vision makes it easier (time? resources?) to move forward on projects proposals on programs that have positive real world effects
- Vision of success ensure outcome is truly integrated to reveal inter relationship avoid compartmentalized thinking
- Natural infrastructure is seen as a critical approach to integrate into every investment making hard built engineered systems more resilient and sustainable
- That we maximize water conservation reuse to address supply challenges
- Plans shouldn't sit on the shelf they need to be used as decision making tools
- Interagency and cross jurisdictional coordination and goals
- Environmental benefits restoration of natural systems are critical to all of our future
- Most impacted communities are supported to meaningfully participate in decision making for their community
- Less conflict and more collaboration focused on outcomes
- Jordan Cove/LNG pipeline is stopped moving forward large infrastructure projects are evaluated not only on easier to quantify profits/ impact to economy but also evaluated based on impact costs to watershed and environment
- Shared understanding and relationship building created a reservoir of social capital that encouraged where appropriate collaborative interest based solutions
- Success is communities working together cross sector integrated approaches to planning education and management of water for future
- "Resilience" is not just vague buzz word but it is an organizational paradigm based on principles and examples

- To see us all able to put emphasis on Oregon doing what is necessary rather than seeing our goals plans etc. dictated by federal priorities
- Incorporation of a more diverse group of participants and the ability to have a further reach for funding
- Vision of success community involvement on a large scale
- Success includes shared understanding about "failures"
- One size fits all does not work bottom up not top down
- Impact from landowners and small communities
- Problem statement in draft is pretty single focused on infrastructure rather than covering on responding to the far broader goals
- The voice of youth. "OK Boomer"
- How to bring a community together to accomplish the vision
- Diversity low income people of color
- Not sure but do we have enough info about the potential changes in rates of change re. climate change to develop an effective plan
- Information on lack of populations shifts caused by climate change impact on demand for drinking water, impact on farming can we grow same things? Will demand for water and housing due to population shifts affect farming?
- Water reuse "one water" concept
- Education component. Insert a statement about increased/shared knowledge of water issues in the premise paragraph
- Where does energy production fit into the vision?
- Lack of public education on water issues is missing from the problem statement
- Funding for regulatory and enforcement agencies
- Protecting water as a non-privatized regional public good
- Innovation efficiency *new technologies *upgraded infrastructure *water reuse greywater rainwater catchment purple pipe right water right place equals irrigation water uses
- The version .7 is not self-contained document needs just a bit more detail
- Resilient infrastructure to ensure clean and sustainable water resources. Community/society acceptance and understanding of the value of water and the infrastructure that distributes it
- Resources for communities to implement water efficiency programs and or incentives education on where water resources come from
- Stormwater management incorporated into all municipal projects
- An honest and realistic vision don't make a messy situation look nice
- Cool clean water for life
- Clean and plentiful water for all uses
- Ecosystem management across private lands (synergistic)

- Climate change impacts balancing the needs of many users and potential climate change refugees efficient use of water to stretch the water we have as far as possible
- Adequate capacity funding support to achieve success
- Balance between human needs and ecological needs mutual benefits
- Sharing data between organizations being strategic
- People save water ex. no lawn watering in the summer
- Fulfilling the rights to all citizens for clean safe reliable drinking water
- People know what their water costs ex. 1 gallon delivered to home or business costs .03 vs what they pay
- Create action plans for increased resiliency in water storage capacity and emergency efforts
- Long term stratify that is adaptable and adequately reflects urban and rural communities needs
- Culture of conservation social pressure to conserve water
- Functioning wastewater treatment plants beyond just the large ones
- Sustainable natural resource based economy
- Collaborative problem solving processes across water user communities
- Community wide partnership to create a collaborative effort to create a measureable success in water quality and quantity infrastructure
- Resources available for rural underserved geographies/populations (don't forget about us!)
- Public support widespread
- Viable path to financial sustainability
- Well-funded data driven responsive water management
- Recognition of manifest benefits of natural systems and natural infrastructure to support communities economics values and ways of life
- Cool clean water abundant fish and wildlife free flowing rivers sustainable vibrant and diversified economies
- Equity in access to water housing hygiene hydration available to all regardless of economic status
- Streamside buffer requirements for private for private forestry land ideally to same management standards as BLM/public lands
- Clear channels of communication to/from relevant public regulatory agency
- Investment in resources
- Talk about system health (watersheds) rather than individual projects/projects CAFR opus Bradshaw drop arc great projects but completely independent
- Streams with natural hydrographs and natural infrastructure capable of mitigating climate change and providing resiliency
- Minimizing intersection of natural built infrastructure

- Multipronged active participatory feedback and evaluation mechanisms scaled (local and state) and decentralized
- Integrated projects with multiple public benefits meeting all benchmarks and goals
- Leads to paradigm shift behavior change and public support
- Part of everyday life/activity
- That we have clean adequate water for all uses in 100 years
- Other benefits considered recreation
- Efficient resource (water) use is a job fully shed value, a matter of pride of friendly competition for all communities
- Accountability
- Loci and gratitude for water uplifting of living systems and successes along the way
- Most communities especially have robust community conservation councils crafting local water forest and fa... policy forest are involved with them...Schools have current connection
- Policy makers in... regulatory and thoughtfully with children
- Future management decisions based on sound data/science
- Collaboration
- Benefits to multiple interest (including ecological)
- An educated public/communities
- Dedicated funding sources
- Integrated approach to water management
- Process checks what's working what is not change process as necessary
- Water security
- Clear understanding of available resources
- Broad public support
- Water flows where it is needed (highest priority) not where the money is (political pull)
- Not losing cold water species
- Other benefits equal recreation
- Need for processes provisional reassessment for issues that we haven't thought of or as conditions change regulation if all of our infrastructure is updated in 25 years how does that process change?
- Definitions? What is economy? Both presentations emphasized money and jobs
- Benchmarks to govern/guide process
- Incorporate emergency management/managers
- Decisions based on data and science
- Clarity of outputs such as monitoring mapping and bench makers
- Education and outreach integrate into classrooms and creative ways to meet people where are address basic...

- In a successful future Rose Valley is a destination for climate change refugees (not a source) will imply even greater need for efficient use.
- Success would mean achieving the goals listed on V.0.7 Health economy environment safety
- Healthy agriculture economy at very high efficiency
- Change healthy streams leads to fish recreation and drinking water
- Change low water need landscaping in residential/commercial areas
- Continued public support investments viewed as a wise use of public resources
- Collaboration and coordination across agencies entities and organizations to create sustainable solutions that can evolve over time to meet vision and goals
- State ample drinking water efficiently used
- Water reuse where appropriate to "replace" treated water
- Improved efficiency of water usage by ag reflecting the 86% use statistic
- Ensure focus on Forest Health
- Innovation Healthy wild solution fishery
- Success equals collaboration not conflict
- Adequate clean water serving both water users and fish and wildlife
- Multiple local organization collaborate on regional water strategy that integrates agricultural uses with municipal users projects
- Economy relies on sustainable not regulation (use)
- Abundant clean water stored by healthy soils and built environments beneficially and appropriately released for all avoid pendulum swings in emphasis for focus and money be balanced
- Storing and sinking water on all levels forests agriculture urban parks and roadsides-- through landscapes management that promotes biodiversity native plants and wildlife habitats and stops the movement of water through the landscape. (not fully in vision)
- We have a robust political commitment to the application of science of the large team benefit (resiliency to climate impacts) the community we have among jurisdiction land use criteria to ensure health safety environmental benefit and economic benefit of our community waters. We have water storage infrastructure data water efficiency infrastructure in place within 10 years. We have more emphasis on food and agriculture
- All water uses are monitored and measured without uses freaking out about it
- Enough water to serve the various needs of our state. Using the water available to conserve more than we do today. Each user is aware of all the other uses and their needs and all share appropriately municipal governments implementing policies and practices to educate how to reduce climate contamination from pesticides to solvents to...
- Sediments so our water is clear and clean and healthy. Restoring our landscapes to be water savers and cleaners. Instilling respect to children of how precious our waters are to all life. managing our ecosystems so we avoid a 100 year drought

- Creating partnerships and funding to accomplish this. Being know for the state water the best and most water
- More water for fish in streams and more efficient water use. Efficiency includes whole systems including energy. Sustainable it can be done forever. Shift more water use to wells from streams
- Managing water bodies to support dragonflies bats buds etc. that will eat mosquitos so that there is less pressure for vector central to spray pesticides that harm pollinators fish and people
- Clean toxin free water. (yes on vision but emphasis of toxins seems to be on heavy metals and other classes of chemicals and not on the use of pesticides in or)
- Organizational integration challenges
- Personal responsibility for community wellness is encouraged and expected
- Communities and jurisdictions on legal board to manage.... with water use.... public trust duty to current and future generations and the state will admit to apply
- We need to be able to enforce the vision
- Government entities (the people who make then work there) need to examine how the entities/agencies hinder progress toward a healthy water future

What's missing for the current draft of the Water Vision?

- Saltwater environment
- Need for data/science to help our decision making
- Water use efficiency
- One water approach
- Address regulatory framework
- Systems to support collaborative partnerships on an ongoing basis
- Beaver (?!)
- Innovation in addition to strategic
- Water hygiene safety access to water is a human right
- Water justice
- Healthy riparian areas address all the places water goes
- Enforcement public trust duty
- Take charge of our own future



Virtual Session Community Conversation Meeting Summary

November 13 and 15, from 12pm to 2pm

Prepared by: Bryn Hudson, Bryn.E.Hudson@oregon.gov

The Virtual Community Conversation began with opening remarks from. In total, 45 number people were in attendance, representing federally recognized Tribes, cities, federal agencies, counties, environmental groups, watershed councils, irrigation districts, and many more. We discussed the unique water challenges faced by our local communities, the definition of successful water visioning, what the current draft of the Water Vision is missing. Mathias Perle from the Upper Deschutes River Watershed Council and Adam Denlinger from the Seal Rock Water District gave presentations on the Whychus Creek restoration project and advanced metering infrastructure, respectively.

The bullet points below were taken from the large group conversations and associated individual notes. They do not necessarily represent all the viewpoints in the room, and are not intended to be shared opinions across the entire group.

What water challenges we are facing now, and in the future?

Large Group Discussion

- Collaboration and communication
- Water is not managed in an integrated way
- Pesticides
- Intergovernmental collaboration
- Not enough water for future needs
- Engagement with vulnerable community
- Lack of understanding
- Drought and fire
- Water supply
- Prioritizing threats, i.e. impacts of timber
- Resiliency
- Habitat quality
- Aging infrastructure
- Climate change
- Innovation and technology
 - Transferring knowledge
- Groundwater decline
- What does a sustainability plan mean?
- Reuse of treated sewage water
 - Concerns around reusing wastewater
- Water lines (household) that need updating

- Melting glaciers on Mt. Hood
- Declining water supply-groundwater
 - More rain less snow
- Wells going dry
- Agricultural water usage
- Quality and quality
- Aging infrastructure
 - Replace or repair?
- Storing water in land
- Over appropriation, mainly eastern (Walla Walla Basin)
- Water quality
- How can green space be used to enhance water quality
- Water affordability
- Resiliency to natural disasters
- Public engagement and outreach

Small group and individual notes

- Knowing that agriculture is the major steward of our water, a sincere and realistic discussion of water needs to also include a discussion about our soil as an essential unrennewable resource. There is an urgent need to integrate water and soil conservation discussions and to include the very hopeful information now being revealed about Regenerative Agriculture practices – practices that make soil healthier, that result in soil holding water more readily and thus contribute to regenerating groundwater and flood control.
- Soil, like water, is a fundamental resource that is at risk and will determine not just the ability of future generations to enjoy the same access to clean water, but the ability of future generations to survive in the face of the potential for catastrophe.
- Aging infrastructure
- No money for infrastructure upgrades and improvements
- Pollution/increasing temperatures
- Pressure for development in areas with little water availability
- Clean up of brownfields along water sources
- We aren't planning for water infrastructure on long enough terms- 20-year planning cycles are not sufficient and the OHA and DEQ should have longer term infrastructure plan requirements
- We need to support more city to city partnerships and city/county partnerships. For example, in Yamhill County, we have McMinnville starting inter-ties with neighborhood communities in case of emergencies.
- Data

- My community formed a community groundwater network to collect data. We have 16 wells and 3 years of data about our low-yield aquifer. We purchased new technology that makes My community is facing continued development pressure in the face of well failures.
- Coastal issues: Emergency water supplies for hospitals and schools following Cascadia subduction event. Are we two weeks ready? What about tourist season?
- Coastal issues: Ocean acidification/hypoxia
- Coastal issues: Failing dams
- Coastal issues: Recreational livelihoods
- Water is not managed in an integrated manner.
- Water conservation is not taken seriously. Water is wasted
- Water reductions due to climate change are not taken seriously by the water provider.
- Managed (urban/suburban) landscapes are not climate appropriate.
- Regulations do not support reuse of water. Some types of water reuse are illegal. Others are difficult to permit.
- Overall lack of knowledge by local regulators about sustainable water reuse options.
- Lack of incentives or requirements to use water efficiently, or reuse it.
- Beaver restoration is not widely promoted. Beavers are still trapped and killed without fulling investigating non lethal options
- resilience and affordability and the funding to accomplish moving toward both
- Municipal water providers have a long list of projects they have identified that need to be done between now and the next 50 years. Funding for those projects and existing state strategies has been a historic challenge.
- Regional transportation planning is great, but it comes with a multi-pronged funding source that water lacks. We do not have the equivalent of federal highway funds or the gas tax to incentivize that kind of planning
- How do we approach a long-term funding strategy for water in a way that it does not get lost in the myriad other things the state must fund?
- collection of data does not mean much without the accompanying funding to analyze it. The capacity of WRD to collect and analyze the data must be part of the conversation
- Clatsop: drinking water supply – summer months sources are starting to dry, and potential drought and wildfire conditions
- Northeast: organizing into appropriate form to increase capacity and access broader funding, identifying uses between users (e.g. agriculture, commercial, residential), especially private commercial
- Ensuring economical access to water
- Agencies making decisions and making key assumptions about operations, flows, etc., without having data to support
- Drought and wildfire vulnerability

- Impact of timber harvest on watersheds, worry about possible contamination to water supply from industrial use
- Some water systems draw from one single point, such as on the North Santiam River, 15-miles outside of town
- Setting different parts of the state up for battling over water
- Substantially same as current
- Possibly more environmental changes due to temperature
- Sea level rise
- Collaboration: Needing to have better lines of communication across the board, both horizontal and vertical
- Collaboration: Need an easy to access list of projects; what has been done, what needs to be done, and what do we need to start planning for
- Collaboration: Smaller communities need help getting access to the various resources
- Water is not managed in a serious integrated manner
- Water is not taken seriously, and the reduction needs a great importance
- Managed landscapes are not appropriate
- Water reuse is not great
- Lack of information and incentives
- Beaver restorations are not widely reported
- Development Pressure
- Increasing demand for residential water
- Reluctance of agriculture industry to minimize/reduce/contain pesticides
- Lack of structure, meander on the river, and loss of riparian cover is increasing water temperatures
- Right now we face a number of issues, mostly associated with slow replacement of underground inventory, collection and organization of data, operational challenges with fluctuating demands (summer peaks, winter demands, adjusting the system during shoulder seasons)
- over-appropriation (example was Walla Walls Basin)
- How to prepare as a community for Cascadia event (accommodating large influx of people, decreasing risks in our system and making it more robust)
- water quality
- How to engage with varied stakeholders to address tangible, engineering problems with those challenges foreseen by recreation stakeholders, businesses, conservation groups, water system operators, private utilities in our City limits
- water affordability
- funding
- Water shortages
- Drought and wildfire

- Drinking water contamination
- sea level rise
- Ensuring that our counties/constituents, farmers and well-users especially, have water available to them. Crops are shifting and may need more water.
- Groundwater and issues with wells that drying up.
- dams - benefits and problems
- Do we have enough water and not the right natural and build infrastructure?
- Or do we have too much water use?
- old infrastructure may need to be revamped
- we use natural spaces to hold, recharge and clean water.
- Support for water saving devices need to be expanded through water districts or counties - perhaps increase rebate programs
- Lack of structure, meander on the river, and loss of riparian cover is increasing water temperatures
- More public outreach and engagement is needed to engage residents in water conservation, pesticide reduction and environmental protection and restoration efforts.
- Intergovernmental cooperation should be improved
- Lack of potential water for future needs
- Meeting the needs of marginalized communities
- Lack of trust
- Lack of understanding of process across different groups
- Water availability
- Allocation of water for wildlife vs irrigation
- Infrastructure issues – particularly with groundwater from surface water
- Not enough data
- Not enough water in some basins where it's been over allocated
- Not enough resources are being spent on understanding the physical systems in some basins
- State agencies don't have enough funding now to carry out their current missions and mandates
- Drought and fire impacts to supply
- Capacity building for smaller communities to become organized to acquire funding (creating irrigation districts etc.)
- Funding to collect data, better understand physical systems, infrastructure, plans, and programs.
- Similar challenges to now, increased demands
- Climate change will increase, fires, drought, temperature, sea level rise, and more need for data.

- Need for better understanding of hydrology, hydrogeology and interaction with climate change.
- More investment in managing the resources
- We need to better understand the water environment across the state.
- Walla Walla River Basin over-appropriation. We have irrigation water rights that total three times the natural Walla Walla River flow during irrigation season. Our shallow ground water aquifer has declined to the point that our spring branches are going dry each summer. Our basalt aquifer is declining an estimated 3-5 feet per year.
- ensuring that we have sufficient water for multiple uses (including meeting needs of fish and wildlife, communities and industry) given climate change, infrastructure resiliency and population growth.
- value of information sharing between regions and groups as members of our group are actively considering potential solutions to these challenges but there is not a common place to share this
- to properly consider and value different water uses especially less quantified uses such as recreation.
- need for best practices related to public outreach for water management decisions
- Strongly support the latest “goal” for environment which notes that we seek adequate cool, clean water for native fish and wildlife to thrive.
- Water supply / water quality issues as it relates to climate change. Specifically, droughts, fires, and flooding.
- Reconnecting watershed sub-plains & restoring habitat
- Failing infrastructure and how that impacts distribution networks
- Salinity intrusion along coastal cities.
- Public agencies latency when it comes to adopting new technologies
- Statewide agencies collecting a swath of data but not following up with policy decisions based on the data.
- Accountability and/or enforcement for wrong-doers
- Prioritization of issues and a proactive approach on the major issues rather than tackling the low hanging fruit.
- citizen science collected data needs to be seen as credible by counties so that they can see that the way groundwater is being managed is not sustainable
- Counties need to not just say they are being sustainable without having a definition of what sustainable is and there isn't really a commitment to it
- Water quality was a big issue – in Lakeview for example, the potable water is full of minerals and filtering it is very expensive, but the water can come out of the tap brown
- nobody wants to pay more in taxes or whatever to upgrade the filtering system
- concern about new companies coming online that need cooling capabilities (i.e. a new biofuel plant in Lakeview) and the treatment of water for those uses are concerning.

- Water quantity – with glaciers melting on Mt. Hood, surface water irrigators in the Hood River will face shortages and water quality issues as more glacier silt comes into the rivers
- Future groundwater use might happen, and if it does it would be good to make sure it's Sustainable
- Additional surface water storage is needed too (in addition to the existing on-the-ground water conservation already going on)
- If we don't learn the WHY'S and wherefores' regarding why there is NEED for restoration in the first place, we will never solve but only get worse. 100 years ago water quality and quantity was excellent in most places. It's the last 100 years that 98% of the problems have occurred. We can have no meaningful solutions without understanding those consequences.
- Metering technology is a solution for water managers, not customers. The chemical question is far more important and it really doesn't get addressed. Anywhere, while having more and more consequences today and tomorrow.

Case Study Presentations

Upper Deschutes Watershed Council: Whychus Creek Restoration Project

Presenter: Mathias Perle

The Whychus Creek historically provided some of the best spawning, rearing and/or migration habitat for redband trout, spring Chinook and summer steelhead salmon upstream of the Pelton Round Butte dams on the Deschutes River in Central Oregon. With this historic reintroduction and stream restoration underway, efforts in Whychus Creek are focused on restoring the physical and biological conditions necessary to support successful salmon and steelhead spawning and rearing.

Seal Rock Water District: Advanced Metering Infrastructure

Presenter: Adam Denlinger

In order to optimize service to local utility users, the Seal Rock Water District sought to revamp the way in which the District meters water-thus advanced metering infrastructure was implemented. In creating a smart water networks and infrastructure, the district has been able to save water, increase employee safety, reduce costs for customers, and enhance the District's ability to monitor the conditions of local water infrastructure.

What does a successful water vision look like?

Large Group Discussion

- Jobs are created from the rest of infrastructure
- Water for us and future generations
- Balancing interests

- Inventory of infrastructure and stakeholders
- Equitable inclusion
- Those with the least clean water are given priority for clean water
- Holistic and integrated approach to water management and strategies
- Modernized laws
- Dedicated funding streams for natural resource agencies
- Community understanding to nuances of water management
- Water is thought of a big, interconnected system
- Communities are empowered to collect information about water
- Holistic management, from soil to humans

Small group and individual notes

- A reliable (self-updating, if possible) water inventory
- Robust public notice and process as policies shift
- a robustly funded Water Resources Department that can implement the integrated strategies outlined in the IWRS.
- a dedicated and full funding source similar to transportation funding that can fund water infrastructure needs, both built and natural, that provide resiliency against not only disasters but drought and climate change
- Protection of natural systems
- Restoration of natural systems to support wildlife and protect drinking water quality
- Human understanding of the value of water resources
- A statewide citizen commitment to water conservation
- A statewide corporate commitment to water conservation
- Holistic and integrated water management and good governance structures involved with water management
- Knowledge of current water use and information about fish and wildlife needs sufficient to make informed water management decisions
- Sufficient funding and resources to agencies and stakeholders involved in water management decisions
- Modernized laws and regulations and policies concerning water management and protection of water dependent resources
- Successful information sharing with public such that water is properly valued by the public and there is broad-based support for its sustainable management
- The end of indiscriminate logging, the end of the use of all synthetic petrochemicals as fertilizer or pesticides
- inter-agency cooperation and effective regulation / incentives for agriculture and forestry - in terms of land use, use of synthetic fertilizers, pesticides, and illegal water withdrawal

- Resolution of the competing value system and externalized costs contained within the tension between fiscal year/profit-based economic norms and the need for respect watershed holistic health
- imagining and practicing ways to support lifestyles and livelihoods of conservation
- Redistributing funds to support local people getting their basic needs met as a priority over catering to (large) industry
- We need to have a confident system and plan
- We need to know our data, and use it wisely
- The state needs engagement across the board with all decision makers, and they need to be talking to each other
- Equity for all communities- rural and urban
- corrections to efficiencies- OWRD is way behind in permitting and it seems communities are competing for water rather than working together as a state and region (neighboring states) to protect and share water
- Efficiencies within the system as shown in the presentations
- Water reuse
- Jobs created from restoration of infrastructure
- Nice healthy clean watershed for us and future generations
- Balance
- Reusing more water
- Dam inventory
- Minority and low-income community inclusion
- Priority given to those with least clean water
- Water inventory
- Stakeholder list that folks can be added to
- Share definitions for when conflicts arise
- Humans fix their behavior so that restoration and mitigation is not needed
- Halting industrial forestry
- Rural communities are revitalized with jobs in restoration
- Decentralized, community based solutions
- Every resident, business, municipality in every watershed has years of fine-grained data on actual water quality and quantity (surface and groundwater) can see trends, is paying attention to information.
- Every watershed has reliable data on water use, water users, understands stressors, and everyone uses the data/understanding to manage behavior with highest priority on conservation.
- Everyone in every watershed is using ecologically-based and health-appropriate means to restore whole watershed for flood control – re-wiggling channelized streams, riparian vegetation, etc.

- Urban residents especially, but all Oregonians, are focused with high attention on conservation because citizens understand their impacts on Oregon's resources.
- Developers are prevented from perverting just and fair water policy because everyone understands that the issues are more important than profit.
- Everyone is focused on and understands soil and its fundamental role in water quantity and quality.
- Economic pressure on farmers is changed and eased so that they are able to focus on soil health and regenerative farming rather than focusing on false notions of efficiency for short term profit.
- Farmers and ecologists/conservationists are working together as like-minded experts in their love of Oregon, its water, its soil, all its natural resources, etc.
- Small local farms are healthy, young people have easy access to becoming a viable farm business in the local economy.
- Foreign and out-of-state corporate farms are held to strict account for every behavior that diminishes quality and quantity any of Oregon natural resources.
- Equity for all communities- rural and urban- and corrections to efficiencies- OWRD is way behind in permitting and it seems communities are competing for water rather than working together as a state and region (neighboring states) to protect and share water
- Efficiencies within the system as shown in the presentations today
- Water reuse needs to occur – maybe mandatory for all communities?
- Putting forward the vital inter-connectedness of soil with water issues.
- Data available and people paying attention to the baseline needs and health.
- STOP ALL INDUSTRIAL forestry and clear cutting. Including all the negative consequences of chemicals, erosion, spent soils while supporting extreme wildfires that plantations insure.
- all agencies and efforts to be integrated and working together, rather than at odds so many times
- End of indiscriminate logging
- End of the use of synthetic fertilizer and pesticides
- End of illegal water diversions
- Need for interagency cooperation – incentives and regulation
- Increase effectiveness
- FY driven profit based norm versus watershed health – how are we going to transform our economic norms so that they're not being met at the cost of our health and the health of the planet
- Redistributing funds to local people to get their needs met over meeting the needs of large industry
- Imagining and practicing ways to support lifestyles and livelihoods of conservation
- Protection of natural systems

- Restoration of natural systems to support wildlife and protect drinking water quality
- Human understanding of the value of water resources
- A statewide citizen commitment to water conservation
- A statewide corporate commitment to water conservation
- Data and information is available at a fine grained level and everyone is paying attention – justice and equality in how we use these resources
- Importance of soil in every decision about water
- When farmers and foresters and conservationists and ecologists work together – I think that’s when really brilliant policy change happens
- Agree with what was said before regarding chemicals
- Member of a citizen science group that monitors our own wells and our own groundwater situation – we think everyone should know what’s happening in their wells – very hard to find partners
- Just here to listen and report back to them – just now getting into the water game
- Main importance – is it sustainable for environment, recreation, ag and municipalities

What’s missing for the current draft of the Water Vision?

- How are the goals explicitly connected
- Water reuse
- Where is surface and groundwater and how it pertains to the goals
- Lack of environmental conservation
- Water affordability
- Would like it to engage more in how to be inclusive of marginalized communities and expectations for public engagement
- Conservation measures
- How does the plan make sure that this is truly a cooperative effort and won’t pit areas of the state against each other?
- absence of marginalized communities language
- absence of marginalized communities as they are experiencing some of the larger impacts and threats including drought, flooding, and toxicity
- Addressing trust issues of the government and process
- Collaboration/community connection between the pillars of the vision.
- Time and giving this project/vision enough time to be able to address all the issues included
- The plan should be explicit about how the 4 goals are connected and how there may be tension between them. For example, economy could either be seen as keeping our current economy, or to promote green jobs that help the economy while also benefiting the environment and health.
- Surface and Groundwater as it pertains to all four elements of the Vision
- Stressing the economic value of environmental conservation

- Interconnectivity of different elements
- Time – things were thrown together in a short period of time
- City of Silverton’s re-use of water
- another goal for “quality of life” and ensuring that we have sufficient water and healthy fish and wildlife populations for recreation, tourism etc. or another place to capture that Oregonians strongly identify with flowing rivers and healthy iconic fish and wildlife populations and that those values also support robust economies in the outdoor recreation, rural businesses and commercial fisheries areas.
- Reorientation of the problem statement which reads with a heavy focus to infrastructure. A better expression of the problem would seem to be that there may not be enough water to meet the needs of fish and wildlife, communities, and industry into the future considering climate change and population growth projections. Additionally, we don’t currently have a robust enough “toolbox” or information to adequately address this problem and there is not a recognition of the existence or magnitude of this problem by the Oregon public at large.
- One of the goals should perhaps be related to education to the public at large and promoting ideas/actions that properly convey the importance and value of water.
- Clear goals
- The current 'vision' is a mission - the first paragraph in the draft document... Vision would be for Oregon's people, environment, and economy thrive with access and active stewardship of clean water.
- Add equity component to vision
- lacks integration with soil conservation and the activities in the forestry, farming, and ranching communities. We need to acknowledging the huge role forestry and agriculture plays in water management and use
- Performance measures would be important to be included in the document as well
- it is not bold and transformative enough – does not recognize the interconnectedness and does not recognize that the BIG systems right now are not working
- Inadequate soil carbon content that reduces our water resources – need to increase soil carbon content – biochar – don’t allow clearcutting – there’s so many ways we can do this
- Vision does not focus enough on changing attitudes. I still hear organizations talking about providing "ample" water supplies. I don't think that's a realistic vision.
- Need to think about how things are connected – we need to understand and live within our constraints.



Website Survey Summary

This survey was posted on the Oregon Water Vision website from August 21, 2019 to December 13, 2019. Participants were asked to respond to three questions about the Vision goals and problem statements, and were given the opportunity to provide any other comments on the Vision. In total, the state received 337 individual responses.

Survey Results

Question 1

The goals of the Oregon's 100-Year Water Vision are as follows:

- **Health: Secure, safe, accessible, and healthy water for current and future Oregonians.**
- **Economy: Adequate and clean ground and surface water to support economic vitality for all Oregonians.**
- **Environment: Access for native fish and wildlife to the cool, clean water they need to thrive.**
- **Safety: Resilient water supply and flood protection systems that can face natural hazards such as floods and drought.**

Do these goals represent your relationship to and usage of water? If not, what goals do you feel are missing, or what changes do you suggest to the current wording?

Raw notes:

- I would put more emphasis on habitat, particularly the restoration and replacement of degraded wetlands.
- No but but: 1. "Safety" bullet is redundant of inclusion in "Health"; "Environment" should not be limited to "native" fish and wildlife any more than the others should be limited to just "native" people; we are all here now and deserve consideration.
- Yes
- I find the goals to be appropriate
- Yes, mostly, but the attempt at brevity leaves out some important points. E.g. fish and wildlife need sufficient QUANTITY of water, as well as access to it.
- These goals are great. The only thing maybe missing is something about climate change. Maybe mention "changing weather patterns" in environment or safety.
- I would just get rid of the economy goal. The other three cover it.
- I am a masters student at PSU doing research on water justice, and through this research I have come to believe that a critical component that should be specifically addressed in this water vision is water equity. For example, water equity is important in not only understanding how access to clean drinking water is sometimes limited for low-income communities, but also in framing the solutions for these water problems. I can see aspects of equity reflected in the wording of these four goals, but I think that Equity should be its own goal. If it were to be its own goal, I would suggest a wording such as this: Equitable

water resource management decision-making and decision-making processes. If Equity is not its own goal, I suggest that it be highlighted more clearly in the four other goals. For example, the Health goal could say: Equitable, secure, safe, accessible, and healthy water for all current and future Oregonians.

- I like #1, #3 and #4 but #2 is worded in such a way that it could be in conflict with #3. Or even #1. Seems like you could just leave that one out and only have the three goals. Doesn't a resilient water supply that supports native fish and wildlife and people ALSO support the economy?
- Missing are cultural goals that value indigenous uses and rights. Also missing, any reference to invasive species threats that are sure to havoc every one of these four listed goals. Consider adding: Vibrant, resilient watersheds and river basins that resist impacts from invasive species, climate change, habitat loss, and changing land use values.
- Yes, and there could also be a cultural component here. Tradition: preserving the cultural significance of our water resources. (food source, recreation, native uses, etc). Or... Access: sustaining and improving access to Oregon's waterways for Oregonians. (food source, recreation, traditional uses, native uses, etc..)
- The environment prong should not be limited to merely "access for native fish and wildlife." The environment of Oregon includes cultural, social, and community values that should not be discounted in favor of a limited sector of the physical environment. If this prong is about access to water, it should take into account the communities and industries that rely on these water sources for more than economic ends or mere survival. It should also incorporate creation of additional storage to ensure adequate supply as demand increases and the climate changes.
- Yes, these goals are good. I am a member of the Sandy River Watershed Council and those are similar to our goals
- The IWRS already has a vision, goals, strategies, and actions. Why is the state creating a new vision? Is it abandoning the IWRS? I don't understand what the Water Vision is about. How is it different than the IWRS? I think Oregon's water goals are better represented by the IWRS, in large part because they were developed collectively through an extensive public process. Fundamentally, at the end of the day...I don't understand why you aren't building on what the state has already done. I also really don't understand what the Water Vision is trying to accomplish - the messaging is confusing. Newspaper articles state the purpose as: Implementation plan for the IWRS Build awareness and develop investment strategies Tee up investments Modernize aging infrastructure Fund large-scale projects Build awareness about water challenges Strategically invest in water Guiding document to prioritize investment – similar to the state's Transportation Plan If your goal is to invest in infrastructure...then maybe you should be clearer about that upfront. These seem more like vision statements than goals and don't seem to be related at all to what

you're actually trying to do...which is to get money for infrastructure. They are potentially misleading and not helpful. I think the goal should be: Significant, sustained financial investments in water to understand and meet the water needs for the environment, people, communities, and the economy as outlined in the state's IWRS. This would include data collection, infrastructure, education, planning, etc - all the things you need to successfully manage a complex natural resource. Infrastructure is among a broad suite of solutions, but it is not THE solution. Many of our problems won't be solved by infrastructure alone, which is why the State developed an Integrated Strategy.

- Please add: Open and transparent water data, including notification of water quality levels that are near or below regulatory limits.
- The order of things is important and "environment" should be the second on this list, ahead of economy. The key words in each of the four sentences has to do with "access" to water or whether a sector has "adequate" water - and there is a difference between those two words. Each sector will need "access" and each sector will need "adequate" water (though that need is highly variable for different sectors at different seasonal times. Flood control is an oxymoron - floods are an important part of the natural water cycle (as are droughts) and flood control typically interrupts the beneficial aspects. Supply "resiliency" must be construed and evaluated for all four categories. The missing goal is the need to revisit water commitments made for consumptive uses that were granted without adequate knowledge of the ground and surface water connection, the true instream needs of native fish and wildlife, and the useful application of water conservation technology and culture. Oregon must not move forward with a vision for the next 100 years without looking back at the past 100 years.
- Strategic Partnerships: Effective partnerships with wildlife, specifically beavers and wolves as it pertains to their ability to rapidly assist in the restoration of stream systems, improve headwater streams at a regional scale, and thus increase the natural water storage capability of headwater stream systems and meadows and improve its quality.
Education: Development and implementation of a curriculum that starts in kindergarten and continues through high school that results in our youth becoming literate in water related issues. Included would be how natural water systems work, the role of wildlife in improving conditions, how current and past human land uses impact water abundance, timing and quality downstream, and how stream systems work and what is needed to healthy streams which include both surface and groundwater, what built infrastructure looks like, how it works, and when it was developed. Also examples of what happens when infrastructure both natural and built breaks down and why.
- Protect from invasive species both animals, plants and pathogens.
- By and large yes. Missing is the plan for infrastructure
- Good start. For Safety, I would add fires so "...such as floods, fires, and drought" given

the significant fires and resulting erosion and sediment deposition that we are starting to see. And the impacts that plastic pipe melting in fires have had on water quality in urban areas that have burned hot like Santa Rosa, CA. Under Environment or Health, I would add some connection between spending time in nature with natural waters and mental health. Something to get to the importance of having adequate waters in their natural state to link with green bathing and how not to "love our natural areas to death" with increasing population, etc. This may not seem as important, but if you start thinking of the underlying issues of and the impacts of the drug problems and resulting homelessness issues in our cities, I think connections to our nature and water in a sustainable way is part of the puzzle to solve.

- Suggest revising environment "... wildlife to the habitat and . . ." We need to think about the geomorphic part of what water does in streams (e.g. ecological flows defined by The Nature Conservancy/ USGS for the Corps in the McKenzie and Santiam basins). Suggest adding "wildfires" to Safety.
- Under environment maybe add something about providing sufficient water volume and flow rates for fish and wildlife.
- I don't see the words "streams" or "rivers" anywhere in this water vision. The language we use (or don't use matters). How about this for the "Environment" bullet; "Access for native fish and wildlife to the cool, clean streams they need to thrive." Flood protection systems MUST include funding of USGS gaging stations in order to predict those floods. USGS is the best, most cost efficient way to do this kind of monitoring because they have the long history of expertise and experience.
- I would place improvement of the natural stream environment for fish, wildlife, and the native aquatic ecology at the head of the list of goals. This is the most degraded aspect of water systems, and the least able to recover with future interventions. At this point, and historically, there needs to be stricter management, and irrigator cooperation to conserve water so that natural historic flows can be restored and maintained.
- These are critically important goals. What is missing for me is the real changes that our coast communities are going to be experiencing with rising sea level, ocean acidification, and hypoxia. How do we build these very important economic and ecological issues into our problem statement and 100 goals?
- Education: Water conservation on a personal and community level
- Yes they do.
- These are worthy goals, but they fail to recognize that not every drop of water needs to be potable.
- Keeping our water cool and clean must move up on the priority list. We are driving several fish species to the edge of extinction.
- As long as irrigated agriculture remains at the forefront of the economic needs.

- Preparation for the increased variability of weather events related to climate challenges. Promoting stewardship of our resources in all planning and development related projects.
- It does represent my relationship to water.
- Yes
- "The problem statement and goals (Health, Economy, Environment, and Safety) of Oregon's 100-Year Water Vision are very broad. We are concerned about access to clean drinking water, enhancing protection and habitat for native fish and wildlife, and mitigating wildfires, floods, and droughts. The plan needs to anticipate changes caused by climate change as well – environmental changes including higher sea levels and animal and plant ranges shifting, and social and economic disruptions including mass movements of refugees into and around the state. Missing/Not Shared: a. CTCLUSI is a sovereign indigenous nation and shouldn't be considered a junior partner to the State of Oregon. b. Natural resources are cultural resources for the Tribe, and the plants and animals that we use for materials, foods, and ceremonial purposes are closely tied to the water. c. CTCLUSI prioritizes protecting and improving the ocean, wetlands, rivers, streams, and lakes that have sustained us for generations, instead of building costly new infrastructure which requires constant upkeep. The construction of new infrastructure can be environmentally harmful. d. Spills from industry and shipping pose a grave threat to the cultural and natural resources of the tribe. Many tribal members remember the 1999 New Carissa oil spill, which devastated important coastal areas."
- The 100-year Water Vision fails to incorporate the importance on invasive species, notably noxious weeds. Invasive weeds play a crucial role in water quantity and quality, without addressing these issues the current goals will not be accomplished. Noxious weeds displace native vegetation, decreasing watershed health, by allowing increased erosion, lower water table, increased water temperatures and many more vital components of water quality and quantity. Invasive species issues, such as prevention and control, should be addressed from the beginning.
- Yes, all of these are important and inseparable. Success will depend on all of those stakeholders investing and participating in restoration while sharing the resource equitably.
- Please add to language to these goals that specifically talks about the addressing invasive species. They are a huge threat to healthy water quality.
- Yes.
- Yes
- Many of these goals seem very broad, and not specific enough to what this Vision is trying to achieve. In addition, the wording on safety makes it seem like the risks to water supply are the same as in the past - natural hazards is a comfortable word. What may be more important here is pointing out that we need a range of tools and solutions that will enable

water supply and flood protection systems to deal with more severe or unprecedented climatic conditions.

- Under Health and Environment we should reintroduce beaver into our watersheds. This will help with providing clean water, increase water storage capacities, and provide habitat for numerous common and rare plants and wildlife.
- yes
- The stated goals are all valid and important. What consistently frustrates and concerns me is the relative weight given to special interest economic concern OVER long term environment outlook. Specifically monitoring and maintaining adequate and healthy in stream flow for our native fish and wildlife. The natural environment makes Oregon the incredible place it is - whether a person "recreates" outside or not. We all need to invest in maintaining "our" environment.
- I think environment should also include human access to clean water for recreation and mental well being
- Good goals, but the emergency for fish and wildlife is far more dire than many understand. A warming climate, coupled with an extraction perspective regarding our forests is placing a tremendous burden on the few salmon and other native species we still have left.
- managed forests to protect a small community's water source
- Assume that 100 year forecast for what the climate will be is conservative. I think scientists tend to underplay expected climate. So most likely conditions will be worse than expected. As evidence, note changes in recent projections. We need to think about projects to store more rainfall since there will be less natural snowpack storage in the future. Expect states which will suffer most from water lack -- California, Arizona -- to look to Oregon for water. We must be prepared for that.
- The laws must be enforced that are supposed to ensure adequate water quality and quantity - now and in the future. Agencies responsible for protecting our water from unsustainable development must be held accountable.
- yes
- yes, these are good goals
- One concern - If the water gets too clean then the small insects and other macros can't survive and the fish won't have much to eat. Fish can't live in sterile water.
- These are great conceptual topics and definitions that build a framework for the conversation. However, I find that in a lot of governing agency policy, language is quite subjective and therefore subject to the leanings of the elected or appointed officials. How do we better define words like "accessible, safe, adequate, clean, etc., to have more meaning?"
- Yes.
- OK

- I believe our state is over committed to its old infrastructure. Outdated dams and grandfathered irrigation systems are damaging our watersheds and placing native species at risk.
- Capacity: Determine the carrying capacity of the land and water to be able to supply to Oregonians their right to a healthy safe life.
- I am hoping that "economy" includes prudent usage for farming.
- The 4 items listed are all good. However, missing and not necessarily included in these 4 items is the preservation of water and watersheds representative of the historical ones that existed before European settlement. Undisturbed watersheds and examples of water bodies not impacted in a negative way-such as Waldo Lake should be made part of the water vision.
- Agriculture: A blending of Oregon's goals.
- Additional supply infrastructure, ie dams, should be included in the vision. Deep water storage to help mitigate low precipitation periods is important for our increasing future needs.
- No - these goals are far too broad and general without measurable outcomes to represent my relationship and usage of water. A yes answer could be misinterpreted to support these general goals that could then be acted on without accountability and valid science.
- Under environment there needs to be language to support Agriculture practices, livestock and crop access to clean water.
- Health: It is important to include the concept of equity into this goal. Secure, safe, accessible, equitable, and healthy water.... Economy: It would be helpful to acknowledge alternative strategies that support economic development that are not at the expense of the environment (e.g. renewable energy rather than investing in outdated infrastructure, such as the Jordan Cove LNG pipeline). Environment: I think this goal should go beyond access and focus on sustainability, resiliency, and protection of water resources for fish, wildlife, and our communities. I also think it's important to acknowledge the impacts of a changing climate on the environment and water resources. Not only can we expect more variability in precipitation, we may have a less sustainable snow pack, lower stream flows, increased stream temperature, increased severe fires, etc. Safety: I support addressing natural hazards in this goal and also think that this goal should acknowledge water quality as well as water supply. This is tied to the health goal, but I think is also a safety issue.
- Under environment it should include not just access, but a clear statement in the goal to protect streamflows necessary to support healthy populations of native fish and wildlife.
- Good start but I am very concerned about Oregon DEQ's failure to adequately protect water resources. DEQ has been giving cities too much slack when it comes to violating wastewater discharge permits into waters of the state. I would not put "economic vitality" as a prime goal for protecting water because DEQ is using cities' lack of money as an

excuse for degrading our water. We can't have "healthy" with all the unknown/emerging contaminants that are still left in fully processed effluent that gets discharged into waters that other communities downstream have to use for drinking water. "Beneficial" re-use of effluent is a cruel joke given all that is still left undetected in effluent.

- The forest nexus is missing in these goals. Forests that supply clean abundant water should be identified
- Growth of Oregon's population will create more demand for water which should not impact the recovery of fish and other aquatic species.
- Yes. I wish we could re-visit the water right allocations so that they represent Oregonians as a whole rather than individuals whose ancestors were in the right place at the right time.
- Complete structural changes to forestry harvests to drastically reduced limits of removal of all plant life in our forestry systems to protect and increase our water quantity and quality for our immediate and future survival and the survival of our fisheries systems and wildlife.
- We need to educate people of the importance of this work
- The first priority should be the environment. The health and safety of humans will follow. Oregon has prioritized the economy throughout it's history and given water rights far exceeding the total supply of both surface and ground water/ Until this problem and attitude has corrected, the future of water in Oregon will be dismal.
- For fish and wildlife, it's not just "access" to water, it's also the ecological processes that sustain healthy aquatic ecosystems.
- I would suggest that the environment sits at the top of these goals, with health, economy and safety nested underneath. The descriptions within each of the goals (e.g. health, economy, safety) supports this. Each of these three goals are grounded in terms/statements such as "healthy water" or "clean ground and surface water" and only happen if we prioritize the environment and healthy ecosystems that provide clean water, flood protection etc.
- I think the goals need to specifically call out protecting water for agriculture uses as well.
- In the environment section I think I would the word "Access and availability for native fish and wildlife". Currently there are changes happening in weather patterns that are causing water to not be as available for fish and wildlife. Examples include how low the Willamette river is and its availability to recharge sloughs, side channels, etc. Another example are refuges that don't have water in the wetlands during pivotal migration time because those wetlands either don't have the infrastructure, water rights, nor the rainfall necessary to make those habitats fully functional.
- Mostly OK.
- They appear to cover the bases. Obviously, the great challenge is to advance all four of them concurrently.

- I'd recommend recognition of a need for "balance" as it relates to economic and environmental goals.
- Goals yes. Priorities? Currently fish seem to be #1, i.e. ODFW is currently blocking conservation projects in the name of fish passage even though fish are non-existent. This at the expense of everything else. So what happened to the goals-they are gone in the name of fish.
- Pretty good, but a concept is missing: The state needs to determine appropriate water use in areas historically dry; such as the high desert. Farming and growth in those arid areas should be limited to crops and populations that can tolerate low water, to avoid "shipping" it from other regions or depleting deep wells.
- These goals generally represent a broad view of water usage and are appropriate for such a grand and long term vision. What I don't see mentioned is a statement/goal/wording that would capture the restoration of the environment to increase water storage capabilities, thus, increasing water supply.
- The goals should be focused on Health and Safety first.
- The goals as stated are admirable. What is missing is that I believe that a sense of urgency is lacking. A 100 year vision is somewhat useful, but in the current situation I think that we have less than 10 to 15 years to act or we face system collapse. This needs to be communicated to all concerned.
- goals are good
- I'm confused about the difference between health and the environment - wouldn't these be one and the same? Doesn't healthy water mean clean water?
- The goals DO represent my relationship to and usage of water.
- Yes they do! Encourage everyone to install water restriction aerators on all home faucets!
- Equity: Ensure that all have community members have access to clean water (often those low income communities are most likely to be affected by pollution or risky infrastructure - such as oil pipelines or industrial pollutants)
- While these goals are representative of my relationship to water, the goal of Equity is missing. It needs to be included for this set of goals to adequately describe the needs of Oregonians.
- Protection of headwaters from logging and road building is required to prevent silting/in of critical spawning habitats for native salmon, steelhead and trout.
- Mostly. The goal for Environment would suit me better if it read: "Access for native (and managed) fish and wildlife....".
- They do but the wording, which I'm sure took a lot of crafting to agree upon, is hard to take. How about Economy: Healthy landscape and waterways to support economic vitality for all Oregonians. Safety: resilient water supply and flood prevention systems that ameliorate natural hazards and such as floods and drought. We need to be moving away

from flood protection because it isn't the long-term solution. Flooding only gets worse. We need to prevent flooding by widening floodplains and halting development into them. Hardening streambanks for flood protection just makes flooding worse in other areas. Thank you!

- Modernize Oregon laws governing logging, pesticide and herbicide spraying to prevent further harm to humans, fish, wildlife and native plant communities, and continued damage to their water supplies.
- "Access for native fish and wildlife to the cool, clean water they need to thrive" describes some of the environmental needs but not all! There need to be sufficient flows to sustain thriving populations of fish and wildlife. "Access" makes me think of safe passage for fish and wildlife. Yes, we have thousands of fish-blocking culverts state-wide that need to be repair or replaced. But we also need to set instream flows for fish and wildlife. Please call out "instream flows for thriving fish and wildlife populations" in your goals statement!
- While I agree with the 4 general categories, I hope the goals can be refined to reflect clear specifications and can be tied to measurable objectives. I would build a case for putting the environment first on the list and including reference to climate change. Water sustainability as part of a healthy environment is the foundation for health, economy, and safety - not the other way around.
- YES
- Yes - these seem appropriate. However, need to emphasize leaving water in our rivers for fish.
- yes
- Wildlife needs more than access to water. Cool clean water is largely dependent on good management of the watershed.
- Yes, these goals represent my relationship to and usage of water and I have more to add. I would love to see access called out specifically in a separate bullet for goals: Access: Appropriate qualities and quantities of water exist AND are apportioned in equitable ways that recognize historic and current water access disparities experienced by people of color; people living on a low income; indigenous and Native American people; people who identify as transgender; houseless people; people who speak English as a second (or third or fourth) language; people with cognitive, physical, visual, and/or auditory disability; immigrants; rural dwellers; coastal dwellers; youth; seniors; lesbian, gay, bisexual, and queer people; and/or people without a college education. I recommend Recode's analysis as a starting point for incorporating some of this framework into the Oregon Water Vision: <https://www.recodenow.org/diversity-equity-inclusion-in-water-systems/>. Add to goals, something like this on affordability: Affordability: Water is a human right that everyone in Oregon will be able to afford. The amount will be, at a minimum, enough to support personal health and sanitation, to protect public health. Affordability

explanation: Within 3 years, much of Oregon is at risk or high risk of having water systems that 1/3 of our population will not be able to afford. The EPA is already concerned with cities in NY state that are facing a future without enough paying customers to sustain the status quo. To avoid this ourselves, we can't keep using the same oversized, overpriced technology and approaches that got us into the current sad state of water access and affordability in Oregon. ACCESSIBILITY AND INCLUSIVITY OF DOCUMENT WORDING I ran the first paragraph of this survey through an online readability tool. You are writing at a level that it describes as "college graduate level", "very difficult", and exceeds "college level". Use this tool, <https://datayze.com/readability-analyzer.php>, or one like it to rewrite everything on the survey, including the draft Oregon Water Vision, so that it can be read and understood by even youth, who are key stakeholders in the 100-Year Water Vision, considering they will inherit the systems (e.g. governance, infrastructure, policies) implemented in the vision's ultimate plan. "Oregonians" is an exclusive term. Not all people in Oregon identify as "Oregonians" (e.g. migrant workers) yet all people in Oregon deserve to benefit from Oregon's 100-Year Water Vision.

- Looks good but maybe also specify that water is a basic human right that should be made available to all. Also, usage can include not just consumption (for public, agriculture, and industry) but also other uses such as cultural (i.e. by native Americans) and recreation. Although this may be too much info to include in a concisely written goal.
- First, "Health" as a heading for #1 seems wrong--sounds more like you're talking about "Access" to safe drinking water. Also I think "Sustainable" would be more accurate description for the last bullet "Safety". Affordable water is also important. I'm worried about increasing development, particularly on the coast where storage is an issue. There needs to be some controls on development to fit available water supply. I'd also like to see more emphasis on smart/efficient water use.
- Yes
- Yes
- What's needed is buy-in from the large corporations controlling the private land and the government controlling the public land. So the main goal will have to be making sure the entities controlling the largest tracts of land are on board with the stated goals. If we allow the corporations/government entities to decrease the harvest times by 10-20 years we risk them destroying the water cycle as we know it. Rural wells will run dry and we'll see more erosion into the river. Grassroots restoration projects are cheap and fun, but if the worst offenders are allowed to continue to pillage the soil the effort is going to be 'too little too late.' My relationship with water comes in the form of regenerative agriculture focused on restoring / enhancing the water cycle.
- Yes
- Yes. But should probably add earthquake to natural hazards that could have negative

effects on a "resilient water supply" as damage to water infrastructure would be anticipated.

- Yes. In safety, include earthquakes and address the unique challenges to resiliency and equitable access
- Flood protection should be focused on development outside of floodplains and removal of vulnerable infrastructure and communities located in floodplains, as opposed to levies or dams. This will allow floodplains to function naturally and provide flood protection as well as environmental, health, economic, and safety benefits.
- Yes
- dynamic floodplains are essential for ecological function. "flood protection systems" seems to set expectation that flooding will not exist. Suggest changing to reflect protection of grey and green infrastructure.
- Some mention of aquatic invasive species that impact water quantity, quality and the cost of infrastructure management would be beneficial.
- A healthy functioning aquatic ecosystem should be the first and foremost goal for Oregon's 100 Year Water Vision. The other goals, listed here, will follow if that goal is met. The wording is far too limited. A healthy aquatic environment involves the riparian environment as a whole. It includes the stream side vegetation as well as the water, as well as the animal species present in this system. The emphasis here is too much on human needs and uses of these systems. A more holistic vision is needed.
- 1. Add floodplain function restoration 2. "Economic vitality" is a subjective term. We need environment and drinking water more than we need corporations.
- Looks good.
- These goal broadly represent the relationship I see Oregonians having to water, however, I think that there are deeper environmental considerations than just native fish & wildlife when it comes to water issues. I recognize the importance of fish & wildlife and think they certainly should be considered, but it is a narrow view of the environmental impact of water. The ecosystem services that the water cycle provides should somehow be incorporated as well.
- These cover my goals
- Yes
- Yes, generally
- Yes
- Good - but a couple of thoughts to consider: This casts flooding as a negative event, however I think our current understanding is that floods are natural event and beneficial, rather than a hazard. I'm not sure if that applies to drought as well? Under safety, you could reword this to: Resilient water supply and system that can support our water needs through natural cycles of drought and flooding. under environment, this seems to be a

very static view of water. I might prefer: Environment: Water to sustain Oregon's native fish and wildlife in a changing climate.

- The environmental statement falls short of the 3 C's required by Oregon native Fish and Wildlife. Clean, Cool, and CONNECTED freshwater habitats. Environment: Access and full 'Connectivity' for native fish and wildlife. Fish and wildlife need to be able to migrate throughout habitat. Merely saying 'access' allows too much elbow room for destructive/unsustainable land use practices (dewatering, rising temps due to over grazing, and hydropower dams).
- Yes, it is broad and general enough to cover most issues.
- Yes
- I think these goals are adequate to cover my priorities.
- We need to explicitly call out the privatization trend in goals, i.e. adding "public" and that it is a "citizen's right"
- yes
- Yes, also recreational activities, fishing, boating, etc.
- Recognize the importance of wetlands in the goals: "Resilient water supply and *natural and built* flood protection systems..."
- Yes, sounds good. Could add something about recreation
- Legality: Provide clarifications to current law and create adaptive new laws to provide water as a renewable natural resource available to many and not only those who control it for leverage or profit.
- Environment should include protecting native species and systems from invasives. Health should include some statement about what we are putting into the water systems (wastewater, etc.)
- Yes this looks accurate. I would add under health something about managing invasive species unless this falls under the "Secure" thought.
- Maintain the mechanism for landowners to manage their own land. Having state and federal regulations to mandate how and to what standard the landowner is to meet is a good thing, but to make the process so obstructive removes the ability for many to implement meaningful change and updates to combat this issue. "Economic vitality" - couldn't agree more with that sentiment. However, from a regulatory body and increased rules is counter intuitive and counter productive.
- Yes. Water is a public resource. Privatization of water resources should be avoided. The people of Oregon should be able to work collaboratively to achieve the goals noted. Thanks.
- One major goal is missing: keep Oregon's waters free of highly damaging invasive species, like exotic mussels that can cause billions in damages and irreversible ecosystem changes, as well as free from damaging terrestrial invasive species, like new noxious weeds and

invasive tree-killing insects that can alter water temperatures, water chemistry, and stream channels.

- Please consider adding the evaluation of predicted changes in precipitation (amounts and timing) in planning changes in storage and infrastructure in the Environmental section
- We need invasive species threats to aquatic ecosystems, and water quality and quantity considered in the planning of this state-led 100 year water vision! For instance, there has been a lot of focus on salmon restoration so far in the vision planning, with far less attention paid to the threats of introduced northern pike and flowering rush on salmon recovery investments. Many other invasives, such as Ludwigia and parrotfeather, drastically impact water quality and still others such as Russian olive impact water quantity in arid regions. Also crucial to this planning effort are the effects of established populations of zebra and quagga mussels to water conveyance, quality and water & food security.
- Invasive species are the important factor to adversely influence three of the four goals mentioned: health, economy, and environment. Invasive species should be an integral part of the vision from the beginning.
- In one of the goals we need to talk about water for food. Future food with proximity to populations will become an even more important goal.
- Access to affordable clean water as a basic human right
- Yes - but please add to safety resiliency in the face of changing atmospheric and hydrologic forces due to climate change.
- Yes!
- Yes
- yes
- Yes, but we need to reform and update the Oregon Forest Practices Act to better protect our streams and to be more in line with what is needed as climate change progresses
- Yes
- Yes
- It would be appropriate to include equity and affordability within the goals of the water vision.
- Affordable water.
- I think that one goal that needs special attention is water in the Eastern Oregon. Because it is such and arid and varied environment some of the big picture analysis may miss the ESSENTIAL role of water out here. T&E fish species, the not -yet -listed Sage Grouse, and other unique flora and fauna rely directly on the little water found in small streams and springs and in sub irrigated scenarios for their survival. Our small supply of water is just as INTEGRAL to agricultural activities of farming and ranching on which our communities rely. Being creative and cooperative rather than regulatory in our approach to maintaining

access to water and protecting habitat has many long term benefits for all of Eastern Oregon

- Yes
- The goals, Economy should specifically include irrigate agriculture or farmers.
- In your environment talking point . Recreation should be highlighted
- For me the environment comes first. All of our uses and infrastructure should not further adversely affect our environment and when updated hopefully repair some of the damage that has accumulated over the decades. The natural world's needs should be at the very least equal in value to our own and for me that goal is primary.
- invasive species are a major threat to all of these goals
- Water for agriculture should be emphasized. For some, agriculture would be assumed to fall under "economy", but some people would not assume water for agriculture as important to economy.
- There is no specific mention of the importance of water to "Agriculture".
- There needs to be a goal regarding the recreational use of waters of the state. Waters need to be accessible to all and provide abundant recreational opportunity such as fishing, boating, wildlife viewing, spirituality, culture ... This is a social component that needs to be added to goals.
- yes
- I think equity should be a part of the discussion and priority. Ensuring access to water for our most vulnerable populations. Also the importance of reducing pesticides and other toxins that end up in our waterways.
- I would add in the Environment section that in order for fish and wildlife to have access to cool, clean water, there needs to have a healthy riparian zone along rivers and streams. This means allocating funds for restoration along these zones, replanting native trees and shrubs and controlling invasive plant species. When there is a plant monoculture along waterways, shading is less likely to happen and temperatures increase. This can throw off the whole dynamic and food web of these areas. There is no 100-Year Water Vision without a consideration for supporting native plants and controlling invasives. Plants support all of the areas that are highlighted above.
- The overall goals are good, but what do they actually mean.
- yes
- I think the relationship of people to water from not only a health, safety and economic standpoint, but also from a recreational, aesthetic and cultural standpoint should be included here somehow. When people talk about why they love to have clean water in their communities it's often because of their "emotional" connection to it; memories of playing in it as a kid, or trips with family, or their ability to admire the beauty of it. It's almost a deeper connection than what water can do for you mentality, but more of how

water makes you feel.

- Conservation, Reuse and recovery
- yes
- Education and control of invasive plants and organisms that threaten use of established water systems.
- There needs to be a statement that the priority is health and environment, not the economy. Too often the health of the people are ignored to "save money" (Flint, Michigan poisoning the people because the new chemical treatment released lead but was "cheaper"). Also, there should be a statement that water should be treated as a PUBLIC good, not privatized as is happening in some parts of the western U.S. Privatizing water makes profit the goal, whereas health and the environment should be more important than a few people getting rich.
- Reliable source of water for Oregon farmers and protection of existing adjudicated water rights
- Good Goals, as part of the solution set, cost should also be a consideration. If cities/municipalities have to raise rates to a level of being a burden to the citizens to pay for the infrastructure then this also an issue.
- Invasive species are the important factor to adversely influence three of the four goals mentioned: health, economy, and environment. Invasive species should be an integral part of the vision from the beginning.
- Under Safety, might consider adding ...and drought, and are resilient to a changed climate (might mean more thought on how we store water)
- What is the definition of clean water within this vision? Other than that my answer is, yes.
- yes
- all four of these goals are just buzz words with fancy descriptions. None of the above goals have or suggest any solutions. Water is the upmost important resource every individual should be concerned about, without it, we as a society have nothing. Here are my suggestions. Health; sounds good. Economic; how is clean ground and surface water economically vital when it's mismanaged? Stop mismanaging this resource. Get the state legislators to pass laws giving the Oregon water resource department some actual tools for regulation. If, OWRD has to regulate a violation the money goes to the state IRS. What? that should go to their budget. Environment; enforce streamside vegetation don't just talk about it! Reduce field tile installation that leads to more chemicals into the streams. Safety; in the Willamette valley flooding could be totally solved if drainage tile was not allowed or improved. Watershed management 101. Flood protection = no drainage tile. Capture, store, and safe release is the old adage. Retain the water in the soil profile and let it flow out as needed.
- Environment: Sufficient cool, clean water in streams, rivers, and floodplains to support

native fish, wildlife, aquatic and riparian habitat, and ecosystem resiliency to endure floods, droughts, and fires.

- They represent my priorities
- Change the intro to: "While ensuring the protection of the constitutional and property rights of all water right users, the goals of the Oregon's 100-Year Water Vision are as follows:"
- Yes. Safety, there is already safe water mentioned under Health. Safety to me refers to flood protection systems, dam inspections/maintenance, canals and levies infrastructure improvements that all prevent loss of property or life if they were to fail.
- Yes. It may be a second-tier goal but, recreation and the development of tourism economies can be a player in Health, Economy and Environment focus areas.
- Responsive measures to address pollution and contamination in a proactive, not reactive manner. Responses must be timely, not delayed, and responsible parties held accountable, not the general public for cleanup and remediation.
- Good start, but I propose some changes. First, I would combine Health and Environment. Second, for Economy, I would define "Adequate" and ensure that surface-and-ground water included long-term sustainability (e.g. consistently replenished groundwater levels). Third, for Safety, I would change "that can face" to "that anticipate and respond and adapt to..."
- Overall these categories fit our community focus, HOWEVER, I feel there should be a category of it's own for Emergency Management. We are ALL preparing and fine tuning our plans to address a natural disaster whether it is small (high wind storm or rain floods) or if it's XXL like the "big one" like the Cascadia quake we all fear. We have made water and wastewater plans needed to support the Emergency Management plans a Priority #1 on our CIP list of projects. Without water, there is not LIFE. We must have water to survive and recover from an event regardless of it's size.
- Water that is has been used by farmers and such for many years-decades should not be restricted to give to someone new. Should a restriction be made then payment for two times the period the farmer has used the water should be made yearly and include an inflation escalator. It is not reasonable or fair to not fully compensate for removing a key resource from historical users. For people who know Oregon, they know Oregon has not had abundant and clean water. This applies to areas within the Willamette Valley too.
- I think the goals encompass all the uses of water and needs I work with
- Health goal: What is "healthy water"? Water itself cannot be healthy, but it can be healthy (or not) for people. How would that differ from "safe"? Environment: What about plants? Safety goal: use "mitigate natural hazards" instead of "face natural hazards."
- These goals seem to be missing preservation of wetlands, conservation of urban streams, riparian areas and watershed health that constitute critical elements of clean and plentiful

water. I assume they are "buried" under the environment flag but if so they need much more attention and prominence.

- 1) Sustainability. Conservation and water re-use are solutions that will allow us to extend the supply and meet greater demands on our waters. The water vision should incorporate advocacy for these innovations. 2) Natural water infrastructure is cheaper. Strategic ecosystem protection is the least expensive way to ensure healthful water for consumption. Treating water after it has traveled over impervious surfaces is a much more expensive option. Invest in protecting source water ecosystems.
- Yes
- I would put Environment second only to Health, not third behind economy. Even though the goals are not listed in numerical order by priority, the very fact that economy is listed above environment is very significant and indicates how people are thinking about the goals. Therefore I believe the order needs to be changed. I would add the term 'abundant' to the phrase: "Access for native fish and wildlife to the abundant, cool, clean water they need to thrive."
- Yes
- All of these are great starts. Education needs to always be a player at the table. Being able to understand the why of each of these is a place where education comes into play. Thanks for making these goals a priority. These are limited resources and being proactive is important.
- Add recreational value, cultural value and importance of water to tribes and indigenous communities
- Yes for health, economy, and environment; though health and environment omit visitors to Oregon. As for safety in regard to flood protection, I am opposed to developing/rebuilding in flood-prone areas. Specifically, I do not wish to see shared resources spent to support a poor site selection choice. Rapid City, South Dakota is a classic example of rebuilding where an inevitable destructive flood will recur.
- Economy: The wording is backwards. Economic activity should be tailored so that it does not put stress on available surface and groundwater supplies. Sooner or later we (Oregonians) are going to have to accept that growth cannot continue unabated. Sustainability is what is required in our water vision. Environment: Adequate in-stream water must be assured to provide for fish, wildlife and habitat. Groundwater basins must not be over allocated. Groundwater withdrawals must be kept at or below a sustainable level.
- Maintain or improve midstream flow by making irrigation and industrial use less disruptive, more efficient.
- Enforce and define laws requiring "Beneficial Use" of all water diverted from its natural course. Establish minimum in-stream flows for river health as a senior water right.

Remove deadbeat dams and infrastructure.

- I see nothing about protecting and restoring aquatic ecosystems, which should be a primary goal
- adequate funding for the science to support measures..choose environment over human needs..
- yes
- Safety: natural river systems, groundwater recharge, and wetlands combined with intelligent land use (moving people out of flood plains) provide superior protection to building more dams.
- These seem reasonable goals
- I would believe so.
- Environment: Ensure minimum stream flows necessary for fish and wildlife to survive, as defined by experts and not by users. Recognize impacts of wells that take a high percentage of the groundwater.
- The environmental goal is very inadequate. A major goal of any vision for water in Oregon should identify restoring floodplain function to Oregon's rivers, streams, and wetlands. Currently, Oregon is moving backward on this goal by enacting legislation to lessen regulation on stream and wetland fill and removal laws. Also directly contradicting this goal is clearcut harvesting of state forests in community watersheds used for drinking water.
- I agree with most everything, while here in the harney basin our ground water is rapidly dropping due to the irrigation by the unregulated use. We will soon have no water for domestic or wildlife . The state is at fault!
- It is critical to maintain and restore adequate in-stream flows for fish and wildlife and aquatic ecosystems; that should be added to the vision The vision should direct responsible water management and promote innovative tools for achieving that including market-based tools and ecosystem services mechanisms Addressing Climate Change should be in the goal statement; it's the biggest driver shaping our water policies today.
- Somewhere it should say "affordable". Low-income families pay a higher percent of their household income on water. Also, the economy goal as worded is confusing. Is this a statement to attract businesses to Oregon, i.e., come to Oregon and access water for your business needs -- which supports Oregon's economy.
- In addition to providing cool, clean water for native fish, we need to *outlaw the harvest of native Salmon and Steelhead in all Oregon waters (lakes, streams, ocean)*. Currently one can harvest native salmon and steelhead in several streams/lakes even though their numbers are drastically low. I've written the governor multiple times about this issue over the years and have received no response.
- Current allocations are skewed toward consumptive use!

- yes
- Yes clean water is priority...
- Yes
- These align with my values with one caveat. Environment should be top priority.
- More consistent good kayaking levels in rivers.
- I agree with the statements but I also feel a Sustainable plan for the future of Oregon is a vision need as well. As demands increase and the environment changes (both at increasingly rapid pace) the plan should be agile. I realize all these should point to a sustainable and long term plan, however - make it an overt statement.
- Should have reference to "sustainable" water systems and practices that protect future natural systems and residents.
- yes
- Please focus on maintaining and restoring adequate in-stream flows for fish, wildlife and aquatic ecosystems. Removal of all Deadbeat Dams should be a focus to help make this happen. Thank you!
- Yes, though I would add river access for all and promotion and creation of recreational opportunities.
- Yes
- Yes
- Yes they do, but i don't see farming water demand addressed.
- I would rephrase the Economy section to read, instead, "Adequate and clean ground and surface water to support the natural ecosystems that rely on them." If the ecosystem (plants and animals) is healthy, it will provide economic vitality for Oregonians in the short and long-term. The words "economic vitality" as that section is currently written are too short-term focused at the expense of the long-term. Please replace economic vitality for all Oregonians with natural ecosystems.
- Environment: I recommend saying "Access for native fish, wildlife and ecosystems ..." (i.e., add ecosystems) to include plants and the many connections between living organisms that are needed to keep landscapes healthy.
- Generally agree. Would be good to know the relative priority of the goals when they are in conflict - e.g do water supply and flood protection trump access for native fish and wildlife...
- I would like to see mention of in-stream water rights. The quantity of water available for fish and wildlife is as important as the quality of water
- Please add:Recreation! Oregonians need access to clean, free-flowing rivers for paddling and rowing, camping on the banks as we travel downstream.
- We need to put stream and ground water retention and restoration first. Putting the needs of 'current and future Oregonians' first is a call for continued municipal and

agricultural demands on surface and groundwater, exceeding in some instances even the current surface and groundwater capacity. We need to invest first in careful measurements of surface and groundwater capacities, withdrawal rates and available resource -- and this should be a primary objective of the vision. This information is required before we can intelligently discuss dedicating resource capacity to various human and ecological uses.

- Yes
- yes
- "Health" should include swimming in natural water bodies. "Environment" should include natural routing and input of wood, sediment, and hill-slope water. "Environment" should also include preparing watersheds for climate change. "safety" must recognize the trade-offs between respecting the natural processes, such as channel migration flood plain inundation that are essential to keep rivers healthy, versus protecting lives and infrastructure that have encroached on floodplains.
- There needs to be baseline data to support maintaining adequate in-stream flows that will support its eco-system.
- back down from / and tamp down on so much cannabis and hemp that is posing both water and safety problems . . .
- Outmoded Western Water Law needs to be re-written to support healthy rivers, All other goals will fall into place if we have healthy & flowing rivers.
- For economic considerations- equity is a concern. If water becomes more scarce and more commodified in the future, will larger, well-resourced businesses have more access to water rights? I also think reassessing "first in time first in right" water policy should be included in any long term visioning of water in Oregon. For Environment: in addition to habitat considerations, I would include conservation and restoration of natural systems to promote a suite of ecosystem services.
- What is missing is understanding the context and consequences that have compromised water issues in Oregon. There are many including many of our forestry and agricultural practices which include Industrial clear cutting, and spraying chemicals effects many non-targeted species including humans. We must focus on stopping those aspects that undermine clean water in all of their manifestations.
- Sustainability! WE in Harney Cp have been told for 20 years that more water is pumped out of ground than recharges. Then we started a study for 5 years, during which many more wells were put in, in spite of knowing permits were over allocated. Ranchers want the money. We want to be able to live here. When will you stop over pumping? Before it is too late?
- see comments in question 3
- Yes

- Maybe a goal addressing public education about the importance of water quantity and quality. As well, good public access to Oregon's water recreation resources is key to maintaining support. Maybe another goal would be to be seen as a model not just in the US but worldwide for protection and wise use.
- Water security and protection and destruction and other potential terror threats should be addressed. Water theft and significant population increase from states with water shortages.
- Yes
- I would like to see the "Environment" goal strengthened. Fish and wildlife need protective stream buffers in addition to cool, clean water.
- Health and/or environment goals must be written to assure all people residing in Oregon or working in Oregon are included. There are many workers who live at labor housing or in more remote places without ready access to quality and quantity of correct pressure for their daily need. There should be an added line to assure that it is for all who are residing in Oregon.
- For the most part the answer is yes. I would emphasize equity a bit more.
- goals represent my relationship to water, I would include something along the lines of "improving efficiencies of usage" in water systems but maybe that is included in the security of water
- Yes.
- From 1000 Friends of Oregon: Generally, these goals align with our members' relationship to and usage of water, but the stated goals themselves seem to be more of generalized outcomes rather than measurable goals. There is a significant question as to how success in achieving these goals will be measured. Goals that can be measured appear in the problem statement, and should be considered as goals, or at least indicators of goal success (modernize water supply systems and water conservation approaches; upgrade levees, dams and stormwater systems; collect relevant water data for effective decision making; coordinate built and natural infrastructure funding). One missing component is how the regulation of development and land uses contributes to water quality and quantity issues. Land management and development is a central component to determining whether our state's water goals can be achieved. As the 2017 Integrated Water Resources Strategy explains, "Oregon's communities need to adequately plan and prepare for meeting a larger demand on a shared resource. Water quality, water quantity, and ecosystems will all need to be considered within the context of land management and development." The goals should reflect the need for land use planning in a manner that preserves our finite natural resources and encourages sustainable development, and not just seek to meet a vague goal of supporting economic vitality. Oregon has always been a national leader in planning, and we can continue that trend by encouraging not only long-

term visioning, but clear planning guidelines that acknowledge the interconnectedness of our water and land uses, as well as the ability to review successes, learn from failures, and update any plan through an iterative process. The listed goals are missing a focus on continuing to look forward to the future and beyond. There should also be a consideration of whether a shift in mindset to precautionary water conservation should be a shared public goal. With increased population growth and climate change, we are likely to have less water available when we need it for our communities and for our agricultural sector. The goals should reflect the need to plan for this future water scarcity, and how we must plan for development in a way that addresses that scarcity. It is also important to note that these goals, depending on how they are interpreted, could work at cross purposes. For example, ensuring clean cool water for native fish may have an impact on economic vitality, e.g., preventing a project that would need to use that water or discharge warm water at the detriment of the fish species. There are also internal conflicts that these goals may have. For example, under economy, the economic vitality of one industry (agriculture) may be threatened by another industry (rural housing development, rural breweries) due to competing water needs. How will evaluation of reaching these goals take into account these internal conflicts and the need to prioritize? The goals should reflect that sacrifices of future growth in certain areas or industries may have to occur in order to achieve the broader public interest of clean and abundant water.

- The best "flood protection system" is a healthy flood plain where flood waters are allowed to inundate freely. Flood plains need to be expanded with rising sea level and more frequent floods. Keep development out of flood plains and move existing development back.
- Statewide understanding and appreciation for what climate change will mean regarding water supplies and water quality. State-sponsored education!
- protecting Oregon's greatest wetlands
- Yes
- Yes
- yes
- Planning: Over building in areas that don't have carrying capacity and under building in areas that can hold more.
- Assure regulations that are established do not negatively impact use of the land, recreational use, and the greater good of all citizens of Oregon.
- I'm glad you mentioned "cool" since we need to minimize the warming of all bodies of water. So yes these mainly represent my goals. We should let nature do what it does best - it's all a connected system that cleans and repairs itself well. We should step in to repair our misdeeds.
- Suggested change in wording to environment: Protect and restore river systems and

aquifers to provide cool, clean water for native fish and wildlife to thrive.

- The goals are fine but the current approach will not get us there. We need to recognize that the water in the state belongs to the people of Oregon. Every river should have its basic ecological needs met. After those needs are met (they may change over time), then water can be appropriated to users. The state should also charge enough for water to induce conservation. Giving it away for free is counter productive.
- These goals do not represent a sense of urgency, nor do they inspire. I believe we need to elevate this conversation because ALL health (environmental, social, economic) relies on water.
- I think irrigation for food supplies needs to be specified
- The goals are fine. They are lofty goals, but there are also, unfortunately, obviously contradictory goals listed.
- yes
- I would suggest adding a goal of public awareness, in that people understand where their drinking water comes from, how it is treated prior to use and why conserving water is important (even in the rainy west side of the state!)
- Within the environment section for the goals of the vision, there is no mention of Aquatic Invasive Species (AIS) prevention, control and/or management. AIS represent a serious threat to the future health of Oregon's waters as invasive plants (Ludwigia), predator non-native fish (Northern Pike) and invasive mussels (Zebra and Quagga Mussels) among many other examples will devastate and reverse efforts and investments that have been made to help restore essential Salmon habitats throughout the state. These environmental AIS threats need to be included within the 100-Year Water Vision for it to be effective in the protection of Oregon's future water supplies and protection of habitats for native organisms.
- I would rephrase Environment to: Streams, rivers and aquifers with enough water to sustain healthy ecosystems for all species. Focusing just on "native" species leads to misguided policies and many non-native species are now a valuable part of our fish and wildlife populations.
- Water limitations are a way to help discourage development outside of already established residential communities, incorporated cities but also higher density unincorporated communities. Flood protection should not be guaranteed in areas that shouldn't have been built in the first place, or are under increased risk due to snow melt, increased storms and sea level rise. We need to focus on strategic retreat in flood prone areas, especially on the coast (sea level rise) and along flood prone rivers.
- I think that is pretty good.
- Broadly yes. The devil is in the details.
- This list and wording works for me

- Recreation: Access to natural recreation opportunities which connect people to local ecosystems.
- Clear passage for migrating native species
- The environment goal should not be characterized as "access", this has slipped from earlier versions which was "ENSURE native fish and wildlife have access to the cool, clean water they need to thrive". Additionally, earlier versions of "safety" were also stronger from an environmental perspective, i.e. we would suggest going back to old language that states "strengthen resiliency in the face of natural hazards such as floods and droughts". The new version (above) has a "built" infrastructure bias.
- Yes as long as "vitality" is not interpreted to mean perpetual growth
- Water is a public resource. A VERY small number of people have extracted tremendous wealth under the guise of "jobs." It's time to put PEOPLE first, company profits second. Health and clean water and one in the same. Ag run off, timber run off, steal health from all of us for the benefit of a few owners, many of whom don't even live in Oregon.
- I believe that the environment goals should be on top because without healthy and properly managed watersheds everything else is a moot point!
- I don't see safe water for water-contact recreation, such as swimming. "Environment" needs to be much broader than access to habitat. First, habitat quantity and connectivity matters. Second, We need healthy watersheds with robust hydrologic systems that are resilient to climate extremes. This means longer logging rotations so that there are fewer thirsty young plantations drying up streams in the summer, wider stream buffers on ag lands and private forest lands, reduced density of roads and road/stream crossings in the mountains, reduced impervious surfaces in developed areas,
- Consideration of removing dams on the Columbia River for the sake of salmon and improved habitat.
- Earthquake and tsunami resilience. Flow restoration in coastal rivers
- More emphasis on instream flows for fish. The small rights fish were finally granted in '90 are inadequate when we have the Siletz reporting zero flows virtually every summer at some point.
- These are roughly the right categories. I do feel that environment is the overarching goal not somewhere in the list. Environment is certainly more than fish. Fish are at the epicenter of an ecosystem that is more complex than we understand. Protecting the environment and reestablishing more natural connections within waterways should be the most critical piece, and certainly should come before economy.
- Yes, the goals listed are important. I do think that Safety should also include seismic resiliency as well.
- Yes, I would add that there are co-benefits to improving water quality - salmon recovery, clean water for our community, and carbon storage within the riparian zone.

- yes
- Good goals.
- They do, though I feel it would be helpful to include something about stewardship of existing natural habitats. It's not just about preserving access to cool, clean water but to ensuring we protect the ecosystem as well.
- I don't think we should frame water rights for economic vitality as above the other factors in importance. Economic use is often for private benefit and the need and users of that water can change over time. I think it's more important that communities have access to adequate and clean ground and surface water that is used for economic vitality in their community with broader oversight and protections statewide. I'd also like to see a vision and philosophy that shifts attitudes from "use it or lose it" to seeing the benefit in leaving water in streams and having more than adequate water in the natural systems--both for non-use use and for future benefit or need. It also is important to recognize Oregon's ability to make policies and the challenges we may face from haphazard and built infrastructure focused national policies (the EPA's insistence on underground water reservoirs in Portland for example at the expense of the natural water system and taxpayers).
- The economy goal seems very broad - it fails to include efficiency of water use and could be used to justify entirely unsustainable water uses like bottled water.
- Environment: Access for native fish and wildlife to SUFFICIENT cool, clean water they need to thrive. Safety: Resilient water supply and flood protection systems that can face natural hazards such as floods and drought AND MINIMIZE HUMAN IMPACTS ON NATURAL SYSTEMS. I feel an aspect of doing something different than what we've been doing is missing. These goals feel like more of the same and do not put an emphasis or priority on minimizing our impacts while trying to achieve these goals.
- as an avid paddler, so many of us are concerned about the excessive trash and human waste and toxic waste that is dumped into our rivers by the many homeless people camped (zero waste management strategies) along shores and in direct boats along major waterways.
- defending against privatization of waters held in the public trust.
- Economy: Not just adequate water, but protecting water levels so that we do not have to chase the water as it is depleted. Increased water usage for the economic gain for a few should not be allowed.
- yes.
- Good goals. I'm more interested in the objective and strategies for achieving these goals. In short, I'm looking for what might be done.
- Yes
- Not sure a "water supply" can be "resilient" as it is not a living being. Replace "face" with

"respond to". Pretty sure there will not be enough water to meet all of these goals.

- Fair to those who have used the right to for generations
- Recreation needs to be included. Rafting, fishing, and swimming are very important to me, my family, and friends. Recommend using "clean" in place of "healthy" under the Health heading.
- Yes
- Under Economy you identify "adequate" water to support economic vitality for all Oregonians. I see this language as problematic as most surface and ground water resources are currently over appropriated. There is not adequate water to satisfy demand today. Without the necessary tools and authority, the state cannot hope to provide adequate water to support economic vitality in the future. The same comment applies to the goals listed under Environment.
- Without clear scientific understanding of who, what and where waters of the state receive negative impacts that compromise the quality of water, Oregon's Health, Environment and Safety goals will always be at risk.
- Water needs to be affordable as well as the goals above.
- Diversity, equity, and inclusion should have its own topic heading as well as built into the others.
- The goals are appropriate, but I don't see where the ocean waters are represented (particularly under "Environment"). That phrase definitely implies inland waters. Similarly, under Safety, earthquakes, severe storms, and unstable terrain should be considered.
- The overall goals of Oregon need to be the vision of all satellite Departments. Example; the Klamath falls area does not seem to share the same goals and vision for water protection, quality and access. A major concern is the influence that farming has on agencies like OWRD and BOR.
- What about for recreation? Are beaches included in the strategy? The number one litter on beaches is cigarette butts which can damage other water in Oregon.
- Yes
- The goals do not directly address the reality that water supplies are limited and that we need to find a good way to incentivize conservation and prioritize the uses of water. Currently water right laws often fail to promote conservation and putting water to the best possible use.
- . Protection and Conservation of Oregon's freshwater resources so the Health, Economy, Environment, and Safety goals can in fact be fully realized.
- Would the taskforce consider including Recovery? For some communities, specifically those located west of the Cascades. Everything we do to improve community water and wastewater systems needs to consider recovery from natural disasters to include a Cascadia earthquake and tsunami event.

- I feel like the words innovative and affordable need to be included. You can't meet all these goals without taking into account the need for innovation (reuse for instance) and affordability for our low-income residents.

Question 2

The overarching problem statement regarding the state's water infrastructure is: Oregon's water infrastructure has served us well, but is showing its age. We have under-invested in natural and built infrastructure to meet the needs of a vibrant 21st century Oregon. Additional specific challenges are also identified. They include:

- **Without modern water supply systems and access to water in emergencies, Oregonians risk not having water available when it's needed for healthy people and communities, and a strong economy.**
- **Without resilient built and natural systems that keep our water cool and clean, our residents - and our fish and wildlife - are increasingly vulnerable to the health risks associated with lack of access to clean water.**
- **Without upgraded levees, dams, tide gates and the natural protection of wetlands and estuaries, our communities are less safe, and at increased risk of damage from catastrophic flooding.**
- **Without concerted investments so all Oregonians can access clean and adequate water, many disproportionately impacted communities will fall further behind in addressing their water needs.**
- **Without strong community capacity and connected ways to make strategic water investment decisions at the local, regional, and state levels, local communities will not be prepared to take advantage of large-scale water infrastructure funding opportunities.**
- **Without the latest water data needed to make effective decisions, and intentional approaches to test new ideas, water systems will perennially fall short to provide for Oregon's water needs.**

Do the identified problems reflect the concerns you have surrounding the future of you or your community's water security? If not, what problems do you feel are missing, or what changes do you suggest in the current wording?

Raw Notes:

- Increased temperatures and shrinking snowpacks are more than problematic. We must recognize that we will soon be dealing with water emergencies.
- No. There is way too much attention and praise for built infrastructure (both current and past). Many of the water-related problems we have now (e.g., endangered species and diminished water quality) were caused by built infrastructure (dams, revetments, channelization, etc.) We should be focused on restoring natural systems and ecosystem function; those will do the most to serve all goals (except municipal water supply, which seems to me to be working just fine and will continue be with modest effort at conservation).
- Yes

- My concern with the DRAFT (bullet #5) and the subsequent discussion at the meeting was that "federal" actions, including regulatory changes that have been made already and those that may be made in the future, are not not receive adequate attention in the long-term planning this effort is about. From what I read in this survey, the term "federal" has been eliminated entirely. I believe this is a serious mistake. In the last few months, Governor Brown found it necessary to submit a strong comment to the EPA in an effort to stop implementation of dramatic and detrimental changes to federal regulations for Section 401 of the Clean Water Act. While we don't yet know what, of the many harmful provisions in the proposed rules, will be included in the final regulations, we cannot proceed with a planning process for 100 Years hence without keeping before us this type of federal action would do to constrict our abilities to protect water within our border and including vigilant monitoring on future actions. The potential role of the federal government needs to be acknowledged directly and diligently. It certainly can't be eliminated from the conversation.
- Gads, you have not mentioned invasive species, which are a huge threat to the quantity of, quality of, and access to water, as well as to the natural and man-made infrastructure needed to move it.
- Yes
- We need to make a bold statement about how protecting and improving our water is essential (non-negotiable) to our ability (including future generations) to survive climate change. For instance, we can't be willing to give up our eel grass beds so that private companies can export their products.
- Another item I would add is: Without adequate avenues for citizen engagement, especially from groups who are usually left out of policy-making, and opportunities for genuine community problem solving around water issues, water decisions will not be representative or equitable, and may be more unsuccessful due to the lack of nuanced understanding that balanced, thorough community engagement can provide.
- How does climate change fit into all this? I am surprised it isn't mentioned at all when it is the single largest threat to our economy, health and safety. If our population keeps growing exponentially, will we be able to meet everyone's need? Finding ways to do MORE with LESS water is key.
- There is a glaring omission from the challenges identified: Even more certain than climate change impacts are the broad landscape-wide effects of invasive species to every water value and resource identified here. Oregon is in the cross-hairs of numerous invasive species expected to spread into Oregon with disastrous, and currently largely unanticipated, consequences to our water resources. There has been a lot of focus on salmon restoration so far in the vision planning, with far less attention paid to the threats of introduced northern pike and flowering rush on salmon recovery investments. Many other invasives, such as Ludwigia and parrotfeather, drastically impact water quality and still others such as Russian olive impact water quantity in arid regions. Also extremely crucial and blatantly missing from this planning exercise are planning for the effects of introduced zebra and quagga mussels, which are responsible for wreaking havoc on water conveyance structures, water quality and even food security. And, of course, there are many more examples than just these...and there are others that we of course cannot

anticipate 100 years out. But even in the near term (current day through the next decade) we expect drastic impacts of invasive species to our water resources and we need to proactively plan for them now (or we will pay dearly for it later). Prevention, early detection/rapid response and control are infinitely more affordable than suffering the consequences of costly and less effective mitigation efforts later on. Invasive species needs to be added as a core tenant to this vision from the get-go to greatly strengthen it as an effective planning and policy tool.

- "Without upgraded levees, dams,..." these does not leave room for other waterway management practices that are being widely used throughout Oregon like the removal of unnecessary dams, the breaking of levees, the installation of engineered log jams and beaver dam analogs. Without investment in green infrastructure to manage our watersheds we will fall behind and miss opportunities to create more efficient systems that work with natural systems instead of against.
- In addition to needing the latest water data to assess issues and make effective decisions, state agencies must be willing to accept such data when offered, even when the data challenges the agencies' current or historic actions, and apply the data consistently in different applicable situations. Further, the specific challenges listed identify the need to upgrade levees, dams, tide gates, and water infrastructure in general, but do not discuss development of new infrastructure or water storage to ensure more reliable sources of water in the future to address growing communities, reliability of water for existing uses, and/or climate change.
- Yes, I think these are the same problems we face locally. Many of our rivers need major restoration work from past damages, wetlands need greater protection, rivers need healthy in-stream flows and cool water, and the forests that make up these watersheds need better management which affects water quality and quantity. The state needs better data about it groundwater to prevent further depletion. Many of the rivers and streams are already over-allocated. In general I think the state should focus on protecting the health of the watersheds as opposed to more infrastructure such as dams. All of these problems are impacted by climate change.
- I do not necessarily agree with some of the fundamental premises included in the vision document. Some infrastructure has "served us well" so to speak, and some infrastructure has ruined cultures and ecosystems so that economies could flourish. Will there be any recognition that infrastructure isn't always the best or right thing? Also, will there be any recognition that many of the water problems we face won't be fixed by infrastructure? I worry that if we dedicate all of our time and energy into getting money for infrastructure, we're not actually trying to have an integrated approach to water management as described in the IWRS. Water is not transportation and should not be compared to transportation - they are fundamentally different. You need to acknowledge that water is a public resource that is in large part privately managed. It is not fixed like roads. It is finite and variable and people compete for it. Transportation is a public good (low excludability and low subtractability) whereas water is a common pool resource (low excludability and high subtractability). These require different management strategies. I thought the IWRS was an attempt to do that...but it appears maybe we're going to repeat the mistakes of our past and try to design and build our way out of the mess we are in.

What happened after the Draining Oregon article? Where is the sense of urgency around preventing over-allocation of our groundwater resources? We have under-invested in WATER not just water-related infrastructure. If we want to have an integrated approach to water management then we need a more holistic approach to investments...we can't focus on infrastructure and expect our water situation to get better. At the end of the day water management is people management...what are we doing to help people manage water better? How will you ensure an equitable approach to water investments? What will this vision do for instream flows? Instream flows are not infrastructure. Any comparisons to the Transportation Package are ultimately not helpful. It has been shared with me by numerous people that transportation funding flows to the communities who are best represented by the Salem power structure. Hopefully we can do better for Oregon's water.

- Please add: The state needs to modernize the existing codes and policies for water, water reuse, nutrient recovery and disposal. We also need updates on regulation on returning treated/ purified/ recycled water to surface irrigation sources and /or other places.
- Almost this entire section sounds like a rationale to spend huge amounts of public funds for infrastructure that may only benefit private parties. First, the very last bullet must come first - as OR has underfunded its water measurement needs and requirements for 100 years. That is job number one. The statements in this section assume that built systems are the most economical and highest priority. There is likely not any evidence to support those contentions. Investments in maintaining and restoring natural features, systems and processes will provide lasting, low-cost water quality, storage, flood control and delivery and they should be the first solution for addressing any water system need.
- ADD to "Without upgraded levees, dams, tide gates and the natural protection of wetlands and estuaries, our communities are less safe, and at increased risk of damage from catastrophic flooding" and increased sensitivity to drought conditions due to the lack of groundwater storage in the headwaters and throughout a basin. ADDITION NEEDED: "Without the latest water data needed to make effective decisions, and intentional approaches to test new ideas, water systems will perennially fall short to provide for Oregon's water needs." This must include not only water systems in cities and towns but also quality information on diversions on public and private ground, how much water taken and timing. Without know how much water is actually being diverted in the headwaters for agriculture, our ability to understand what is going on downstream is limited. Getting in quality measuring devices on all diversions and holding agriculture to their allotted water is key. Need to address this outright. CONCERN: The following concerns me "Without strong community capacity and connected ways to make strategic water investment decisions at the local, regional, and state levels, local communities will not be prepared to take advantage of large-scale water infrastructure funding opportunities." My concern is related to the huge environmental impacts of large-scale water infrastructures if what you are referring to is dams. If this is not what you are referring to then be more specific. NEED TO EQUITABLE INVESTMENTS: "many disproportionately impacted communities" These communities need to have their water infrastructure improved first and it is highly likely that they have been operating at a deficient for a long time. This are the poor and people of color. Oregon needs to address

these groups who have the least representation first and make doing so a priority.

- Cost effective plans in place to meet the needs for current citizens on protecting a water supply. Also effective communication with citizens on educating and protecting water ways and water supply. Protection as it relates to invasive species and improving riparian habitat.
- It is hard to argue against any of those priorities. However I would caution investment to achieve conservation goals and thwart supply. With the snowpack dwindling - storage will be important.
- Our infrastructure is designed to last 20-50 years, sometimes 75 years lifespan, and much of the infrastructure planning is being done with master plans, etc. I would hope that the 100 year vision would hold a vision of what we would like to envision our beautiful state looking like for which the 20 year planning horizon plans could work towards. My main concerns with infrastructure on the 100-year time scale is (a) dealing with catastrophe, specifically the Juan de Fuca Cascadia event with 90% of the states oil stored on liquefaction soil. All of this work and effort we do to keep our waters clean will be severely negated if we do not have better resiliency in this area. Moreover the refugees from such an event will place immediate and intense population pressure shifts elsewhere that could result in negative impacts to water quality. (b) I like that the state has land use laws that prevent sprawl. I think that is very important for our waters. Historically though we have built our cities next to our waterbodies, which makes sense. but as we increase density and the pressures to provide for affordable housing and the impacts of tires and plastics on our waters (see University of Washington studies on coho salmon), we need to incentivize housing, industry, roadway, commercial, institutional infrastructure further away from our waters to provide for protection and quality. I recommend we envision treatment or designs that are affordable, work with nature, and protect water quality. We need our land use laws to incentivize growth in such a way to provide source water protection, which is not a small political feat given the power of the dollar and the power of water to secure a higher value. -and- (c) We need clean water infrastructure that can address emerging pollutants. Currently the federal government allows all sorts of new and different chemicals without full testing to be approved in products. We and the environment then act as guinea pigs for the impacts, which are unknown until years even decades later. Even when these products or chemicals are tested for one area, they could have negative impacts on another area in an open state system (.e.g., MTBE was great for air quality; terrible for water quality). Our current infrastructure is not set up to handle these unknown pollutants. Our municipalities are being labeled polluters when we are merely acting as janitors for new substances. Our wastewater treatment plants are designed to handle pee, poop, and paper, not PFAS, PFOA, and pesticides. Our stormwater infrastructure has less treatment chops than our wastewater plants. But crucially, an individual city does not have the platform to address the sources of the pollutants, but as a whole the State has a better standing to do so. When one chemical is found to be problematic, often only one or two atoms are changed and sometimes the resulting replacement is worse but we start again and are testing it in the environment (our homes, waters, and bodies). I would see a 100 year vision being more effective if it focuses less on 20 year infrastructure planning level, and instead envisioning what we

would like to see if we jumped in a time machine set to 2120, and that allows us to then work towards a path at correcting these major issues strategically and provide a vision for what we would want to see (e.g. 80% green roof coverage; 100-200 yard buffers from waterways with green treatment beyond that; only chemical classes that have been thoroughly tested allowed for open state environment use; fish ladders on any remaining dams; infrastructure on liquefaction soils that that can resist a 9.0 earthquake/ or x foot tsunami; permeable roadways), and then let the 20 year plans strive to meet those. For a 100 year vision I would suggest questioning the basic assumptions we have to see if we could do better at providing triple-win solutions (e.g., are there better solutions than dams; should in 100 years our municipal boundaries better follow watershed boundaries, what can we do that is good for the economy, protects the environment and human health, etc.).

- I think there's a perception in this language that we can build our way out of these problems. In fact, we also need to protect our way out of these problems -- e.g., really penalize floodplain development, strengthen water quality requirements (esp. for ag and forestry) and focus on the big issues in municipal water quality, & hold tight to our land use planning framework. To do this takes an investment in bringing new (and many existing) Oregonians into this frame of thinking. We cannot be "business as usual" with our land use (including transportation -- a focus on shifting from cars to mass transit is also an investment in water infrastructure).
- I worry that new dams will be built at the expense of our natural geologic features/scenic streams/aquatic life. I am glad to see "water data needed" in the challenges section, but I worry that our government agencies do not value the data collection of/and tools needed to make the decisions about the future of our water or water vision. They are cutting back funding for these things at this crucial point in time when the climate is changing in a dramatic way and we will need to continue and build on the scientific monitoring of streams and water ways. Gaging stations that monitor flow, stream temperature and other parameters are absolutely vital to provide information for decision making - as well as flood protection while we work on the Water Vision. I worry that if we are not careful, the Water Vision will be used by some rural county governments as an excuse to harm the very streams and rivers we cherish by building more infrastructure in them. I hope the vision will focus on present and smart infrastructure that does not harm our environment, both beneath and above the ground.
- Overpumping of groundwater, and receipt of stream water beyond actual need, accounts for loss of water for human and wildlife requirements. I do support robust monitoring of aquifers, stream flows, and irrigator withdrawals. Protection of wetlands and estuaries should have high emphasis.
- As snowpack declines over the next century, we will look to our groundwater to supply more of the water we need. Without more efficient use of our available surface and groundwater supplies, economic and ecological needs will become increasingly difficult to meet.
- Yes
- Sometimes, "levees, dams, tidegates" are part of the problem.
- Upgrading doesn't need to mean state of the art. As in the case of tide gates, effective

gates can be quite modest. Municipal water systems, at some point, may need to consider dual systems: one system for potable water and a second system for irrigation and other uses that don't require the same level of purity. It costs too much to purify water to use on tomatoes.

- Yes.
- - Without an adequate water supply from natural stream flow or stored water, the crops needed to feed America cannot be sustained.
- We have threats from invasive species and harmful algal blooms that can result in major losses to infrastructure and safety of our water resources.
- Looks good.
- The economic driver for rural Oregon is Agriculture which requires water.
- The biggest concern in my community is invasive species. Invasive species are eliminating native vegetation which has a direct effect on water quality and quantity (soil erosion, increased water temperatures, decreased wildlife habitat, lower water table).
- Too much logging sediment, old growth is decimated leading to warmer water, and herbicide application is overboard
- Those are all serious problems. Investments need to come from all constituencies. Natural resource funding should not be the only investment in the built environment. Other significant economic resources (NRCS) will be required to adequately address the problems listed.
- Invasive species are the important factor to adversely influence three of the four goals mentioned: health, economy, and environment. Invasive species should be an integral part of the vision from the beginning. The 100-year water vision at this point does not address the risk from invasive species facing watersheds, water quality, and quantity in Oregon. If the invasive species impact is ignored, high value investments as described will be a waste. Consider the impact of quagga and zebra mussels on our dams and hydropower plants, aquatic noxious weeds choking up the Willamette and the Columbia rivers and irrigation canals. Invasive species issues, such as prevention and control, should be addressed from the beginning. Again, even though this is considered an 80,000 foot level vision, it should include the realistic threat from invasive species, such as aquatic mussels, aquatic noxious weeds, weeds displacing important natural riparian vegetation, and invasive pests, such as Gypsy moth, wood boring pests, threatening riparian areas. When building a solid house, all important parts have to be already considered and included in the blue-print. Invasive species should be included in the 100-year water vision
- Yes.
- For eastern Oregon, the biggest threat to water that we are facing will be water shortages due to climate change. Even without climate change, water supply varies greatly between years, depending on amount of snowfall, rate of thaw and timing of rain events. All of these factors are expected to decrease water supply under the projected climate change scenarios. We need to be strategizing ways to offset those threats now and begin funding solutions before it becomes a problem. Areas where investments can be made include irrigation efficiency in agriculture, fuels reduction in forests to prevent catastrophic fires in our watersheds and maximize snowpack retention, meadow restoration to improve the ability for watersheds to hold spring runoff and release it slowly through the summer and

beaver re-establishment in areas where conflicts with humans are minimal so they can do what they do best and store water. These sorts of efforts are cheaper and more environmentally compatible than reservoir construction and can be implemented across the landscape, allowing the public to participate in developing solutions.

- "Without acknowledging that new water resource decision-making tools and planning approaches are needed to prepare for a warmer future and a range of risks, water system infrastructure has a higher risk of failure and water supplies will be vulnerable."
- We need to build in resiliency by working with nature and not trying to control nature. Our system as it is shunts water as quickly as possible through the ecosystem. We need to design ways to assist the water to absorb into the ecosystem creating increased ground water, and increased ecologically valuable wetlands, riparian areas, and wet meadows. This will increase our ability to store water and be beneficial for plants and wildlife. The reintroduction of beaver into our drainages will be a major way of using nature to accomplish all these goals.
- I see over allocation as a problem. Everyone should have access to water to survive but not all business or future business should be afforded the same right. Over allocation is a problem. Majority of farming should reflect the climate of the landscape. Diversify what is grown and plant relative to the landscape, climate, and soil type.
- Yes - with an emphasis on science and restoration. I believe that investing in the future sustainability and health of our water resources is vital. I support building and improving as well as repairing the damage done from outdated and unregulated historic infrastructure. There are non functioning, unnecessary and detrimental dams, tide gates, culverts and other water diversions throughout the state that need to be removed or improved for the health of Oregon's wildlife and environment.
- Yes
- You would like to build up and fortify dams that the salmon need us to remove. Other wildlife also need natural waterways to thrive. So this critical goal is in direct conflict with the premise above.
- and forestry, managed forests to protect our water sources and provide income from responsible logging
- Data must be robust and not agenda driven. The public needs to trust and understand the data.
- An emphasis on ecosystem needs must be included. The vision should include a path for removal of outdated and environmentally damaging dams; the vision is too focused on building, rather than removing, infrastructure.
- Without updating the system we will have damaging flood waters. Costing Oregon's more.
- yes
- Ranchers/farmers have made great strides in conserving water use and managing for cleaner water. In spite of all that they are doing, laws and other rules are trying to put restriction after restriction on ag producers/landowners. I could agree with these above comments, but I am afraid of how they will affect the ag community. I think also that one must realize that you can put all the levees in or other structures, but when Mother Nature strikes, it is hard to guess which way her wrath will go.
- In some areas in the state too much water is being used for farming. It is draining our

aquifers to the point that they will never recover. Our water is being mined out from under neath us.

- Would it be appropriate to consider language about water availability specifically related to the pressures of growth on limited capacity of natural resources? How about the impossible financial burden to small communities needing to upgrade aging or obsolete water infrastructure as they are forced by State legislation to take on unsustainable levels of development. This unbalanced development is not adequately offset by enough dollars to support the costs of the needed infrastructure. Philomath for example has approved the development of more than 35% growth in a few short years, taking this community of approx. 4800 to a estimated 6400 population. The estimated cost of Philomath's water infrastructure needs for a population of 7200-7400 (a short distance from 6400, with additional developments pending) is near \$32 million dollars. The official projected growth of Philomath is expected to reach this population number by the year 2038. Clearly, Philomath will far exceed that in a much shorter time. The challenge being, a City budget that cannot support this development and the increase in developments that get highly discounted water rates that do not support the needed dollars to fund this infrastructure, but fully intend to use this infrastructure. Additionally of concern is the availability of water from the Mary's River, where 98% of Philomath's water is sourced. Upstream rights to the Mary's River water are set to be dramatically increased, creating a perfect storm of water availability, cost burden and population pressures that threaten the survival of this small community. These kinds of scenarios are playing out in small communities throughout Oregon.
- Yes
- Relationship between land use and water quality - for example, competing interests of timber harvest in a watershed.
- I agree with these statements. I hope that the solutions will be more natural and riparian based. Trying to update old technology is very costly with diminished impact.
- Population Growth: Determine what the maximum population Oregon can manage.
- Sounds good and it takes buy in from from all users
- Generally yes. However in upgrading water infrastructures to emphasize flood resiliency the natural habitat is all to often compromised and altered. This should be given consideration in any movement toward these upgrades.
- None of this speaks to Energy or Economy.
- It is important to recognize that upgrading infrastructure is very expensive, and make sure there are processes in place to make sure the public is bearing the cost of public benefits, instead of individuals being made to bear the cost alone.
- generally the problems identified and the topics suggested to be problems, capture concerns however, the statement "we have under-invested in natural ...infrastructure" can not be interpreted accurately interpreted thus any inference from responses may not be valid
- In the 2nd paragraph, Agriculture, food production need to be added to the language.
- I think that the problem statement should address the institutional and regulatory challenges that exist at the state level. For example, lack of investments or prioritization in the budget of state agencies and permitting processes so that Oregon's NPDES permits

(essentially pollution discharge permits) are updated. As another example, Oregon has failed to get an approved coastal nonpoint pollution control program under CZARA due in part to the state's failure to adopt a regulatory scheme that adequately addresses stream buffers and aerial pesticide spraying on private forest lands to protect clean water. This has resulted in direct penalties to the state, where Oregon has missed out on millions of Section 319 funding for non-point source pollution control. The reliance upon voluntary measures, particularly when compared to Washington and California, on private forest practices to protect clean water is a significant challenge. Further, as discussed in the Oregonian series, current state laws around campaign finance allow donors to influence legislators and the direction of funds away from regulatory protections for clean water. Additionally, continuing to invest in outdated infrastructure approaches creates significant problems for clean water. The Jordan Cove LNG project would become the largest emitter of greenhouse gases in the state if it moves forward. Further, it will directly impact the health, safety, and clean water of communities in southern Oregon and across the state. If this project moves forward, it would dramatically reshape southern Oregon and increase many of the challenges identified, from reduced access to clean water to increased tsunami hazard to warmer streams that make it harder to support critical salmon habitat. I also think that recognizing the challenges that rural communities face in addressing both water quality and water supply in a changing climate should be highlighted.

- The stated problems and concerns put too much emphasis on new water infrastructure and not enough on water management. This state does not measure or manage water as it should. It has been taking a hands off approach for years and needs to be proactive in requiring measurement, water conservation, elimination of waste, stopping illegal water use, and clearing the books of abandoned water rights. In addition, while this section acknowledges aging infrastructure, it does not mention the need to rid our streams of unused and aging dams and barriers that are either functionally or structurally obsolete.
- I think in coming water scarce areas growth might have to be limited or stopped completely. I also believe that we have ruined far too many wetlands via levees and dams and that many levees and dams should be taken down and the natural carrying capacity of lands be restored. It would be cheaper and a better environmental solution in the long run to buy out impacted development and remove dams and levees. I also think communities have to own up to the need for proper infrastructure and pay via rate increases. I believe far too many communities have grown out of bounds without addressing the huge costs of upgrading infrastructure like sewer and drinking water plants. I don't believe the general public should have to pay for infrastructure that individual cities have been failing to upgrade because they didn't want to charge their rate payers. I also believe a lot more testing of our waters needs to be done - the most recent DEQ meeting I attended that addressed the 2018 Integrated Report proved that a great deal of data is lacking for many waterways - we can assume many are more degraded than are listed because of that lack of data.
- Anticipated population growth further stresses availability. Appropriate water balance among people, economy, and environment. Reduced availability through climate change.
- yes

- The Molalla River is threatened from water use by the city of Molalla which takes water from the river and returns waste effluent back to the river during during times not permitted by DEQ. This threatens fish habitat by raising water temperature and introducing treatment chemicals to the stream. DEQ needs to exercise more control over this and many other city's use of our state water resource.
- Yes
- If we fail to put an end to clear cuts, over thinning of canopy and the complete destruction of all the plant diversity, which feed us and our wildlife, and the use of all pesticides in our forests. Nothing we do will make a difference in protecting and increasing the quality and quantity of our water, for us or the fisheries system or wildlife. The fact that BLM doesn't collect data on water quantity and quality, concerning the reduction of our water supply, due to forestry harvests on public forests lands is intentional. If they don't have the data to prove that logging reduces our water supply, then they can just keep logging. And the problem is worse with ODF and private forest lands. They give permits to spray poison in our water supply. While pretending to protect our water supply.
- Yes
- Oregon must correct past mistakes by removing dams that have decimated natural runs of anadromous fishes. Oregon is the beaver state. Let beavers build dams, not engineers.
- "Without balanced water use, reserved water for streams and other natural systems and accurate water use tracking, natural systems dependent upon access to clean water will degrade and disappear, taking with it ecosystem services and natural processes communities depend upon." -Something along the lines of the above paragraph to highlight that many of our natural systems do not have water rights/do not receive adequate amounts of water. This has/is leading to the collapse of important natural systems that not only have value on their own, but that local communities depend upon. Ensuring that natural systems are guaranteed water will be a crucial component of Oregon's 100 year water vision and its importance cannot be understated.
- I think that statement is a start, but LOCAL WATER DATA need to drive decisions, not the feelings and political beliefs of the people in Portland and Salem.
- I would add that lack of water is impacting our wetlands and their function in many regions of the state. Tiling in agricultural areas is also not allowing water to infiltrate ground water and is pushing surface water to ditches, streams, tributaries and rivers. This decreases critical hydrology, sheet water, and wetland function.
- Yes
- The statement might under-emphasize the fact that both agriculture and fish will suffer from projected decreases in mid-elevation snowpacks.
- suggest increasing the energy and attention related to the disproportionately impacted RURAL communities -
- Is the general public even aware of the shrinking water supplies and the importance of intelligent use of water? Do they believe it is an unlimited resource- maybe some public education.
- Clean and adequate water is best created by returning the land to its natural functions. The manmade structures should be secondary to this, or at best, mimic it.
- Again, this generally represents a broad range of challenges that are appropriate to

address in a long-term vision. Similar to the previous comment, I don't read wording that indicates the vision is considering restoration/conservation/ as a vital component of the vision.

- Invasive, noxious weeds are negatively impacting our water systems and must be adequately addressed to ensure control through increased funding.
- Yes. I do believe that water security should be the number 1 priority for all levels of government. Other than oxygen I don't believe there is anything more critical to the survival of all life on the planet than water. And by the way the whole idea of tide gates and other systems that protect reclaimed land should be phased out in the face of sea level rise.
- yep
- Without consideration of dam removal and watershed wide restoration efforts that consider ideal fluvial geomorphic conditions we will continue to have fragmented and less healthy systems that neither serve people nor wildlife as fully as functioning intact systems.
- I live in northwest Portland. I know our drinking water is in pipes under the Willamette that will break during our upcoming earthquake. My concern is that most NW Portlanders will run out of clean water.
- Other specific challenges include the seniority-based water allocation system currently used in Oregon. The current water rights system is antiquated and does not serve the broader needs of the state. Additionally, by not adequately funding the state agencies tasked with managing water resources, those with means to enlist the help of lobbyists, politicians and engineers will always secure their water needs over the interests of other users. The state should also be looking at protecting headwaters, drinking water sources and groundwater from industrial activities including those that spray herbicides and pesticides. Wide buffers and strong protections are needed to protect our water from private interests.
- Yes they do!
- address budgetary considerations and the importance of investing in sound infrastructure now to prevent costly repairs or replacement in the future.
- the problems identified are all valid and important. I would suggest shortening the sentences a bit, or using typographical edits to help readers identify important parts of sentences (ex. bolding key phrases). the biggest issue that is missing here is the lack of knowledge that a lot of Oregonians have in regards to water in general. I'd like to see an initiative to inform Oregonians on how we get our water, where we get it from, the repercussions of our methods, the dangers, the levels of chlorine, fluoride and other substances in our waters, etc. Many people take for granted that they can open the tap and drink from it without considering where the water came from and where we will get it from in the future. I'd also like to see stronger language regarding disproportionately affected communities, and how to help them uplift themselves. Due to some research I have been a part of, I also know that in rural parts of Oregon ranchers and conservationists have been fighting over water rights for a long time now. I'd like to see more initiative from the state to help all parties get the resources they need and help mediate these issues to find positive, forward-thinking solutions that will improve the well

being of all parties involved.

- Local economic interests must not be allowed to supersede the science with respect to sustainable surface water flows.
- yes
- I appreciate much of it, but estuaries and wetlands don't need hard-engineered infrastructure to protect them from flooding- they are the natural resources we need to absorb those flood flows and protect downstream communities. Levees and other infrastructure may be needed to protect communities (sadly) but levees, dikes and tide gates should be removed or setback where feasible to reduce flooding elsewhere. Especially when looking ahead at the conditions we will experience under the changing climate. Many of these statements are centered around urban populations, but these should be more broadly stated to guide rural areas as well, such as the aforementioned of levee setback and dam removal.
- Yes, except that Oregon's continuing, massive loss of old and mature forest, which has impacted water quality, fish populations and water quantity, is not being addressed.
- Yes, these are good problem statements. But I think you are missing an opportunity to acknowledge the climate change impacts on hydrology that we are already witnessing. We are seeing longer and more severe summer droughts, and we are seeing multi-year droughts. We are seeing more large and more frequent flooding. And we are seeing depletion and contamination of our natural water supplies, which render fish and wildlife, as well as human communities vulnerable.
- an emphasis on ecosystem must be made rather than mostly on hard infrastructure; we don't need more dams, we need to be taking them down and letting fish go through
- Again, the need for data is the foundation for all the other points here. A need for data on carrying capacities, realistic objectives-driven actions, and sustainability in light of climate change should be the first priority so the data can drive problem statements and identify critical priorities. There is no mention of advanced modeling to offset climate change impact and no mention of ecosystem sustainability (fish and wildlife is only a part of that), pollution prevention, or restoration from historic actions.
- YES
- Yes
- yes - these seem appropriate. Need yo emphasize continuing or adding flow gauges to collect data to inform decisions under a changing climate.
- yes
- Need to explicitly mention that water data includes a seasonal hydrograph, size of the ground water basin and off channel hyporheic flow and wetland riparian habitat.
- AS far as I am concerned, the number one problem with water in Oregon will be lack of it in the summertime and fall due to shrinking snowpack due to climate change. This is already a huge problem where I live in Hood River and it is only going to get worse. This is sort of addressed indirectly above but we have to specifically modify infrastructure, build capacity, and manage the water resources in a way that accounts for a changing climate.
- The state and local governments needs to have a better understanding of where people are getting their water. On the coast, there are a lot of single intakes, some approved and some that aren't. We need major investments in infrastructure on the coast, including

storage options. We also need to think about how to protect infrastructure from the effects of a Cascadia Earthquake. I'd like to see more emphasis on maintaining forested areas (including private working forests) as forests. It's best for overall water quality to keep private forests as forests and not convert that land to other uses like agriculture or development, which present higher risks to water quality.

- Yes
- Yes
- This all sounds very expensive. Focus on carbon sequestration and keeping the water in the watershed to filter into groundwater. If we let the corporations / government strip the soils by decreasing harvest and degrading ecosystems, we'll only have flood water to contend with. Which will probably require a new & different type of infrastructure. The problem is the solution. Let's keep the water in the watershed, not let it run off into the rivers.
- addition: Without coordinated, effective, and timely decision-making, Oregon's water structures and allocation, natural and built, will fail to prove for sustainable water supplies for the future.
- Yes.
- yes.
- Again, focus on redeveloping and moving out of vulnerable areas so that we can focus on natural infrastructure such as tidal wetlands and floodplains. This is cheaper and more effective in the long run.
- Yes
- ok
- yes
- While you have addressed many challenges here, there is a significant threat missing. The effect of noxious invasive species, both plant and animal, can be huge and have a direct impact on Oregon's water resources and riparian systems. Examples include zebra mussels, quagga mussels, northern pike, flowering rush, parrotfeather, Ludwigia, Russian olive, Himalayan blackberry and English ivy. If invasive species impacts are ignored, high value and costly investments made by OWEB will be wasted. Please, please address this issue in your 100-Year Water Vision.
- No. You have not addressed the archaic water-rights laws in OR that constrain optimal water protection and distribution.
- I was glad to see the last item on the list referencing data. We need real data to begin to understand the water issues related to groundwater. In the 1990's in Yamhill County we have had several groundwater limited areas designated with the promise of studying the water supply in those areas. Yet, no funding was provided for such a study so we really don't know much more than what we did over 20-years ago.
- I generally agree. The wording such as 'disproportionately impacted communities will fall further behind' hits home for me. I strongly feel the rural areas are being left behind to fend for themselves. Low populations leave rural areas with low tax income & lack of funding for necessary investments with little help from the rest of the state. These areas are often seen as the 'problem areas', but lack the resources to help themselves. It seems the benefits that rural Oregon provides to the entire state is not often given adequate

consideration (particularly when it comes to funding resources). Invest in rural. Natural resources are the ultimate wealth, and we must protect them in the less developed areas of the state.

- Yes, however I have concerns about the quality of our drinking water- particularly in schools (older lead plumbing) I'm also concerned about what's not filtered out such as pharmaceutical residues- I once read in the paper that several prescription drugs such as antidepressants and birth control can be detected in the Willamette River!?! we know prescription drug use continues to sky rocket, so what does this mean for the health and quality of our water supply
- Salmon and Steelhead require cool, clean water to thrive. Too much emphasis on dams and water storage will doom them to extinction.
- How does the hydro-electric power production and its resiliency play into this? Preserving that is important also. It has a huge economic contribution to the State's livability.
- I feel these are great ideas and that it is a very high level view. As we spend our taxpayers money on programs and future investments it is vital to have a system that continually assesses the investments being made and is flexible to make appropriate adjustments and not go down the path of where to far now to change or do something else because you will lose far more by doing that than to learn and correct.
- Hmm. seems like we have been investing in water - the Hagg Lake project, all the work hillsboro has done to make choices on water supply... might want to recognize the effort some have put into these questions. Also, this is all worded negatively- I prefer the positive side such as, "Improving water supply systems will ensure Oregonians have access to water when its needed to support people, communities, and a strong economy."
- Discontinue outdated dams
- Yes, they are broad and generally cover most issues.
- Yes
- Yes
- Infrastructure is a concern. Privatization of Bullrun and other sources should be a huge concern. Regulating industry discharge of dirty water needs persistence. Public education on water conservation must continue in earnest, in a catchy way, ie "Great microbrews need clean water"
- yes
- Maintaining natural water aquifers by promoting healthy forests and monitoring how much comes out of the ground in and around farming communities.
- I would suggest this addition: "...and the natural protection *and restoration* of wetlands and estuaries..."
- I'm not seeing protection from agricultural impacts, which is the worst offender of water degradation
- Without water laws that are adaptable and fair, water will not be efficiently allocated and fall short of an equitable, long-term system that provides the greatest good to all Oregonians.
- I think the recognition of the aging infrastructure is really important. Seems like all of these questions are addressing our current infrastructure, systems and needs. We need to recognize that there will be an increase in demands for water, and that there will be

trade-offs to do that.

- This looks fine concerning infrastructure.
- What is the recourse from massive wildfires and their effect on water quality? Is there no consequence for inactive management, souvenir immunity is really more of a blank check for the feds... that should be addressed at some point. I don't think there's an in water work period or EIS that restricts the impacts for wildfires.
- Yes. The status of much infrastructure is of concern. Design lifetimes have been reached and/or exceeded in some instances, and conditions not anticipated (threats to aquatic species, i.e. salmon, etc.) were not considered. Real time data is important. Historic data is also important. Intentional approaches are good. Increasing population is a straightforward expectation and should be factored into management plans. There is additional cost to additional growth and as a result equity in allocating responsibility for the costs is a concern as well. Thank you.
- Protection from fire seems like it is lacking. Wildfire in particular. We need reservoirs to capture water for fire fighting, as well as agriculture.
- These reflect my concerns, as long as they include the role of climate change.
- We need invasive species threats to aquatic ecosystems, and water quality and quantity considered in the planning of this state-led 100 year water vision! For instance, there has been a lot of focus on salmon restoration so far in the vision planning, with far less attention paid to the threats of introduced northern pike and flowering rush on salmon recovery investments. Many other invasives, such as Ludwigia and parrotfeather, drastically impact water quality and still others such as Russian olive impact water quantity in arid regions. Also crucial to this planning effort are the effects of established populations of zebra and quagga mussels to water conveyance, quality and water & food security.
- The 100-year water vision at this point does not address the risk from invasive species facing watersheds, water quality, and quantity in Oregon. If the invasive species impact is ignored, high value investments as described will be a waste. Consider the impact of quagga and zebra mussels on our dams and hydropower plants, aquatic noxious weeds choking up the Willamette and the Colombia rivers and irrigation canals. Invasive species issues, such as prevention and control, should be addressed from the beginning.
- Still need some identification of water supply necessary for food
- Dams were constructed at a time when it was believed hatcheries could replace the natural reproduction of salmon and steelhead in streams and rivers. This has proven to be devastating for our native salmonids and must be reconsidered as we move forward. Dams that impede fish passage should be eliminated, where possible, to ensure high water quality that free-flowing streams have and to provide a secure and healthy food source for all Oregonians--Salmon. Remember the salmon?
- Yes - please add investment in our floodplains to "natural protection of wetlands and estuaries." We should seriously consider setting built infrastructure back, away from and outside of active floodplains, as a way to mitigate risk from flooding.
- Yes, well said.
- Currently not enough water. Stream volume diminishing. Little storage.
- yes

- Yes, but again most of our water originates in our forest lands. We need to prioritize the value of water in the way we manage our forest lands. The recent legal settlement is placing the economic well-being of industrial forestry above the value of clean, cold water. We need carbon credits to forestland owners to incentivize leaving forest standing, for the sake of water and mitigating climate change. We need carbon credits to counties, not timber sales for industrial forestry.
- Without restriction of glyphosate and other harmful weed killers and pesticides, the water supply (even in Oregon) will continue to contain significant traces of chemical substances that have been proven harmful to human health. Glyphosate has been detected in the ground water and on the glacier of Mt. Hood. Glyphosate was originally invented as a demineralizing agent (to clean water heaters from calcium deposits), and later patented as an antibiotic and weed killer. It can cause cancer, and due to its ubiquitous presence in the water and food supply, is a major factor in the current crisis of the human microbiome (causing obesity, diabetes, cancer and other common diseases)
- More stress needed on ground water recharge. Protect canopy, reduce impervious surface, all new hard surfaces to be pervious, etc. Delete reference to levees, dams, tide gates anymore stress on natural systems.
- Without collaboration and regulatory flexibility for innovative solutions, Oregonians will miss opportunities for cost effective solutions towards meeting Oregon's future water needs.
- Over allocated water systems, both surface and groundwater. Excessive or not efficient use of water (both agricultural and municipal).
- As above: the small rural communities of Eastern Oregon that rely on the little water available for domestic and agricultural needs will need extra help in protecting and maintaining their water supplies! Work with the mindset of the SAGE CON movement where private land interests are honored and protected while provided for innovative investment in habitat and supply.
- My concerns are that we are creating way too many pivits out in Easter Oregon which is sucking up all the ground water. Of course ranches want more water for cattle feed but there is not going to be anything left for the public, or sustain the ecological community. Habitat will be lost and we will see a decrease in fist, wildlife, and plants.
- For the most part, upgraded levees, dams, tide gates, etc. have been a disaster for wetlands and estuaries. Restrictions on building in flood plains or flood prone areas would be a better solution for the environment.
- I strongly agree.
- As a citizen I have concerns about the increasing attempts of Wall Street to buy up water rights. Oregon needs legislation to protect waters from companies to buy up water to be used out of the watershed or even the state as in the case of Nestle attempted water rights purchases or in the event that a private corporation engages in building water banks to be later leased or sold for exorbitant prices. <https://www.seattletimes.com/seattle-news/environment/wall-street-spends-millions-to-buy-up-washington-state-water/>
https://www.seattletimes.com/seattle-news/environment/wall-street-seeks-a-valuable-resource-from-washington-states-aging-farmers-their-water/?utm_source=marketingcloud&utm_medium=email&utm_campaign=Morning+Brie

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- I would take some issue with the "overarching problem statement" as being too simplistic and not recognizing that the 19th and 20th century infrastructure is a great deal of the problem for the environment as it was often created with little regard for or knowledge of its effect on our natural world. I do agree that some of the identified problems are concerns but I also see little recognition of the antiquated system of water rights that has already over appropriated water in many basins.
- All levees, dams and tide gates should have a plan to decommission at a future date, these structures nearly always represent risks to our communities, resources and natural environments, not security.
- There is no mention of invasive species as a threat to water quantity and quality. This was overlooked, in my opinion.
- All of these items can easily be stopped by Indian Tribes claim to the water. Unless you first do something about the Tribes you won't accomplish anything.
- Water conservation is missing. It is not just about infrastructure. Infrastructure needs to be efficient - not lead to water loss or waste. So, the systems we develop need to be premised on water conservation - efficiency, recycling or reuse and minimizing loss to evaporation.
- yes
- I'm concerned about the increasing use of pesticides to control invasive species in and around waterways. This is a direct violation of providing clean water in the hopes that it benefits water quality. Also treatment of stormwater from roads and farms is of concern and has real effects on our water quality.
- I agree with the prioritized concerns above. I would allocate more into actual infrastructure building with the data at hand rather than other research and data collection that may not result in tangible action. What are other states doing that are successful that we can use?
- We are missing the invasive species component. Invasive plants and other species have a huge impact on the economics, environment, and health of our waters.
- How are we going to prioritize the specific challenges related to water in Oregon. How are we going to fund any efforts made to address some of these challenges and who is going to fund those efforts. Lastly, who is going to lead this effort and how will it get rolled out
- Yes, really have to highlight the build systems aspects and failing water systems.
- Large scale funding opportunities do exist with OWEB but too much of that is wasted on grants that are poorly thought out or used just to provide a job to someone. Need to get more money into on the ground projects.
- I would add natural protection of floodplains to the upgraded levee item.
- There needs to be a statement that all of our water infrastructure, whether related to supply, purification, or flood control, should remain under public control and not be privatized. There should be a statement that privatization emphasizes profit over public good, which is inappropriate for wildlife habitat, clean drinking water, and public safety. There should also be a statement that the negative impacts of global warming are increasingly severe, and immediate strong action is necessary.
- The sad truth is, there are many areas of the state where there has been no infrastructure

investment. Blatant over-appropriation of surface and groundwater has resulted in diminished supplies for municipalities and the people growing our food. All of the infrastructure in the world will not result in new water. Until there is an accurate accounting of demand versus supply to inform decision making, you are simply putting lipstick on a pig.

- The state agencies are never going to respond appropriately for public health, because they are carefully regulated by the state legislators. The legislature sets the tone and the parameters that it demands that the agencies follow or suffer the consequences of punitive departmental cuts in funding. Agencies, staffed with the best-intentioned people, want to do their mandated jobs for public health and environmental health assessment. However, they are prevented from doing essential sampling and assessment of pollution contaminants because the legislators refuse to fund any more scientific evaluation that might have any possible chance of discovering any new problems needing corrective action. The system is broken by the legislature. The legislature erroneously sees pointedly-investigative sampling and scientific assessment for environmental status and trends of contaminant pollution as being inherently politically and fiscally subversive. ODEQ and the Health Authority cannot do their mandated jobs under these conditions. This paradigm has long stymied the state responsibility to the public for SAVING money. If we use science to evaluate accurately the risks to public and wildlife we will SAVE far more money by noticing problems before having to go on paying over and over for them off into the future, which adds up to far more costs than the monitoring would have cost. We end up paying dearly with our declined health and declining wildlife such as salmon. Ultimately, each voter has the responsibility to hire legislators that have a much better education, and can see that we can SAVE vast sums of money by understanding how toxic pollution costs us dearly. Vote for people that can comprehend this great need for the State of Oregon. This is symptomatic of the culture of 'don't look, don't tell' anti-investigatory approaches to public health on the community and state levels... by the legislators, who are the regulators of the regulatory agencies responsible for water quality assessment. The legislator records need careful examination of how they have built up this lack of proper oversight. By controlling the purse-strings to restrict the agencies from any investigations that could be likely to show any new problems needing to be addressed, they had built irresponsible state oversight. This huge problem is complicated by the federal agencies also being similarly dysfunctional through devolution of their abilities by congressional irresponsibility. Corporate lobby of politicians has reached a malevolent state of affairs for creating a lack of toxic contaminant assessment, and public health risks go unrecognized and uncorrected until we must spend vast sums of money trying to correct the damage seen in Flint and Portland Oregon. Legislators have built the culture of lack of oversight. What is desperately needed to be able to move into a more sane water quality accountability envisioned in the Clean Water Act, and the Clean Drinking Water Act. The INTENT of these acts is crucial for our future? The intent has not been honored. Legislative stone-walling has corrupted the intent of these acts. Look at the magnitude of the costs of just the Flint public health crisis, and begin to grasp the fiscal irresponsibility across the land, from similar hidden water quality degradation scenarios. Accurate water quality sampling, analysis, assessment, and informing of the public health providing system is

essential. State and federal agency oversight has become compromised by legislative misconceptions and obstructions to favor political lobbies. Toxic contaminant pollution assessment and mitigation protections are not effective without the integrity of science guiding the process. The breakdown of this integrity, allows shoddy work to misinform the public health system across the nation. Too often, scientists, engineers, and other professional people will not speak up about failures they see, or opportunities for improvement because of the legislative bias to put the industry lobby biases ahead of public health. We need to honor those professionals that are aware that water quality assessment is essential and primary, and that a politic that disregards that essential primacy, in favor of false 'profit', is irresponsible and untenable for a more sane future. Toxic contaminant monitoring, with scientific integrity, is essential to inform a water vision for Oregon's future, and is not currently allowed by the state.

- Great to have a goal, must realize that current technology does not provide solutions to these vision, so there must be investment in helping to develop appropriate technologies to meet the vision. Challenge the Oregon University System, research departments to look at ways to help Oregon achieve the goals.
- The 100-year water vision completely ignores the risk from invasive species facing watersheds, water quality, and quantity in Oregon. If the invasive species impact is ignored, high value investments as described will be a waste. Consider the impact of quagga and zebra mussels on our dams and hydropower plants, aquatic noxious weeds choking up the Willamette and the Colombia rivers and irrigation canals. Invasive species issues, such as prevention and control, should be addressed from the beginning.
- I think the largest hurdle to meeting Oregon's water future needs is lack of support for new storage, perhaps a blend of natural and artificial. Under a warming climate, we will not be able to store water in snowpacks across the State and will instead see most of the water delivery shifted to earlier in the spring. This means we will need a replacement for snowpack storage if we are to have any water in the summer.
- Yes
- need to learn from past mistakes
- None of the above identify the problem of future community water security. Field drainage tile is the main culprit that needs to be managed. All the above suggestions won't do a thing if the cause is not fixed.
- The first sentence of the overarching problem statement is really specific to built infrastructure and would be more accurate if it said as much: "Oregon's built water infrastructure has served us well..."
- Yes, they represent my concerns, however, not in that order.
- Every day I see the lake I live by fill up with weeds, which die out and deteriorate and become a greater source of nitrates and phosphorous. I see no efforts toward removal of those weeds. Like a yard, the lake bottom requires maintenance to ensure it continues to function properly. Resources need to be dedicated in that direction as well.
- Yes these seem to capture most. I would venture to add: natural protection of flood plains, forests, and upland soils - our communities are less safe and at increased risk of damage from catastrophic flooding.
- Yes.

- No. These issues are very important. But I think this is far too focused on infrastructure (hardware) and under-focused on "software," including consideration of players, mindset(s), relationships, ecosystem processes, values, decision-making frameworks, operational frameworks, rules and administrative frameworks).
- Yes, this addresses the items we're focusing on in our community, HOWEVER, I think we should look more GLOBAL as a State and not just within our communities. Such as, in the areas where we have plenty of water, let's look at how we can divert some of that water to areas where they do not have enough. Water diversion and redirection should be key for the entire state, as well as looking for ways to obtain more water!
- What is not addressed are the many private water systems which are not eligible for most to all of the state funding as it exists today.
- Please clarify how "built and natural systems" will keep water cool and clean. The last bullet makes a strong statement with false assumptions. "Latest" is not equivalent to "accurate" and not testing new ideas does not equate to failure to provide.
- Funding always will limit the best intentions. I completely understand how infrastructure should be the first line of action but that will not necessarily alleviate overbuilding, overconsumption, overpopulation, or farm use. We need a multi-pronged, comprehensive and planned approach that takes all such vectors into consideration.
- 1) Interior plumbing is overlooked. Building's interior plumbing systems are a significant source of contamination in drinking water. After the service line ends, the landowner becomes responsible. Funding must be available for landowners and landlords to improve plumbing. Especially vulnerable populations are likely to have poor or old plumbing lines that can lead to poor health outcomes. 2) Sustainability and water re-use. How will the state advocate for more stringent conservation and water re-use? Water supply outpaces demand only for the next 100 years. In the use of natural resources, conservation and efficiency are repeatedly shown to be the most sustainable solutions. Increased extraction only delays this problem. Ambitious conservation and water re-use would represent a vision for Oregon.
- Yes
- I disagree with the very premise that our water infrastructure has served us well. We are on the cusp of losing vital runs of native salmon and steelhead in the Columbia and Willamette basins for example. How can we say that the infrastructure has served us well? We can't! So in the future we need to consider that the way we have designed the current infrastructure is the problem. That concept is lacking in the problem statement above.
- Yes, but there are also institutional and political problems. There needs to be an impartial referee balancing various interests. The current referee, the Department of Water Resources is a captive of water developers and mostly does their bidding. There are also those that like the barely regulated status quo and oppose data collection because it might threaten their interests. Something needs to be done about that.
- I think these challenges are all way too human-centric. They should focus on what we are doing to the water as well. By placing our needs for water-based infrastructure ahead of functioning watersheds and natural water delivery systems, we are crippling our ability to maintain healthy watersheds and their associated wildlife into the future. I we are really

thinking about healthy water, we need to consider healthy watersheds...without dams, connected to floodplains, with active overflow channels and floodplains, healthy riparian buffers, and not just a delivery system for getting rid of pollutants and sewage. These are the things that will insure coll, clean water resources into the future. In one way or another, human infrastructure, without consideration for the functioning of the natural system it is constructed in, usually cripples our ability to provide these goals in natural system.

- Regarding "upgraded levees, dams, tide gates...", I'd suggest that it would be smarter to work with the original landscape features and move forward using climate-smart principles and designs that rely less upon infrastructure. For example, building homes and communities out of floodplains; clearing in-channel debris and vegetation that cause flooding near bridges (or redesigning bridges to minimize high flow impacts); setting levees/dikes back higher on the floodplain to allow the channel to migrate and/or create high flow side channels that create good spawning habitat while increasing channel capacity. We need fewer dams, but more water storage. How about funding the installation of water towers or storage tanks for communities in need? Or fund studies to examine the feasibility of aquifer storage and recovery for communities in need? Water rights are limited and we need to figure out how communities can take advantage of available water supplies when it is available so that it can be used when water is scarce. We need more surface and groundwater wells and automated water level meters.
- First bullet says "healthy," which seems like a deliberate addition. What of unhealthy people? Would it be more inclusive to write "...needed for people and communities...?" Fifth bullet, I suggest changing "will" to "may." I support developing strong community capacity and connections, but "will" seems presumptive and discounting. Sixth bullet, "If they have not already, water systems will perennially fall short of providing for Oregon's water needs without the latest water data needed to make effective decisions and intentional approaches to test new ideas."
- This puts too great a stress on built improvements, and not enough emphasis on protecting and enhancing natural systems. Levees reduce flood plains thereby increasing flood elevations in the constrained river. With climate change, flooding is likely to increase as precipitation changes from snow to rain.
- Keep in mind that the goal of infrastructure is to maintain and improve river flows as well as benefit human users.
- All high hazard dams should be earthquake resistant. The Bend Hydro dam should be rebuilt or removed due to the number of recent dam failures and the lack of proper repairs. Historic and wasteful canals should be pipe or retired within five years. Fish passages and screening should be required without any exceptions. All water basins need water testing for all pertinent factors.
- No. I don't see enough about defining the problems, and solutions, from a watershed perspective. Further, no statement about how a changing climate affects our clean water future or this "vision."
- ..fund needed science..present system has served human needs not the needs of fish, amphibians..aquatic invertebrates..so opening sentence is bs in my book..wasteful old dams should be removed as should those that turn rivers into lakes.. rescind HB 2437 that

ok'd dredging and filling of wetlands..the governors signing of that and other fish and wildlife decisions makes me doubt any real commitment..

- yes Stored water by the ACOE in the Willamette Basin should be made available to downstream communities for municipal use during summer demands as part of their current water rights and/or new water rights made available to those communities that have exhausted their current rights. There is no other water available for these communities.
- How can we determine the needs of fish and wildlife when the studies have not been done? Why is ODFW not fully funded to determine these needs? Why is irrigation from rivers and groundwater withdrawal not measured?
- There is no explicit mention of lakes. This is a current and potentially future problem because Oregon devotes almost no resources to protection and improvement of lakes.
- These are some huge issues, and it appears that someone has put a lot of effort into suggesting some excellent ideas. Not sure w]how I could add anything.
- Identify and correct water wasted by inefficient irrigation.
- The problem statement is a problem. The natural functioning of many of Oregon's rivers and streams are heavily affected by existing infrastructure that is inappropriate. The best way to protect against all flooding is to avoid development in the floodplain. Flood control is largely a myth, able to regulate only a small portion of the wide variation in runoff conditions that Oregon experiences, and in-fact puts Oregon's communities at risk by the false assertion that development in the floodplain will be protected by dams and levies. This is exactly the wrong direction to take to insure resilient water supply and delivery, as well as protecting infrastructure from floods. This seems very slanted to protecting economic interests and is at odds with protecting the larger public interests that a mature and considerate state government should be promoting. Perhaps it has something to do with the outrageous level of funding provided to the legislature by corporate interests?
- na
- The vision should include a path for removal of outdated and environmentally damaging dams; The current draft of the vision is too focused on building additional hardened infrastructure; an emphasis on ecosystem needs must be included. And, something should be added about a dedicated funding source for new or updated infrastructure be funded? Perhaps a water fee?"
- The problem statement looks good, but one of the specific challenges should bring climate change. The need to prepare to the realities of climate change.
- We should replace hydropower with wind and solar power, and remove the dams to open up ancestral spawning grounds to native Salmon and Steelhead.
- It is not about infrastructure - it is about outmoded practices premised in priority of rights and not about beneficial use -- one that serves a public interest rather than private rights. We have monetized and created a private marketplace for MY public resource; and it is getting worse. Wall Street brokerage houses are buying water rights ... are you paying attention?
- Climate change will effect our water quality and quantity. Efforts should be made to counteract this problem and prepare for the future consequences.

- agree
- yes
- Dams to an immense amount of environmental damage ecologically. New ideas need to be implemented for water storage. Take Castor canadensis off of the predator/fur bearer status and make it a keystone species. Research has clearly indicated that this species was a critical component of recharging aquifers.
- What about framing a statement around industries that move here because there is more water than other states? Is there an economic development guideline to consider around industries who find Oregon a great place because of our water resources?
- Data collection and correcting historic manipulation of water systems for individual gain is critical. We are not starting from a level playing field.
- yes
- The vision should include a path for removal of outdated and environmentally damaging dams. Thanks!
- Without creation and support of public river access points, recreational opportunities and the dollars they bring in will be lost.
- In addition, agricultural water users should use the best technological methods for irrigation. Flood irrigation should be replaced. All water users from natural flows should be limited to the allotted water rights. In other words a physical structure should allow for the correct amount of withdrawal.
- Yes
- yes
- I feel that this statement as currently drafted places too much emphasis on engineered, static systems such as levees, dams and tide gates to protect existing man-made communities. The problem/challenge and opportunity is to help Oregon communities (which are increasingly not viable due to flooding, wildfire etc) shift or adapt the ways that people live safely and productively in an era of intense climate change.
- Add ecosystems to fish and wildlife in point 2; The last point is perhaps the most important, but its impact will suffer as people fatigue reading these several points. I'd like to see this point as number 1.
- Makes sense
- Emphasize natural wetlands and estuaries. Natural wetlands help wildlife, and provide the good flood protection. Set space aside for them!
- The emphasis should be on existing surface and ground water capacity, current uses and then potential future demands. There should not be an implicit assumption that the problem with water is inadequate infrastructure, as is the case with these problem statements. The problem may be over-subscription in some cases, and the best solution may be greater reliance on natural systems, such as for flood management. The way this is written we look first at infrastructure, which I think is misguided.
- The vision should include a path for removal of outdated and environmentally damaging dams; The current draft of the vision is too focused on building additional hardened infrastructure; an emphasis on ecosystem needs must be included.
- "Water available when it's needed" should not include schemes to export water or for projects that use water for fossil fuel development. Conservation of water, fixing leaks in

pipelines and ditches, using irrigation methods that use less water, and not keeping lawns green in a desert, should be considered before construction new water storage facilities. Moving levees and infrastructure back, out a floodplain, and giving rivers room to meander and flood, is usually less expensive than building and maintaining levees in a floodplain. It is also a better alternative for aquatic resources and water quality. Tide gates, even the most enlightened designs, impact fish passage to some extent.

- Public money should only be used to promote public values. Public money generally should not subsidize private, for-profit waterworks, such as irrigation diversions.
- The economic value of a healthy ecosystem including its fish and wildlife needs to be taken into consideration especially when it comes to setting priorities and looking at funding opportunities.
- some specific mention of and attention to those who depend on wells and have no means of "city" water.
- The best infra-structure is the one where industry is taken out of the picture. Unneeded dams and levees need to go into the old 20th century & priority needs to be given to letting our rivers are become statements of our environmental stewardship.
- Major item missing is private access to water. Specifically, private companies buying water rights which may provide a short term economic benefit, but will have long term consequences on supply.
- The last point sort of addresses this, but perhaps could be more specific- invest in more scientific research to better understand the reality of our groundwater aquifers and the potential impacts to water quality and quantity from climate change risks. The wording of "built systems" "levees, dams, tide gates", "large scale water infrastructure" I think over-emphasizes engineered and technical solutions. I did appreciate the mention of "natural protections" and "natural systems". I would prioritize an increase water quality standards, and more conservation efforts.
- We need truth and accounting for all that compromise our water quality and address those first. Unfortunately much of what we have called 'progress' in the past have left significant liabilities into the future. While many of our efforts have gone without any consequences. I have a number of specifics to share in this regard at the meeting.
- Our laws are 100 years out of date. Our water is being mined for profit now without regard to the future. Every place is not the same. Spraying water into the wind in the desert is not a beneficial use to people who live here. It may have worked for a few in the past, but it is now out of control. The USGS has studied and is reviewing the report. When it comes out we need limits to insure sustainability.
- see comments in question 3
- When and where possible, with appropriate outcomes for all, gravity should be used for delivery systems to insure reliability.
- Without a public information and communication system regarding our water issues gaining public support for infrastructure improvements, water quality protection, funding opportunities, etc. may be more rigorous than if the public was engaged and knowledgeable.
- There doesn't seem to be a way to fairly address the huge impact, strain, and lack of appropriate compensation for growers of marijuana.

- Yes
- I'm very concerned that there is no permit system for residential wells in Deschutes County (not sure if this problem is state-wide). With rapid growth of residential properties and "grow" operations in northern Deschutes County, the groundwater table is dropping and county residents are being forced to drill deeper wells.
- -Without convening among a myriad of agencies responsible in some way for water quality, testing, pressure, proximity to sensitive areas, and vulnerable populations (i.e. farmworkers), these populations are overlooked and not taken into account when infrastructure changes are made to address needs. Their occupational health and safety should not be viewed as temporary, seasonal or private for one site or one farm owner. Often these workers live at sites that would be a small village but still viewed as temporary and out of sight out of mind.
- Communication about the issues needs to be improved so residents can better understand the consequences of no action.
- Without the education of water use efficiencies and how to conserve water, end-users of water systems could inadvertently spend water savings
- Yes
- This is a good start, but appears to take the tactic of "building our way out" of water shortage issues. Although resilient infrastructure is essential to addressing the issue, as is data collection for decision making, in light of predicted drought conditions and climate change, we need to acknowledge that certain regions in our state may have to make hard decisions about how water is allocated, and whether future development might not be appropriate in certain water-constrained areas. Further, the problem list should admit that our western water laws are based on a legal fallacy that has created siloed regulatory regimes that do not fully analyze risks: the fallacy is that surface water and groundwater are somehow unconnected and independent natural resources. Once we as a state can acknowledge the interconnectedness of our water resources, the sooner we can move forward with meaningful policy solutions that address future needs for water quality and quantity.
- Current water withdrawal is too wasteful. We need to insist on efficient water use and keep more water in streams. With the present system, every year is an extreme drought year for fish and wildlife.
- Small communities with diminishing rate payers due to demographic shifts and changes in regional economies can't afford the escalating price tag for upgrading wastewater and water facilities. It's what keeps us healthy and productive.
- Yes
- Yes
- Protecting and restoring instream flows for listed fish, integrated water resources management, funding for instream flow studies and river restoration projects, water conservation projects, dam removal
- No where is there specifically mention the need to measure the use of our water from the aquifers. The state keeps giving permits for water without knowing if new permits for water cannot be sustained. I am aware of the enormous cost to do this, but operating without this knowledge will eventually be a disaster, especially with climate change.

- Identifying the capacity of communities before allowing growth beyond availability of resources.
- Funding to keep our current systems is lacking. Information that is being collected is not utilized by current competing agencies.
- Aquifers, wetlands, bioswales, natural buffers... again don't over-engineer. Nature's way is usually best.
- The Problem Statement appears to only address the "State's infrastructure" which is inconsistent with the Vision Statement and the Goals which include to steward our water resources to ensure clean and abundant water for our people, economy and environment. As presently written the 100-Year Vision appears to be primarily a large scale infrastructure plan. A large scale infrastructure plan could help address many of the environmental problems in our rivers and streams. However, the vision should have co-equal goals, benefits and actions including projects to support instream needs. Recommend: Include a specific problem statement regarding our natural waterways. Many of our rivers and streams are not healthy. They often have insufficient flows, poor water quality, inverted hydrographs, insufficient riparian habitat, and are no longer hydrologically connected to their floodplains. This should be acknowledged in the Problem Statement and included in the Investing in Our Water Future section of the Oregon Water Vision (Premise). The elephant in the room that is not acknowledged is a legacy of over-appropriation of state water rights 100 years ago that has left many streams, rives and aquifers depleted. In this sense, the "infrastructure that has served us well" actually had dramatic deleterious impacts to many river systems. While both built and natural infrastructure are important components of this water vision, the term "natural infrastructure" does not adequately convey the need to protect and restore river systems and aquifers. Suggest the consistent use of language specific to protecting and restoring river systems and aquifers.
- ALL water use should be metered. Idaho has shown this can be done. Spending massive amounts of public funds to line canals and upgrade applications of water doesn't make sense. Water is becoming more and more valuable. Why aren't you charging for it? It is estimated that putting water back in the Upper Deschutes will cost \$1,000,000 per CFS. The irrigators lgot that water for free and waste up to 60%. They apply the water to "crops" that generate little for the local economy yet they have destroyed a world class fishery.
- Our leadership do not hold themselves responsible for working across organizations/stakeholder communities to proactively plan for the inevitable. Our water management assessments, conservation, research, planning and execution of infrastructure projects are their responsibility. Yet, we find federal, state, county, municipal, special districts organizations not planning together. Is it just and ethical to request that all citizens contribute through legislative monies to pay for capital improvements that could have been planned for and funded by those who use and manage the water many years in advance?
 - yes
- The opening statement: "Oregon's water infrastructure has served us well" is absolutely not true! It has NOT served us well!

- Infrastructure that is no longer necessary, or inhibiting fish movement. (culverts, tide gates).
- I have no suggestions for additional problems to list.
- The state needs to invest more resources (staff and funding) into protecting Oregon's waters against the negative impacts that Aquatic Invasive Species pose. Prevention of new species getting established and the control and management of existing species needs to be highlighted. If future investments are not made into this important environmental issue then future water supplies will suffer major negative impacts that will go beyond just investing in the current vision and problem statement.
- There needs to be more focus on efficiency and conservation instead of building more infrastructure to try to increase "supply" (even though water is never created nor destroyed just taken out of one bucket and put in another).
- yes
- We need to focus on water use efficiency, update building codes to require showers, sinks, appliances, irrigation systems are more efficient. Use gray water systems for irrigation. Prohibit landscape irrigation in drier areas and during drought conditions. Help water districts upgrade pipes to reduce water loss. Without (add: preventing building in high risk areas, strategic retreat), upgraded levees, dams, tide gates and the natural protection of wetlands and estuaries, our communities are less safe, and at increased risk of damage from catastrophic flooding.
- This is probably good too, but the devil will be in the details
- Yes, definitely on the storage and wetlands issues. We have the capability to improve all of these
- Oregon's wastewater treatment plants need to be modernized. They are contributing significantly to river contamination because they cannot remove all the chemicals in our consumer supply. There is no state funding for scientists to study impacts to fish in Oregon. Try to be less vague where you can
- Balance the needs of all stakeholders, including native fish and wildlife, before undertaking any infrastructure development or upgrade
- NO. The premise of the "problem statement" is around built structures. The first sentence starts out with "Oregon's infrastructure has served us well, but it is showing it's age." Healthy rivers and streams do not "show age" and thus are not captured in this sentence. This statement focuses the vision on "infrastructure". Original documents (2018) made clear that instream water for fish and wildlife was a priority. Recent documents, slideshows, and presentations are moving away from that. Similarly, the specific challenges fail to adequately call out healthy ecosystems, and the role the restoration and protection serves in this. The list should be expanded to include directives to for investments and policies/plans to ensure that fish, wildlife and waterways have adequate and cool and clean water, otherwise we risk imperiling Oregon's fish and wildlife and communities that rely upon them.
- Needs a reference to improved efficiency of use
- These statements are filled with weasal words. The reality is infrastructure is failing. Some areas should get support but some rural areas are going to have to realize they can't shut down the Senate and then expect Portland to subsidize, again, their bad choices. We

already pay for their schools.

- Yes I agree with what is said above! It is priority to keep our natural storage in the head water and our wetlands healthy and protected to meet the needs on quantity and quality!
- This seems to indicate greater human control of natural water systems. Humans need to give up some control. Make room for rivers and tides to move and exhibit the dynamics that keeps these natural systems healthy. We should have fewer dams, levees, tide gates, and river armoring, not more. (Strategically, decided of course).
- We have grossly underestimated the projected population growth from areas to the south of us impacted by climate change.
- Yes
- This sounds about right regarding infrastructure.
- In addition to our water infrastructure showing its age, we have also learned more about challenges (i.e. seismic hazards) and technologies to address it. Hypothetically, if a dam is required for power generation yet it is impacting fish passage, let's be the state this is figuring out how to address this by using available technology to be more efficient in power generation with less water, and create bypass systems for fish.
- I would be including natural climate solutions to improve watershed process - beavers, unstable slopes, riparian zones should be included in this discussion
- Concern about lack of information on current availability (ground water supplies and aquifers, for example)
- This is a very government. It looks like these statements were written by committee. We need to approach this with an aggressive change management perspective. Too many words. Might I suggest hiring a business marketing firm to help create talking points that are memorable.
- They do capture many of my concerns also. You may consider adding " Community knowledge of current programs and support mechanisms are paramount to achieving our objectives." Specifically, public money is being invested by the State of Oregon for Irrigation Efficiency programs to support surface water right holders. Many of these water right holders are never informed of the Allocation of Conserved Water Program that the Oregon Water Resources Department administers. No public money should be spent on irrigation efficiency in Oregon unless the water right holder is informed of this program and given the opportunity to participate!
- Yes
- These reflect many of the concerns I have. I hope the this water planning will look at the relationship between built and natural infrastructure for water cleanliness and use. I think built often gets promoted over, and often to the exclusion, of "natural" infrastructure. I'm most interested in structures and systems that are sustainable (from upkeep and expense perspectives as well as holistic solutions).
- Missing: failure to update assessments of "beneficial use" to ensure efficiency - failure to measure water use and hold water users accountable for using water without waste.
- I don't see anything about tribes or indigenous water rights
- Again - I think the current wording reflects a "more of the same" approach which is not desirable. Current wording focuses on "upgrading" infrastructure - not rethinking it - redesigning for the 21st century and beyond in a world needing to prepare for and adapt

to climate change - and reduce Oregon's contributions to climate change. I think the problem should include a statement that acknowledges we are already dealing with impacts from climate change and anticipate additional impacts. We should acknowledge that we are relying on antiquated approaches to complex and modern problems - and investments need to focus on innovative solutions that maximize benefits while minimizing impacts. We should also acknowledge the fact water treatment facilities do not adequately treat our water sources for pharmaceuticals and other contaminants unknown when these systems were developed. Finally, acknowledging that many Oregonians don't fully understand these issues, challenges, and potential solutions. Outreach and education will be critical for community support, input, and buy-in to proposed actions. Engaged and educated stakeholders will be important.

- The connection to upland/forest health is missing in the natural systems bullet. Perhaps: "Without resilient built and whole-watershed natural systems..."
- Need equitable access to filter systems, rain water catchment systems, sustainable / good environmental design that reduces water waste... need to integrate wording about water uses and abuses - ie watering grass, golf courses, etc - need systems that integrate gray water recycling etc
- infrastructure should not seek to control the natural movement of water, flood plains should be emptied of infrastructure instead. Water conservation on the part of human communities should be a priority. Reduction of superficial use of water ie lawn watering, increase of greywater and rain catchment systems for residential and business uses.
- Yes
- yes
- Again, I need to understand what actions are contemplated and funded for implementation be that governmental, private or partnerships. For example, tide gates need serious evaluation to assure fish passage (very difficult). Farmlands that have been created by such features as tide gates need examination for possible purchase and restoration or same by willing owners. Groundwater is severely lacking of data needed for agencies (e.g. WRD) to make decisions regarding the issuance of new water rights and for regulation of existing water rights. WRD needs to be empowered to regulate the interference or stream dewatering situations - they do this only to a very limited extent currently. Watermasters hands are tied for numerous reasons in this regard preventing their ability to intercede and be helpful to water right holders including protection of instream flows. I don't see how the 100-year plan can be effectively implemented without significant changes in Oregon's water law and without an immense funding effort for the numerous environmental agencies, and without some overseeing body to coordinate implementation of the objectives and strategies needed to implement your goals.
- No. There is no reference to conservation. We don't need to create more infrastructure until we reset expectations about the environment and sustainable resource use.
- Oregon needs regulation of building in flood zones and channel migration zones - levees and dams are not sustainable solutions and conflict with the goals for water for fish and wildlife.
- Mostly, as a Council for a city in western Oregon I am concerned about cost increases
- It is not honest to say "...so all Oregonians can access clean and adequate water..."if the

states planning rules don't reflect this goal. Allowing developments to be built in low yielding or over allocated water basins will continue to set us up for failure. Water management is based around land use planning.

- Cost of access to water- day to day access to clean water
- I would add that in addition to the latest water data, the state needs an accurate accounting of water available. For both surface and ground water supplies. Citizens in every Basin of the state should be informed as to if/when water is available at a given time. Lack of adequate communication has resulted in grossly over-appropriated systems and uneducated citizens.
- Without clear scientific understanding of who, what and where waters of the state receive negative impacts that compromise the quality of water, Oregon's Health, Environment and Safety goals will always be at risk.
- I believe there will need to be a separation of potable and non-potable water to achieve the goal of clean (consumable) water for 21st century Oregon.
- Without specific attention to the social harms embedded in our current systems, we are doomed to repeat environmental injustices and exacerbate current/emerging injustices under future climate change impacts.
- There's an inherent assumption in this statement "Without upgraded levees, dams, tide gates and the natural protection of wetlands and estuaries, our communities are less safe, and at increased risk of damage from catastrophic flooding" that all levees, dams, and tide gates will need to be upgraded. Has there been an assessment as to whether this is true? What about evaluation as to the continued need for these built structures?
- Old infrastructure is a major issues in the Klamath county and surrounding areas. Direction of funding may not be directed properly, interests are biased, and water quality is not a concern over conserving access to rangeland for cattle. protection of streams from cattle damages is of little concern.
- What about calling out climate change specifically?
- Yes
- We need to modernize our water rights system. If that can't be done, we at least need to do a better job of measuring water use and enforcing water rights (e.g pursuing illegal water diversions). These problems need to be articulated with the other specific challenges.
- Oregon residents cannot afford to continue to under-invest in vital infrastructure. We must significantly raise the level of our investments in this critically important area.
- This is a great start...I would strongly emphasis the benefits of community Collaboration when considering how best to manage Oregon's water future. Because many of Oregon's water supply systems are becoming stressed and at risk for meeting future demands. Focus should be given to the development of redundant (emergency water system interconnections) water supplies to take pressure off the rivers, creeks and springs.
- For the most part yes.

Question 3

This is a continuous listening and learning process. While this will not be your only opportunity to provide feedback, please share any other thoughts that you have about Oregon's 100-Year Water Vision.

- It will take more than human engineering to mitigate shrinking water supplies and ecosystem degradation. Natural strategies should also be on the table. For example, we could allow the return of significant beaver populations to upland forests and restore, at least in part, the natural hydrology that was destroyed by Hudson's Bay Company 300 years ago. Such strategies require only thinking outside of the man-vs-nature box. (Yes, that's actually a heavy lift.)
- Seems to me redundant of other efforts - Integrated Water Resources Strategy and Place Based Planning. Not sure what this will add; could end up just sucking up a lot of time, energy and money and adding nothing to the vision(s).
- Thank you doing this work.
- a) I believe this process would be improved by far more robust involvement of Tribal communities and their environmental experts than occurred at least in the Medford meeting. b) In reading through the lengthy listing of points that were made during the community meeting, I was struck by the realization that, even in what appears to have been a relatively environmentally conscious group, some comments suggested to me varying views on the importance, role, and extent of climate change on the discussion of the future of our water supply. I believe a more extensive foundation of science-based information on climate change would have benefitted the discussion. Climate change is stated as one of the "premises," but it seems to me that what it actually might or could mean, including the vast uncertainties--especially over a period of 100 years--was needed before we got into planning for it as one future happening. I don't know what options there might be for bringing it in after the fact, but it seems to me like a Step One that was bypassed. c) I was glad to see that the 14-year long proposed Jordan Cove Energy Project was brought up (as you said, only in the Medford meeting), but across the whole statewide process, I believe directly considering the potential impacts on water goals of such significant projects with clear adverse impacts on water quality and quantity should be an essential element of the planning process. We can't know whether a proposed project will actually be built/exert impacts, but it seems unwise to leave them off the table. I look at Oregon's emissions reduction goals and follow the Governor's and Legislature's effort to address them, but it's clear that, for example, if the Jordan Cove Energy Project is built, whatever efforts we make to control emissions would have been designed to address a far different situation. The same concern is true for planning to address future water needs.
- I hope you will include invasive species specialists in your planning and vision creation.
- No other thoughts
- It needs to be all about getting ready for current and additional climate change impacts.

- One other concern is the erosion of public trust in water governance and policy-makers. From reading the problem statement and goals as they are now, I don't feel like this issue has been adequately addressed. I think there should be more explicit language about how water policy and policy-makers will be continuing to learn from and engage with their constituents, and language that highlights what new ways they will be facilitating engagement in this water vision. For example, I think that possibly acknowledging the fact that water policy and decisions have not always been and still are not always equitable or fully effective, along with an ask for help given these shortcomings, could go a long way towards building back trust with some stakeholders.
- Try to think big picture and what is best for Oregonians 100 years from now, not what is best for us in the next five years. The problem with documents and "visions" like this is that they try to be everything to all people. Politics always gets in to it. The reality is we have a looming problem around climate change and water that will be catastrophic if we don't do something. We need to be brave and bold and do what is necessary and backed by science, not what is politically expedient.
- I appreciate the opportunity to get involved in this planning process. Water is a resource that tends to be looked at rather narrowly—even when attempting to broaden the vision to include a greater picture of values, threats and impacts. While some threats, such as climate change, can be more obscure and hard to predict, other threats such as invasive species introductions are much more certain (especially given Oregon's proximity to several established populations that are expected to invade Oregon in the coming years—and may already be). In conversations with state leaders I am concerned that Oregon is grossly unaware of the impacts that Oregon is sure to face in the very near term. Our economy is tied so strongly to our natural resources (agriculture, nursery, seed production, forestry, fruit growing, range grazing, etc) yet those that will be most affected by invasive species are not planning adequately for their arrival. We need to invest heavily in invasive species monitoring, detection and early eradication or we will suffer not only great losses to our water resources but also to our industries through costly quarantines, pest damage, direct crop losses, control costs, and more—not to mention the need for heightened chemical control measures to control these pests). State programs such as ODA Noxious Weed, ODA Insect Pest Protection & Management, Oregon Marine Board, Oregon Dept of Fish and Wildlife, Oregon Parks and Rec Dept, Dept of Environmental Quality and others need a place in this conversation devoted to invasive species management, as well as many more resources to making early detection possible. Local, federal and tribal organizations also work hard on invasive species management and need greater resources to effectively carry out their mission to protect our water from the effects of invasive species. To significantly strengthen this vision please give serious consideration to incorporating invasive species planning as a core tenant to the vision.
- Input is being sought for the current water vision, but it will ultimately be dictated by the Governor. Such a top down approach cannot build consensus in the State. Perhaps a

committee of interested stakeholders from across the State should be in charge of developing the vision and concrete steps to accomplish the important task of ensuring reliable and clean water into the next Century. Otherwise, particular interests will be elevated over others, and the process will not be as transparent as it should be. Further, the current Water Vision is extremely broad. It talks about overarching goals, but does not set forth an action plan to reach those goals. It identifies challenges in Oregon's current infrastructure, but does not provide solutions. The "vision" should focus on the State's priorities and planned actions for attaining the goals, including partners, funding, and timelines to complete the planned actions.

- Please develop an investment strategy for implementing the IWRS and use the update process in 2022 to refine that document rather than creating a whole new document and a whole new process. Please do not abandon the work that has already been done...please make it stronger. We already have a mechanism for articulating the state's priorities for water...it's the IWRS and place-based planning. Why are we not investing in THOSE. Please re-name this effort. The IWRS already casts a vision for Oregon Water that is more holistic and comprehensive than the vision you propose here. Please do not focus on infrastructure alone – it's not the whole story and you will be doing the people of Oregon and our water systems a disservice by focusing just on infrastructure. Please call this effort a 100 year investment strategy for water and make it about supporting implementation of the IWRS...then use the IWRS as a vehicle to continue to articulate state and place-based priorities for water investments. Do not abandon the work that has already been done. I understand if you want a legacy project...just make sure it builds off of the good work that is already happening rather than diverting attention away from it.
- This need to have participation with impacted communities, native Americans (both federally recognized and not), houseless and coastal communities /areas.
- In its first 100 years, Oregon probably issued over 50,000 permits for the use of the public's water. It is highly likely that another 25,000 permits have likely been issued for the use of surface and ground water, along with the construction of thousands of ground water wells that are exempt from the permit requirements. In order to establish vision for Oregon's water over next century we must start by stopping - enact a moratorium on the issuance of any new water use permits and eliminate the allowance for exempt ground water use. Oregon may or may not have a water supply problem but because of all of the uses permitted under existing laws, the State does not really know who is using water, how much they are using, and where they are using it. The water supply problem cannot be solved without committing 100% to measurement and reporting for every single use of the public's water. That is the first step towards assuring that our current situation does not worsen. The next challenge will be to establish a fair and legitimate process for the state to cancel water use permits that should never have been issued. If we fail to take back some existing permits, we will fail

to meet the multiple goals set forth at the top of this survey. And tragically, many of Oregon's rivers will be dry by the end of this century.

- There has to be improved interactions between the Forest Service and ODFW since their respective actions can negatively impact each others restoration efforts and negate efforts or combine to increase the rate of degradation. The state must direct ODFW to actively engage with the Regional Forest Service Office about how to undertake actions in their respective areas of influence in a way that accelerates restoration of stream systems on public lands. The division of ODFW (deals with fish and wildlife) and FS (deals with habitat) has to go. This is incredibly counterproductive. Any thing related to improving water conditions must address stream systems conditions on public lands and actively incorporate all partners, including beavers and wolves, in accelerating recovery and function of these systems.
- I would like to see a focus on agencies, cities, business and citizens to really focus on this collaboratively. One thing i get tire of hearing is the Willamette had another sewage spill in the river. Proper stewardship needs to be everyone problem. Lastly, cost effective models that protect and enhance the community and provide the needed results. It also needs to be implemented and not just talked about. Invasive species are a real treat and can destroy our waterways which in turn messes up waterways temperature. Native species restoration is proven to help cool water and improve habitat for wildlife and help us keep cleaner streams. This is a large complex problem.
- It is critical that agriculture, municipalities and the conservation voices work in tandem and not turn the 100 year water vision into a zero sum game.
- I think long term benefits often fall to the wayside when short term needs are critical. I can foresee several future scenarios where short term needs will be critical To the degree we can analyze to minimize short term crisis and set up to handle population pressures in a thoughtful way, we will be in an improved position to have a better outcome for our waters and health. I have not been directly involved greatly to date so some of my concerns may be unfounded or already addressed. My concern with what I have heard in passing so far about the 100 year Water Vision is that it is working on too short a time frame in actuality. It would be good to set up some actually visioning of what we would like to see Oregon look like and what health levels we would like to see in 100 years. I think starting there will help us hone in on the mid-term timelines and needs. Without doing that long-range beyond-standard visioning, it will be hard to do more than the status quo that is already being done. And if it is too repetitive of what is already being studied, folks may lose interest/support. I think this effort has the potential to be very useful, and what it is meant to be: visionary. I recognize its a huge effort and appreciate the opportunity to brainstorm these ideas and musings I have shared. I wish you the best of luck in completing the effort.
- Part of the investment in water infrastructure needs to be investment in human infrastructure. We need a critical mass if not most (>2/3) Oregonians to be good water stewards who are conscious of their impacts and ways to reduce those impacts on water

quantity and quality. This will require a political campaign reminiscent of Tom McCall, and an economic investment to make doing the right thing possible (which is tough if you have to work 3 jobs to afford a roof over your head). I know that fixing all of the "woes" that this implies is beyond the 100-year vision, but the vision needs to also explicitly recognize these external issues. We also need to invest in the next generations of water professionals across their careers. This includes: 1. basic education and training. We have good public universities to provide that, but need the STEAM curriculum to get students prepared for university-level work whether they go to 2- and 4-year college, post graduate education, or into the needed trades. 2. On the job training and leadership (political and technical) development. This is hard to invest in when both companies and agencies have to "run lean." 3. Compensation schemes needed to retain talent in the public sector. Yes, we are competing with the Silicon Forest. But without this, we'll be only marginally effective at best.

- Expand education about the importance of clean water and how healthy natural systems like riparian buffers help protect our water supply and quality.
- Thank-you very much for this opportunity to share thoughts on Oregon's 100 Year Water Vision. I am so proud of Oregon and our Governor for making this a priority. I am worried that the current national climate is one that wants to remove water protection from public land managers. I think that would be a travesty. Our public lands (mainly National Forests) are where most of the nation's water originates from. They are why we have the luxury of clean, cold water to drink and bath. They are the why we still have the precious fish and aquatic life that we so cherish.
- Overuse of ground water for agriculture has caused measurably drastic reduction of aquifer levels in the major aquifers of the midwest and Texas due to poor and uneven regulation of withdrawal. Monitoring and reasonable limits on the expansion of agriculture may prevent such irresponsible use here still.
- In the next 100 years, efficient water use will be become increasingly essential to meet demands. We need to both incentivize and require water efficiency projects. We also need to contribute to solutions for our coastal communities. That means reducing nutrient inputs that contribute to hypoxia and linking Oregon's carbon footprint to rising sea levels and ocean acidification which threatens our coastal residents and economy.
- Regulation mandating efficient irrigation. As a retired landscape contractor, I found that waterwise irrigation systems were a hard sell. People often make the cheap choice rather than the right choice. I guess that's why we have regulations, to remind folks what the right choice is.
- About 20 years ago the definition of water shifted from it being a renewable resource to it being a consumable. We seem to think that using water makes it go away. Certainly, we should not waste water, but likewise, we shouldn't, stop using water for legitimate purposes.

- I am Vice Chairman of the Upper Nehalem Watershed Council. I can tell you that we are witnessing in our area extreme degradation of our watershed due primarily to clear cut logging practices but also from development. If we don't fundamentally change our societal behavior we will decimate our watersheds and drive to extinction fish populations that are on the brink of complete collapse. We need to wake up and take meaningful action NOW!
- This is a good start, but we must take a comprehensive view of zoning and resource demands and use the most up to date tools to identify cumulative risks in all planning and regulatory processes.
- Outreach and enrichment for businesses that traffic in species that can thrive in Oregon waterways might not go amiss.
- Noxious weed control needs to be a top priority in order to accomplish the goals stated. It's well documented how invasive weeds effect water quality and quantity by displacing native vegetation and altering the ecosystem function.
- These are very broad and abstract goals that probably cover all we aspire to, but they lack clear directives and short and long term actions to attain them. Let's get serious here.
- Oregon coastal communities are diverse environments with shared problems that will require shared solutions. Communicating these issues, developing solutions, and applying strategies on the ground will require added funding for projects and equally important, capacity to apply resources in an efficient and effective manner. Information from data is limited (fish ecology in tidal sloughs and at tide gates) and reduces certainty of currently available restoration options and regulations. Significant diversified resources need to be applied to the critical remaining questions prior to larger scale implementation. All of this is particularly true in the coastal tidal zone that has been heavily altered and where the rate of deterioration is increasing. Linking multiple stakeholders to common interests and goals will take clear, honest and informed discussion. In my experience this is only possible through an 'honest broker' that can speak to the details and larger scope of these issues.
- A water vision for Oregon is an excellent idea and very forward thinking. Hopefully the final version will be inclusive and address threats that invasive species pose for realizing the goals of Oregon's 100- Year Water Vision. Thank you!
- Invasive species impact each core tenant of the vision's current goals, yet there is no mention of their impacts in the current vision statement or threats. With respect, if the vision does not include invasive species, then this is no vision at all.
- Education may be key to building momentum for heading off crises related to water supply before they occur. If people understand the current conditions for where they live, historic conditions and projected future conditions, they will be much more likely to be engaged and support preventative solutions.

- Water utilities are some of the entities on the frontlines of climate change. I encourage the State to listen to feedback from these water providers, and to partner with them in developing goals, actions and outcomes in this water vision.
- Please work with nature and not against it. Against it we are bound to lose. With climate change we need to work with nature to increase our capacity to store the water we receive and be able to use it for humans and for the environment. We need to recalssify beavers as beneficial and protected in order to protect our water supply.
- There is a lot of water in Oregon. If the state is worried about allocation and use, that means there has been and continues to be a lot of waste. Policies should show expectations of water use. The southwest has been cutting back on water use for a while, why hasn't the PNW been doing the same? Efforts to show replacement of irrigated grass in urban environments or neighborhoods with more water appropriate vegetation. Things like this.
- Keep Oregon healthy, beautiful and green. Be careful to balance the economy and the environment for future generations - the latter is more difficult to renew and or replace and is in fact vital to the former. Please keep a focus on the long game over short term economics.
- Oregon's 100 year water vision should include the role of urban forests in protecting and enhancing our water resources.
- We won't get to 100 years, plain and simple, without a radically new vision for our water, climate, and economy. I applaud your efforts, but the science is clear: We need to be absolutely as bold as we can possibly be to actually ensure clean water and healthy aquatic environments for our state 25 years from now, let alone 100.
- Make the next 100 years safe for all.
- Development is moving into the ag lands and in 100 years I don't think there will be much ag land. People that don't work on-the-ground and need water to sustain their livelihoods are not so likely inclined to protect water. I think that this is where there will be some issues.
- We need more control over how much water is being taken from our aquifers before they are destroyed.
- Oregon's 100-Year Water Vision is a timely and invaluable project. The time is now to plan for our tomorrow. Infrastructure, conservation and accountability to our water needs and resources have long been overlooked and underprioritized. The idea that the "economy wasn't good at the time" or we didn't have the money in the budget" is simply not an acceptable excuse for failure to act. Securing water is an absolute requirement for every thriving community. The Water Vision workshop that was held was a great opportunity to put important topics out in front of many of the right people to get the conversation really started in our communities. I would encourage more involvement with Oregon's citizens and more workshops, to educate people on Oregon's water needs and the concerns, not just for their cities, but for the entire state and region. The workshop was wonderfully broad in it's topics of discussion and the

expertise of the participants that attended. Please keep up the good work and let us all know what is next!

- I was actually very impressed with the meeting in La Grande. Thank you very much.
- see above
- Our natural resources are of utmost importance to me. We have damaged so many of our watersheds; some beyond repair. Nature will repair itself and thrive if allowed to. Our audacity and greed must be set aside if we wish to enjoy the resources available to us. Let ecology guide our decisions, not tradition and monetary influence. To create change, some will suffer for the greater good.
- We need water, food and air to live. That is basic. Population growth is the question that needs to be answered for the whole world.
- Eutrophication (nutrient enrichment from municipal, agriculture and industry) is generating conditions that favor harmful algae waterblooms, especially those from cyanobacteria or blue-green algae. Many of these microbes produce potent toxins that cause mass mortalities of wild and domestic animals - and humans. In addition to programs for monitoring we need to plan for robust methods and practices that mitigate and rehabilitate of water systems impacted by HABs.
- Needs to be economically driven.
- Throughout this process, agriculture should not be relegated to a lesser class of user for our water resources. Instead, agricultural uses should be given priority in the future of water use in Oregon.
- the current Forest Practices Act and Department of Agriculture rules regulating forest activities and pesticide applications provide necessary and protections to ensure water quality meets required levels.
- Make sure all water uses are in the 100 year vision, including food production, agriculture and livestock.
- Thank you for the opportunity to provide comment on this process.
- Overall there is too much emphasis on new infrastructure and not enough on water management and river and streamflow restoration and barrier removal.
- There needs to be regional groups to discuss how water use and wastewater discharge is affecting local communities. Water right now seems to be a stand alone issue. I live near Molalla and my environmental group sued Molalla under the Clean Water Act (the second lawsuit under the CWA in a decade against Molalla). Molalla takes its drinking water out upstream from where it discharges its effluent. Canby is downstream from the effluent discharge and takes its drinking water out of the Molalla River. To date there has been no regional discussion of how the Molalla River Watershed, Pudding River Watershed and greater Willamette basin affect various users. We need to combine watershed councils - it is silly to have a stand alone Pudding River Watershed Council and a stand alone Molalla Riverwatch. With one larger watershed council there would be less overhead to manage and could be a better overall look at what needs to be done. Please get better regional groups going so there is a cohesive picture of how

diminishing resources need to be used and protected via the region, not spotty city by city.

- A Vision for Water should envision what Oregon may look like a 100 years from now. Number of people, where and where not, ag, industry, and wildlife. Then develop a strategy of how dependable clean water will be made available.
- The state of Oregon must ensure federal and local dams are removed where possible and managed for fish passage to their natal headwaters and expedite the downstream return of adult steelhead/lamprey and juvenile fish of all species for access to the ocean.
- Great, I'm glad that we are planning for the future.
- The forestry system of the Pacific Northwest is the only reason we have water. It's not just extremely important to us for our continued survival in this state, but is vitally important to and for the survival of the whole of the United States and it's ability to grow our food. The council of environmental quality published a report in 1981 titled "the Desertification of the United States" and clearly outlined the fact, that if we do not protect what's left of the Pacific Northwest forestry systems we will cause the complete desertification of the United States. Because our forests bring our country our water supply. Why haven't we stopped the logging? To keep an industry alive for a few more years? At the cost of all our water and food? What part, of what we have done, since this report was published, to protect our water supply? Increased logging and added tons of poisons, created for the sole purpose to kill everything it comes into contact with. That's what we have done instead of heeding the warnings of our own self destruction. Our total disregard to the fact that the timber industry is destroying our water quantity and quality has to end now. The refusal of the ODF to enforce the "strict laws of the state of Oregon" concerning protection of our watersheds, protection of our water supply and the replacement of two trees for every one tree that has been cut down. Must end now. Either fire them all or impose criminal felonies to all individuals who work there, who are catering to and protecting the grotesque and mass destructive practices of the timber industry.
- Building new infrastructure will not stop climate change.
- I feel like this process is a good start, but over generalization of the economy may put some business sectors at odds with the new water regulations. Agriculture is too important for Oregonians and Americans too lump it into the economy. The process of growing and raising food needs water protection more than ever.
- This is a big task to take on and I hope the time and attention to detail will be fully considered and not on a strict timeline. It is critical to think through the many aspects of water in our state.
- Each basin or drainage has it's own particular needs. There is no blanket program or for each water system. There are many parallels though. If progress is to be made: State government and bureaucrats must approve programs, funds and permits to let local projects proceed to protect and enhance watersheds, farm lands, homes and public properties.

- Clearly, the process needs to start now. Of equal importance, though, there needs to be a long-term commitment, which is not easy in our ever-shifting political environment.
- Geographically Oregon has an ocean coast, a coast range forest, alpine forests, huge flatlands and high desert, each with its own issues. This needs not to become a one size fits all driven by a few people insulated from the totality of the state.
- Thank you for undertaking a difficult task. Be brave. Oregon's history with water has not been a healthy one. Untangling the damage will take courage, and time.
- The 100-year vision is ambitious and large in scope. However, I'm concerned that shorter-term goals are not explained. Where is a dialogue that is regarding a 5, 10, 25 year vision? I'm concerned for 100 years out but more concerned with the 5-25 year reality of a water crisis.
- The vision will not be a 'one-size-fits-all'. There are simply too many variables in a complex natural system.
- I will repeat. A sense of urgency is absent. I think that our window of opportunity is much shorter in the face of climate change.
- The work shop was a significant waste of time. The team started the day by discussing the giant spread sheet and the fact that the team has too much data already, then spending a whole day figuring out what other data is needed was a waste of time for 100 people. I felt we could have done far more useful things.
-
- fewer dams, prevention of fill going into streams, restoration of beaver dams, free-flowing streams from ocean through mountains.
- Deferred maintenance gets us every time! Too bad we can't be a bit more forward-thinking. Thanks for thinking of this now, however.
- The plan should be climate forward in it's approach. Climate change is in progress and we are trending towards extreme weather events which put us at risk of severe droughts, on one hand, and overburdening sewage overflows into freshwater supplies, on the other hand. Incorporating models of climate change into this planning is essential.
- I think this is an important and timely project. I hope it helps steer future investment and initiatives in water. I also hope to see a diverse group leading it. Thank you for giving us the opportunity to share our thoughts.... I'd like to encourage you to make this survey more widely known/ accessible- more Oregonians need to know about this.
- Other Infrastructure related issues: 1) Septic & sewer system function, monitoring upgrade; 2) Industrial source contamination containment, monitoring and mandatory upgrades;
- I appreciate this foresight, but do think that some of the concepts are outdated. After the lessons we've learned about river engineering and the impacts to flooding and drought throughout the country, we know a better way forward than hardening our engineering.

- To maintain Oregon's supply of clean water, it is urgent that conventional logging practices must be stopped. Truly sustainable forestry practices must be adopted. Old growth logging should be illegal, because these unique, important habitats are now very rare and truly endangered. We need what little is left as climate protection and seed stock, etc. Mature native forest habitats desperately need protection, and forest lands need restoration, to provide clean, cool water in the face of a warming climate, growing demands and future droughts.
- Please make more of an effort to engage urban communities in your water vision. I am not just talking about urban water providers. I am talking about community groups who are working on water conservation and community engagement. I work with a small nonprofit doing sustainable stormwater retrofits. I don't think we ever got word of this vision, except through another NGO partner who pointed it out to us. Please reach out so we can talk more: katya@depave.org AND ted@depave.org
- "You need to emphasize the importance of stream-flows for fish and aquatic habitats and recreation:
 - It is critical to maintain and restore adequate in-stream flows for fish and wildlife and aquatic ecosystems;
 - The vision should direct responsible water management;
 - There is a need for funding for in-stream studies and river restoration projects;
 - The vision should include a path for removal of outdated and environmentally damaging dams;
 - The current draft of the vision is too focused on building additional hardened infrastructure; an emphasis on ecosystem needs must be included"
- I do hope you have folks such as 1000 Friends of OR or other land use planning organizations at the table who can help get this water use plan pulled together. I also would hope it would have the same clear regulations for water use that we have with land-use regs which will likely limit growth in some areas based on water priorities and limitations. The native condition and historical reference of natural water pathways and reserves must serve as a baseline especially given climate change, if the plan and our water systems to sustain natural eco- and in turn anthropocentric aquatic systems.
- ok
- Need to identify similar processes conducted by the National Marine Fisheries Service, Forest Service and Northwest Power and Conservation Council. We must build on past efforts not start them over again.
- We are years behind and need to start looking at possible long-term solutions immediately!
- Include expected impact of invasive species on water availability and quality
- It all sounds good. But let's get to the root of the problem. Not keep funding expensive band-aids & being run over roughshod by Big Business & Big Govt.
- Please address on site water treatment incentives for safer and more secure water availability.
- Address the impacts and planning around invasive species, both that have been introduced and those that pose imminent risk.

- Stay on top of it ! Good and healthy water is very important.
- na
- Thank you for the opportunity to comment. Again, I would like to emphasize the importance of addressing invasive species in your vision statement. If you need further collaboration on this issue, I would suggest you contact the Oregon Invasive Species Council for their expertise on ways to address this issue in your vision statement. Their website is: <https://www.oregoninvasivespeciescouncil.org/>
- It sounds like you are not in touch with interdisciplinary environmental experts at PSU and OSU. Historic practices have cost us too much - can not just fix old infrastructure and expect miracles.
- I believe we need data to make informed decisions. Oregon needs to have the political will to require monitors on wells. We have the technology to know more, but not the will to make it required.
- Any regulatory changes must also consider the social impacts that they will have on the communities that they impact, not only environmental. Environmental impacts are extremely important, but ultimately, it is the livelihood of Oregonians that must rise to the top of the list of priorities. I believe this because ones basic needs must be met in order for them to have the capacity to care for the environment. However, we also must recognize that our social well being is ultimately tied to the environmental well being too and that we are a part of the ecosystem we rely on to support us and not above it.
- See #2 answer I.e. chemicals detected in our water supply
- With climate change, less mountain snow melt will be available during the hot summer months. This 100 year vision should take into account year round stream flows and the effects of climate change. Water may not be available when it is most needed for fish and irrigation. Irrigation rights should be recalibrated to account for actual water availability and agricultural needs. Irrigation water should be used on crops, not to water residential lawns.
- I work in natural resources and regarding the "environment" goal, I see a huge improvement to be made to waters flowing through agricultural land use. Lack of buffers, channelization of creeks, sediment delivery are all very observable. These issues are all carefully addressed for the upland surface waters (often forestry land use), why not for the lowlands (often agricultural land use).
- Forest practices laws are continually being scrutinized and we need to better educate and spend more time with what is going on with the water downstream where a lot of the fish live on the east side of Oregon and know that that is where we will be getting the biggest bang for our buck with cattle fencing and ag diversion filtration and decontamination efforts before it returns to the waters of the state.
- It feels to me like we have not focused enough on the riparian management areas in the lowlands - I see huge swaths of Japanese Knotweed on the lower Wilson River for example. Where does this kind of work fit in?

- It doesn't seem that invasive species impacts are considered. Oregon receives a continuous stream of new invasive pests that challenge IPM programs and cause increased pesticide use (and cause homeowners to use more broad spectrum pesticides). Between invasive weeds and insects, most pesticide use is for exotic species. Also, invasive aquatic weeds and fish directly impact the survival of native fish species we want to protect. Tree killing invasive insects can reduce shade from streams and other water bodies.
- We need to plan for resiliency in the face of climate change and natural disasters, as well as maintain a focus on equitable and just access to water for all users (including fish, trees, and tribal communities).
- Include all the ways water impacts the public. Include lessons learned from other communities worldwide (good and bad)
- Sustainable water initiatives like encouraging water conserving plants and grasses, better water storage opportunities such as reservoirs and tanks. Forward thinking water conservation, public outreach and water violation enforcement.
- In general across the state, there needs to be a focus on stream channel and wetland restoration in agricultural and developed urban areas. To improve water quality and reduce the severity and severity of flooding, channel migration zones should be re-established, and forested riparian vegetation should be maintained and enhanced to provide shade for cooling and wood recruitment. Stream-connected wetlands should be restored and created to provide for additional water catchment, filtration and habitat.
- Agricultural use must be addressed to provide quality water!
- Large landscape projects for forest health, wildfire risk reduction, wildlife enhancement, noxious weeds, etc. should also specifically address water quantity and quality with much more scientific data needed at the watershed level as to the specific practices needed to balance the maximization of benefits. We need more science to educate our decisions for the future.
- Concern about stream pollution from road run off, pollution from overtaxed and outdate sewage systems, and damage or reduced capacity as invasive species move in changing the ecosystem and overall health of our stream systems and lakes.
- Its a start and I am glad "we" are looking at this now before it really is an issue. Good thoughts and energy, but I do hope this process involves those who really do utilize and manage forests and ecosystems. I.E. private industry, ranchers, farmers, foresters.
- Thank you for asking. At present it appears future state will be trying for many natural resources. We are blessed with good water. Conservation, respect and appreciation should be elements of public education with respect to the commons. Thank you for your work.
- Please incorporate invasive species (both aquatic and terrestrial) planning and mitigation into the 100-year water plan.

- I think this is a very important initiative, thank you for the inclusive approach being taken. I look forward to further participation in the project.
- We need invasive species threats to aquatic ecosystems, and water quality and quantity considered in the planning of this state-led 100 year water vision! For instance, there has been a lot of focus on salmon restoration so far in the vision planning, with far less attention paid to the threats of introduced northern pike and flowering rush on salmon recovery investments. Many other invasives, such as Ludwigia and parrotfeather, drastically impact water quality and still others such as Russian olive impact water quantity in arid regions. Also crucial to this planning effort are the effects of established populations of zebra and quagga mussels to water conveyance, quality and water & food security.
- Again, even though this is considered an 80,000 foot level vision, it should include the realistic threat from invasive species, such as aquatic mussels, aquatic noxious weeds, weeds displacing important natural riparian vegetation, and invasive pests, such as Gypsy moth, wood boring pests, threatening riparian areas. When building a solid house, all important parts have to be already considered and included in the blue-print. Invasive species should be included in the 100-year water vision
- Fabulous idea--infrastructure has been underfunded for too long, both physical infrastructure and natural and working lands
- Oregon's 100-Year Water Vision is an opportunity to bring salmon populations in our state back from the brink of extinction. This will require rethinking about dams and fish passage and realizing that the two do not coexist. We need to move away from building dams in migration corridors for migrating salmonids and moving storage projects off the main river channel.
- Thank you very much for tackling such a complicated, interconnected challenge for our most precious resource. I appreciate the consideration of public health, safety, fish and wildlife in developing the vision.
- Thank you to the team that is behind this and for building a comprehensive plan for the future.
- No summer rain any more. This is causing more fires - 40% more. No water to irrigate. No water to drink. No water to keep forests hydrated. No water to fight fire.
- I have lived on forest land bordered by BLM and by industrial timberland for 17 years. I have watched healthy streams transformed into unhealthy streams. I work with City of Portland Water Bureau to monitor temperatures in the large salmon-spawning stream which crosses my property. Oregon had the gift of such wonderful forests, such healthy, cold and bountiful water coming out of those forests. Most of those older tree forests in my watershed which were there when I moved here are now gone, clearcuts and doug fir plantations. We need to do something quickly. The new riparian rules fall so short of what was needed to be nearly worthless. We need better stream protection and new forest management priorities ASAP. My small woodland owner neighbors tell

me they need to cut for financial reasons, but if they could get reasonable carbon credits they would leave their trees standing.

- Stress healthy water as result of healthy, festive NATURAL systems that, at some point when protected obviate the need for man-made water management structures and processes. Perhaps stress that man-made systems are a stopgap to the restoration and protection of narwal system.
- Healthy rivers and watersheds are good for people AND fish/wildlife. Investing in watershed health benefits multiple sectors. We need to manage surface water and groundwater in a conjunctive manner, since in most cases, they are connected.
- This process is missing the explicit mention of the role of non-native species in the securing safe and healthy water supplies. Without directly addressing invasive species the vision will not have a chance to address what is probably the most immediate single threat to water quality and supply. Much of our aquatic and riparian ecosystems are already non-native or blended non-native with native species but still preserve ecological function and values of agricultural or energy production. However, in many scenarios, non-native species are invasive and present huge direct and measurable threats to native species, water supply and water quality. This is a clear and obvious threat that is well documented in recent history across the world. Many are already listed as noxious by the Federal, State, and County Laws and require management. Consider the current impact of Non-native primrose (*Ludwigia* sp.) on the Willamette and the imminent threat that is posed to the waters and fisheries of the Columbia by flowering rush (*Butomus umbelatus*), northern pike and the like to just name a few. To be successful going forward this 100 year water vision needs to address how non-native species will be managed!
- Overall it's a good start. I'm just thinking we are starting to see rapid change due to climate change and increase in people population. We starting to see a change in bird species during migration and breeding season. Also more and more invasive plant species are starting to occur in areas where they are dominating over native species. This is all have to do the climate and water availability in this state and this country. Why should prices of water in small communities have to be punished with a higher price when all the water is being sucked up by all the pivots?
- As an Upper Deschutes flow restoration advocate, we could use help with barriers that prevent designating conserved water permanently instream. I think that the 100 year water vision is a nice, high-level plan that deserves support. The Deschutes is a basin that's already working for the benefit of fish, farms, and family. Immediate help with state agency administrative barriers would provide a more tangible, near-term benefit than a 100 year vision. Let's do both. Help please.
- I feel outlining noxious weeds somewhere in the 100 year water plan is very important. I feel the state, as a whole, sets noxious weeds aside. The impact they have on Oregon's fragile ecosystems as well as water quantity and quality needs to be considered.
- Planning is good. Feedback is good. Thanks for the opportunity.

- Invasive weeds and other invasive species does not seem to be considered. That is difficult to understand, considering the importance to the environment and economy.
- It appears that you have completely ignored the impact that invasive species have on water quality and the ability to deliver water. Invasive plants choke out water ways and diminish water quality. You could spend billions on new infrastructure and have it all be made unusable with an invasion of zebra or quagga muscles.
- A fourth force needs to be added to threats or stresses to our water -- invasive species. I would rate this higher as a significant threat than climate change - much more tangible and direct. Invasive weeds, vertebrates and invertebrates can reverse our investments in clean water in a hurry. So, invasive species as to be called out as its own stressor. Only then will the state make the necessary investments in education and prevention, and early detection and rapid response, programs. Invasive species will directly reduce water quality, the ecology of water habitats and our ability to convey and transport water from one area to another.
- I think it is a great vision. I think we need to reassess our dams on salmon rivers, if we really want fish in the future. Also, the reduction of toxins through regulating harmful chemicals is needed.
- I'll look forward to the opportunity to provide more detailed feedback. I was struck that a Noxious Weeds program was not mentioned in this plan. Noxious weeds touch all the areas you're concerned with and can be more than a public nuisance, they can be a public health problem (economical, physical, recreational and overall quality of life). Oregon is known for its quality of life for its residents and people who visit. Science and most educated citizens recognize that plants support other life. If this area of the ecosystem is in peril, it affects all other areas. I hope that you consider adding this to the Vision!
- Include invasive species, plant, animals, insects, amphibians, etc. as these are all critical to clean water.
- I think the Vision will ultimately need to be very clear and explicit in how it will need to get implemented. In terms of what (scope of work that is going to be done, I'm thinking very clear bulleted items with examples laid out), who (is going to pay and lead efforts), how (these efforts are going to get prioritized, rolled out and implemented), when (these efforts are going to get done, timeline and schedule), why (purpose of the efforts, what part(s) of the Vision are these efforts addressing or helping achieve? And lastly how (and how frequently) this Vision will be adaptively managed over the next 100 years should be laid out.
- Invasive species management, particularly aquatic invasive species, should be included in the 100-Water Vision. Invasive weeds are capable of creating widespread ecological degradation and pose a significant threat to Oregon's water resources and native biodiversity.
- OWEB does a poor job in monitoring the effectiveness of the money they provide in grants.

- There needs to be a public ad campaign to educate western Oregon people about the diminishing groundwater supply. Many people in western Oregon think it rains all the time and there's plenty of water. They don't think about people overpumping groundwater in wells and the decrease in steady light rain (which allows for absorption, versus heavy rain which causes flooding). IF PEOPLE DON'T KNOW THERE'S A WATER PROBLEM, THEY WON'T TRY TO FIX IT.
- I have been involved with water planning in the state for 20 years. I have witnessed millions of dollars being spent on plans that end up on a shelf. In the meantime, the water situation for growers gets increasingly dire. We need to be having conversations, and creating tools, that address over-appropriation and lack of regulation in this state.
- Many sources of pollution are considered as being 'off the table' for regulatory purposes, because of total lack of legislative support for funding.... do to fear of industrial lobbies withholding election funding from legislators that would enable the state agencies to do their due diligence for toxics monitoring. Agencies are kept from doing that work. Now, that leaves large numbers of streams contaminated with lead, yet bias has eliminated any detection and assessment of this pollution. Lost lead fishing sinkers, boat anchors, bridge runoff pollution from degrading lead paint, etc. has built up a large volume in rivers, lakes, reservoirs, and tackle boxes... without adequate protection for public health or environmental health of streams for salmon recovery. A lot of lost lead fishing tackle remains buried in reservoir muds. As the sediments behind dams erode downstream rapidly, the stream become in effect a sluice box for concentrating this lead in the low places in the hydrologically active river morphology. They get ground up in hydrologically active riverine pot holes, greatly increasing surface area of lead exposed to dissolution. After dam removal, it should be expected that this greatly increased river contamination will increasingly have adverse effects on stream biota... for a very long time. We will be poisoning the very fish that we are spending many millions on trying to produce in the upper watershed habitats, as they pass down toward the ocean phase of their life cycle. Legislative irresponsibility prohibit all due diligence, and even allows legislators that take their children and grandchildren to teach them how to fish... to poison those children with tackle box pure lead powder contamination (from sinkers rolling around in the box). This is vast failure of governmental responsibility for public wellbeing. State-sanctioned use of the toxic metal lead in fishing practices, pollutes vast quantities of Oregon's water, fish and their supportive species, and human brain tissue, with devastating harm to public health and the health of wildlife. The state does not allow for scientific integrity in sampling, analysis, and data assessment for this pollution. This must change for any integrity for a Water Vision for Oregon's future, or we will remain more a part of the problem than being a part of the solution for the future of all Oregonians and visitors to Oregon.
- Let's be clear, concise, and methodical about the goals and the vision. Defining what is meant by modern water supply systems and other terminology, what is the state of the art now, what does it need to be in the future? What is meant by clean water (how

clean does it really need to be? pure H₂O?). What are sources of funding other than the taxpayer pocket or the business community pocket? Sustainable water for the future begins with a solid (or is that liquid) understanding of the present. What are current solutions, how far will they take us down the road? What is the next speed bump that can be foreseen?

- Again, even though this is considered an 80,000 foot level vision, it should include the realistic threat from invasive species, such as aquatic mussels, aquatic noxious weeds, weeds displacing important natural riparian vegetation, and invasive pests, such as Gypsy moth, wood boring pests, threatening riparian areas. When building a solid house, all important parts have to be already considered and included in the blue-print. Invasive species should be included in the 100-year water vision.
- I think Oregon has abundant water supplies, especially as compared to many other Western States. I think our policies and overactive sense of environmental protection lead us to believe water is scarce in Oregon. It is not. The water problem in Oregon always has been and will continue to timing. We get most all of our incoming water in the winter months when demand and use are at their lowest levels. Conversely, when we need the most water (summer, dry months) nature is not delivering it. This is why we have irrigation storage and flood control dams in many parts of the state (east side = irrigation storage, west side - flood control; generally speaking). This seasonality is not expected to change under any future climate change scenario meaning the inherent challenge is to shift water availability to the dry months. In Central Oregon another rationale idea is to review irrigation water use. We can start by reviewing the soil data for all irrigated acres to determine their true natural productivity (deeper soil is better for example, but many other soil factors are also at play in productivity ratings), then evaluate whether continuing to provide irrigation water to some of these soil types makes sense. We will need to begin a comprehensive process, fair and thoughtful, to dry up currently irrigated acres and transfer those waters back to the rivers and creeks. This can only happen politically if we agree to "buy out" water rights at a fair price (50 year projection of farm revenue as a starting point). Remember, all irrigated acres in Oregon that are managed by a district and not individual rights are served by storage of some type and these structures all have federal debt that must be paid back. It's a big part of why irrigation districts are so protective of water rights and the acres that are paying the debt service. Reducing watered acres means the remaining must pay more to satisfy the debt.
- See #1.
- ?
- water management and regulation needs to have actual repercussions. Not toothless words or letters! Also, field drainage by using tile drains can be managed and need to be managed for any part of the 100 year water vision to even work.
- While keeping the 100-Year Water Vision concise, I think it's critically important to explicitly recognize that functioning watersheds, floodplains, rivers and streams are vital

to continued provision of clean water and will also buffer Oregon's human communities from the worst impacts of fire, drought, and flooding. Given that climate change is already reducing and will continue to reduce water availability in Oregon and that taking action to reduce greenhouse gas emissions could play an important role in increasing water availability in the future, I also wonder if in the 100-Year Water Vision might be an appropriate venue to address and advocate for action to reduce greenhouse gas emissions in Oregon.

- 1) Municipal drinking water received from federally managed lands MUST be a priority, not only from a wildfire protection standpoint, but also as a public health and safety standpoint. 2) Detailed, professional studies must be completed on ALL Oregon aquifers and their relationship to surface water. Without this basic information, water quality and quantity can never be fully understood or addressed.
- I attended the southern Oregon conversation in Central Point on Nov 7. I was encouraged by someone at my table to speak about what I wrote down as a challenge to meeting Oregon's water vision. Because one of the primary concerns of the draft vision is infrastructure, I wrote and spoke about how, in my experience, a rigid regulatory structure dis-incentivizes improvements to existing infrastructure. I was confused that I was the ONLY person in the room speaking about infrastructure (did a misinterpret what appeared to be a perfectly clear focus of the meeting!?). Later, I was told that my comments offended many of the activists and academics in the room, and there were a lot of them. I was speaking out of experience! I was drawing on my experience over the years of maintaining and improving water infrastructure for a municipality, a power utility, and a federal irrigation project! Yet, sharing my real-life experience was deemed offensive. I left the meeting feeling disgusted and humiliated. The process felt like a sham. And then I realized another big challenge to the water vision: it threatens to become swayed by a very non-diverse crowd of activists. When a representative cross section of Oregon is absent from the planning table, we risk developing a meaningless document that perpetuates the status quo of another 100 years of aging, unimproved infrastructure.
- Bravo for the attempt -- you have your work cut out for you!
- During the prioritization phase, Instead of prioritizing actions at the State level, which may make some folks feel left out, I would propose to prioritize actions at the County level and rank the actions for each county.
- The importance of data and information sharing cannot be overstated.
- I propose that you/we rearrange and re-title the sections in the Oregon's 100-Year Water Vision document. I would put the Goals section first (as you have done in this questionnaire) and I would title it Vision/Goals. I would put the Premise second and I would strongly encourage a much more rigorous consideration of the "forces" that are combining to stress Oregon's water. I am still working on this item, but I can name quite a few forces that are more primary than the three you/we have identified in this draft. I propose integrating the Problem Statement with the Premise, and as I noted above, I

strongly recommend considering "software" BEFORE "hardware" (infrastructure), as we need to build "hardware" to run our "software"... not the other way around. The Vision section and Our Shared Water Future could also be combined and titled as a Mission statement rather than a Vision statement.

- None at this time, other than to say I appreciate being included and informed of this effort!
- The water problem in Oregon is mostly one of too many people. Population growth is not always the best interest for Oregon. Stable population and business needs to be considered in this plan. Look at Europe, there are numerous areas where development has been stopped or slowed to keep the quality of life that exists. If Oregon continues on the path it is on, the quality of life we enjoy today will be diminished or destroyed. From 20 years ago the quality of life in Oregon has diminished in many ways.
- I was excited about the 100 year Water Vision for planning and having a guide for how water is viewed but turned off when there was no vision for how the vision will be used. I was not sure how it was different from the strategic plans and then what the purpose of the exercise is. I have spent lots of time on academic exercises but still struggling to implement real solutions. I also was not sure how the 100- year part was being put into the plan. Many people are talking in terms of 20 years in the future and I didn't see much on looking further or using projections that show the state of water in 100 years, the long term (100 year) effectiveness of the kinds of solutions we are implementing, and infrastructure for 100 years.
- Oregon is behind when it comes to groundwater management. Sustainable basin management is essential, and in some areas, adjudication may be necessary.
- 1. Need to look at this regionally (WA/ID/BC/CA) 2. Closely monitor climate change monkey-wrenches 3. Need facile, adaptive, and anticipatory approaches to securing the 100-year goals. 4. Accountability! (metrics)
- Sustainability through conservation and water-reuse are critical pieces that should be included in the Water Vision.
- This is quickly becoming a near term issue.
- I want to reiterate what was said above: The current infrastructure is the problem. It has not served us well. It has devastated the native fish populations. The whole problem statement has to be considered in that light.
- 1. There is no emphasis on determining the impact and extent of the first-flush phenomenon - nutrients, oils and pollutants from urban impervious surfaces that build up during dry periods and then are delivered as toxic soups through stormwater runoff to the nearest water body. Research has shown that the first-flush in heavily urbanized areas can be toxic enough to effectively kill all life in water bodies receiving the runoff. We need a sampling system that takes first-flush into account to determine the impact and extent of the real problem in Oregon. 2. Stormwater runoff is not addressed in this document. The flashiness of rivers and streams associated with runoff from impervious surfaces can create significant and compounding effects downstream such as erosion,

down-cutting, disconnection from floodplains, trash into a system, flash-flooding following even moderate storm events, etc. Also, by allowing water to runoff instead of sink slowly into the ground, we are depleting groundwater, making it more difficult for landowners to maintain water levels in their wells, and increasing summer stream temperatures. We need to get away from the collect and convey model for dealing with stormwater and move to a distributed infiltration model that mimics the natural hydrology of a watershed, even in areas already built out with significant proportions of impervious surfaces. If this is not done, we will be fighting poor water quality and erosion issues in watersheds for the foreseeable future. I don't want this to be Oregon's 100 year water future!

- The following is difficult to describe, and I say this as a state employee. The messaging as a whole has a strong flavor of the perspective of regulatory agencies. I think it more powerful if the messaging is consistently from a perspective of all of us. I understand this opportunity to mold the messages allows for such transformation, and appreciate the efforts. My point is simply that we need to constantly seek empathy with the perspective of varied interests groups.
 - We need to move away from a mind set that growth is essential to well being. Instead, we need to understand that our civilization is dependent on earth's resources (water, soil, forests, air, etc.) and that our use of those resources must be limited to what is sustainable. The current water vision is inadequate for what is in our climate changing future.
 - Rivers and water sources cannot sustain the usage demands now placed upon them from industrialization and development, let alone prepare for climate change. The plan needs to move beyond general statements.
 - Oregon's laws are out of date and need to be revised. Too much water is wasted and existing water right laws are a large part of the problem. Snow packs are on the steep decline. If we don't change laws now it will be too late to make effective changes.
 - A course correction is needed for this "vision." It looks like an effort to build support for an infrastructure bond to build more levees and dams, etc. with only a nod to "natural" infrastructure. The lack of a watershed perspective or the integration of existing regulatory tools to bring about landscape-level improvements in ecosystems only heightens my concerns that this is "gray" focused vision. Needs a major overhaul.
- Thanks.
- ..more emphasis on environmental/habitat needs..we humans have screwed things up since we arrived...
 - We need the environmental aspect of this plan to be co-equal with irrigation, industrial, and municipal use.
 - Again, a huge gap in the Oregon approach to water resources is that there is no explicit agency responsibility towards lakes. No resources and no responsibility. Oregon agencies have no professional limnologists on staff.

- OWRD is controlled by water users. There must be a more rational system for allocating water and still protecting the public's interests.
- The focus on hardened infrastructure implied in this "vision" seems to favor economic interests over those of the public. The entire approach needs to be re-focused on managing for watershed function and public need not corporate profit.
- State needs to get active!!
- Stop insuring huge forest fires by restricting logging. The mountains will be greener, the water cleaner, and storm runoff retention better.
- As I mentioned, the vision should direct responsible water management first and foremost. Conservation is the least expensive cost model for expanding existing water supplies and resources. Maximize conservation investments first before building new infrastructure. Build upon the work of the IWRS. Use pricing mechanisms to maximize efficiencies in water systems. Water trading schemes should be promoted before making investments in additional storage facilities. I will reiterate that there is a need for funding for instream studies and river restoration projects in addition to hardscape engineering solutions. The current draft of the vision is too focused on building additional hardened infrastructure; an emphasis on ecosystem needs must be included.
- 1. Stop the harvest of native Salmon and Steelhead. 2. Remove the dams that prevent them from spawning. 3. Stop stocking hatchery fish in all Oregon streams.
- The vision needs to emphasize healthy functioning watershed habitats that slow the rate at which water runs out our tributary systems. Unfettered groundwater pumping undermines any progress made in the retention of surface water flows. Recovery of salmon and steelhead will not happen without prioritizing off-channel over-wintering and rearing habitats for juvenile fish - which suggests the emphases in improved hardened water management and delivery infrastructure as a first principle is misplaced.
- I am concerned that lakes and lake issues such as Harmful Algae Blooms are taken into consideration. "Everything" flows downhill and this often results in our lakes being the collection point for high nutrients, sediment, and lack of water that was diverted upstream. Septic inputs are not monitored in any of our state waters. Mandatory septic system inspections are needed for all of Oregon, just like is done in most other states.
- managing the watershed should be a priority, keeping trees and not stripping the land of protective vegetation should also be a priority....
- These are great videos! We need to get this information out through social media. Maybe even invest in some plaques for areas that public will entertain the idea of looking into this vision more. Examples: Plaques on public park drinking fountains, restrooms at campgrounds, boat docks at river banks: "OregonsWaterVision.org"
- Water rights law needs revamping. Water conservation should be rewarded and water waste should be punished. Incentive programs should be in place to upgrade wasteful irrigation systems. Environmental concerns should outweigh other stakeholder concerns.

- No more dams. Invest in riparian health (planting trees, keeping natural buffer areas, fine heavily for any leaching of chemicals into waterways).
- People see Oregon as a great place to recreate, live, raise families and create businesses. Our Resources are continually at risk - water quality, air quality, natural recreation resources - smart management under a long, sustainable vision ensures our resources are her for generations of families, generations of wildlife and for generations of those who make their living off the land. The fact this plan is coming together is a great first step - but we must focus on all the parts, not just the infrastructure parts that manage other areas. We must ensure the ecosystem is maintained - responsible water management is a responsibility for everyone in this state.
- It should be clear that decisions will focus on the benefit for future generations over current profits. We need to build systems that allow future generations leeway without limiting their choices to cave in to economic and political interests today.
- Water rights are over allocated in every basin. Getting that horse back in to the barn will be the most difficult challenge for this plan to succeed.
- My wife and I moved to OR five years ago. The PRIMARY reason we did so was because of our passion for whitewater kayaking and the opportunities this region afforded. Please protect the rivers, remove antiquated dams, and ensure adequate flows for fish and recreation. Additionally we need better protections for buffer zones on private property to ensure COOL clean water for our native fish. And remember, we all live downstream!
- I believe you should add a clear call for adequate in-stream flows for fish and aquatic habitats and support of recreation.
- Please insist on cleaning up the water in the lower Deschutes. Please put water back in streams that are over subscribed like the John Day.
- It is sorely needed
- The central focus of this effort should be on helping people and communities change the way the live and work. We appear unwilling and unable to change our behavior (individually, collectively and globally) to dramatically reduce carbon emissions. This means climate change will continue to accelerate. Because climate change will continue to accelerate, communities must change in order to survive these changes. Individuals and communities cannot continue to function as they have for that the last 100 years.
- 1. I am concerned about Oregon's lakes, which are becoming more and more affected by cyanobacterial harmful algal blooms, which can sometimes be toxic, but which are always an indicator of an unhealthy state. They are usually caused by excess nutrients, including from leaking septic systems. DEQ should be authorized to check for pollutant leakage from such systems and there should be programs to help get problems fixed. We should have a comprehensive state-wide program directed at Cyanobacterial blooms, in view of their ubiquity and disruptive nature to public and ecosystem health and to recreational enjoyment. 2. I am concerned about lakes such as Lake Abert, near Lakeview, which is at risk of drying in low rainfall years because of competition for water

use by cattle ranches. This terminal saline lake is a critical resource for migratory birds that fly between North and South America. 3. We should have a program for reporting water diversions from rivers, streams and lakes so that everyone can see usage patterns and be satisfied that fair and wise water use is happening. 4. We should have state-wide planning around water use. I see thousands of acres of new hazelnut tree plantings, adding irrigated farming to land that previously did not use irrigation. Is there enough water?

- As a recreational boater (raft and kayak) I value natural, free flowing rivers and would like to see preservation of what we have, access to the waters, and dam removal where possible to be part of the vision.
- It is critical to maintain and restore adequate in-stream flows for fish and wildlife and aquatic ecosystems; The vision should direct responsible water management; There is a need for funding for instream studies and river restoration projects; The vision should include a path for removal of outdated and environmentally damaging dams; The current draft of the vision is too focused on building additional hardened infrastructure; an emphasis on ecosystem needs must be included. Please pay attention to these needs!
- Having a plan is a very good idea. It needs to begin with a thorough research base, focusing on surface and groundwater resource quantity, quality and demand, before we talk about how to solve existing and potential future problems. We should not assume that existing patterns of use will be simply extrapolated into the future -- we may need to change existing water use practices in order to properly manage the resource. And we need to take explicit measures, such as using dedicated streamflows, to protect fish and other wildlife and the ecosystems on which they rely.
- Redo Oregon's antiquated water laws. The water belongs to the people. Current laws allow water users to benefit from using the people's water without just compensation.
- Everything in here "sounds good" but needs implemented sooner rather than later, and in a big way. Also - the wasting of water needs to be addressed and curtailed / stopped.
- Please show how we can change western water law to better reflect the 21st century rather than the 19th.
- - I think a big visioning of water policy should address prior appropriation water rights policy and consider finding a more equitable way forward. It will be painful, but I think this is the time and opportunity to begin the conversations. - Invest in more 'ground up' decision making processes from a community scale. My impression is that county planners, and others don't communicate/participate in water conversations because the "state deals with water". - As this resource becomes more precious and more in demand, I think the emphasis needs to really focus on conservation, regional grey water systems, green infrastructure, ecosystem services, etc.
- Understanding that our plentiful and extremely clean water resources have been seriously compromised 'on our watch' (most significantly in the last 60-80 years) Where is the identification of those issues/problems and how have they been address and

overcome, is key to our moving forward. If we don't learn from the past, we are bound to repeat those mistakes and too many times, that is our reality.

- I agree with the Vision, but would suggest the actual plan address two issues that I see on a daily basis in the Bend area. 1) Hobby farm water use. It is outrageous to see flood irrigation of land to sustain a single horse! Something must be done to prevent this! 2) Although MANY new homes are using water-wise (natural vegetation) landscaping, I believe expansive lawns in a desert environment should not be allowed. There are strict limits being implemented in other areas of the country. Oregon needs to consider same!
- The history of the world shows continual over exploiting of resources. Will we be able to have a future for our children. This problem is not unique, our world is in a crisis say our scientist
- Need for data on the underground aquifers. There have been studies completed but they are not in a data base that is easily accessible for county decision makers. The counties are making decisions without adequate data. There needs to be a pattern of wells though out Oregon to gather annual draw down water levels. There is a push to gather annual output data from all farmers who irrigate which I think is overkill and unnecessary. You can gather this kind of data in other ways that is much easier. But we need to know if the underground water levels are dropping and how much annually. Which brings us to underground drainage systems. We are, I think draining away all of the rainwater in the valley before it can reach the underground aquifers. The mid-west has systems that can restrict this but it requires another component of management that needs research for Oregon crops and soil types. OSU needs to take the lead on this. Then there is climate change that is going to force all kinds of changes that require more flexibility and ----- storage.
- Thank you for letting me attend the session in Medford yesterday. One issue that was briefly mentioned but not fully developed is that of the Jordan Cove/LNG Pipeline. As I mentioned, I live in Shady Cove. The process of building the Pipeline presents huge hazards to the Rogue River and the 399 other water bodies that will be crossed, from permanently damaging riparian areas, to fouling the water etc. Ask DEQ. What I had not thought through is the permanent threat to the water shed it creates. Increase in Wild Fire is a reality, if the Pipeline goes through it will contain pressurized natural gas - a leak or damage by exposure to wild fire would absolutely incinerate the water shed, destroying our natural source of water. Stopping the project is the best gift we can give to future generations who will be even more water-challenged than we are. If it cannot be stopped, I urge the Governor and State Legislature to pass laws that will require this type of infrastructure to post catastrophic risk bonds - cash up front - no bankruptcy wiggle room - to restore damage created in such a catastrophic event.
- Do no harm. If landowners are damaged by unintended consequences of "projects" there should be restitution.
- A couple years ago we were in Patagonia staying a few days in a small ecolodge on a pristine river. We shared the lodge with a German motor cycle rider who was employed

by BMW Motorcycles to shoot video for commercials. He had been all over the world for his work over a 30 year career. He was convinced the next world wide conflict would be about access to clean water among other things. Given he was looking to leave Germany and that he'd seen much of the world and the conditions people live with, he was looking to relocate to a place with abundant clean water. His choices were New Zealand or Chilean Patagonia. Given the difficulties emigrating to NZ he chose Chile and had just purchased property. Okay the vision -- Oregon should be on the list of places with abundant clean water. It will take a lot of difficult decisions and actions but the resources are here and we need to protect and enhance them.

- By 2025 2/3rds of the worlds population will face water shortage. Protection, replenishment and safety of water resources in Oregon for current residents must be protected.
- I want to make sure need a of farmworkers are taken into account. They often use well water and that is not tested often or for many substances.
- I think the Water Vision needs to more explicitly address ecosystem protection and restoration measures that are needed to protect ground and surface water resources. It is not appropriate to refer to these precious water resources as "natural infrastructure."
- I appreciate that you have held community meetings. I would like to see the discussions posted somewhere for review.
- Thank you for the efforts thus far! A Haiku for our chance to create a 100 Year Water Vision 10,000 Blue tongues. Thirsty engines' littoral lap. Water chant moment.
- Thank you for working on this very important and difficult issue
- We need to take a close look at the boom crops of pot and hemp. Much of the water usage has been illegal. The added issues of run off from the grows and raw sewage from the encampments is a serious threat to our water systems.
- 1000 Friends of Oregon is committed to enhancing our state's quality of life by building livable urban and rural communities, protecting family farms and forests, and conserving natural areas. We believe that land use policies and laws can be a valuable tool in the toolkit of solutions used to achieve flourishing lands for the next one hundred years. We do not believe that the issue of providing clean and abundant water for generations to come can be solved by a one- or two-year vision plan, and therefore the state needs to dedicate itself to a multi-generational perspective when governing our natural resources over the long term, and taking a hard look at what its natural resource agencies are permitting. Please direct any questions or comments in response to this survey to Scott Hilgenberg, Rural Lands Legislative Attorney (scott@friends.org). Thank you.
- We need to focus more on accepting and working with natural systems in water use.
- Schedule state-sponsored climate change workshops across all regions, starting now.
- more creative use of rain water runoff, limiting developments near water sensitive areas and water ways, wetlands; limit logging of old (mid) growth areas any where in Oregon especially along mountain ranges.

- We need to understand the importance of continuity and communication between federal, state, county, public and private sectors. This will allow learning and understanding for all about Oregon's 100-Year Water Vision.
- Ecosystem protection and restoration should NOT be included as part of the term "natural infrastructure," whatever that is.
- It all lies within the strength of our state to follow closely our planning goals and help guide local decision makers to consider equality for all.
- Regulations established have competing philosophies and goals for the greater good. Current regulations and water storage laws need to be reviewed and modified to address the varying circumstances of topography and seasonality of natural resources.
- I hope this gets implemented soon. The next 10+ years are what's key.
- Ensure that protecting and restoring natural hydrologic systems (rivers and aquifers) is prioritized alongside the other goals. In our Deschutes context, investment in built infrastructure (i.e. canal piping) contributes to environmental goals, so strategies can be and often are complementary. There are additional strategies beyond 'infrastructure,' to restore and protect flows that also would benefit from strategic investment at the state level (i.e. "soft" strategies like water marketing tools). In Basins where there is not have adequate information about groundwater and surface water, invest in the data gathering necessary to understand and manage these systems. All of the above comments were endorsed by the Deschutes River Conservancy Board of Directors. Thank you for gathering input.
- We need some major changes to state water law and we need politicians willing to stand up for our rivers not just give us platitudes.
- Input from myself and my colleagues: Recognition of the value of prioritizing water by our leaders and urgency to take action, but angst about this being a statewide plan that tries to be everything to all people. A vision could be higher level inspiration that creates a conversation around "we," creates possibilities/direction for innovation, and clarifies what we are prioritizing (human or fish or both? aesthetic value? societal value?). Concern expressed around who will end up paying for these investments. Feeling like everyone is asked to put into the pot for something when only some people are using it unwisely. It's frustrating to care for water in our watershed only to see it flow downstream and get polluted beyond our control. Desire to see more public education about water, what we know about our resources and how it's managed. Educating the public is a critical first step. See an opportunity for the vision to generate/elevate a narrative that we all care about and depend on water. Demand for a more rigorous phase 2 of engagement on the vision that reaches all different kinds of stakeholders. Desire for more town hall events, put them in the hands of watershed councils. Set clear expectations for stakeholders: who is leading conversations? Who is determining what actions can be? Clarify what comes next, with whom, how often. If want to produce tangible outcomes and build trust, need a plan for continued engagement. There's a real lack of trust when organizations/agencies initiate long

conversations but people don't see the change. Need for a "water czar" at the state level. No one is holding a promise for this. Distrust of the agencies responsible today for taking care of water. Seeing development approved without regulations, agencies not regulating for what they are supposed to be accountable for, not talking to each other. A new vision is not a new trusting relationship and cannot make up for agencies not upholding their responsibilities. Asking everyone in the state to pay for that will lead to more distrust. "Cannot make a vision that is like frosting on a bad cake." Support for local water management and relationships. It may require new roles and new leadership in our state water management approach, but there is more trust at the local level. Planning, implementation and strategy should take place at the local/regional level, not in a statewide vision. Recognition that the 100-year timeframe is off-putting for some. Has to be adaptive and immediate. What will the regulatory structure be in 100 years? e.g. ESA being dismantled; need four questions every urban planner should be asking now. Need for data to empower local decision making. Want to see funding for research, e.g. study of how to recharge aquifers. Frustration around state land use planning and lack of commitment to water resources downstream. Who is responsible for urban growth at the state level - who is managing that conversation because it's missing at the state level. Are we managing a resource here for someone downstream who can afford it? Don't see people downstream who feel ownership and take care of the resource/watershed. Concern with any statewide effort that it will be designed to benefit the Valley. One-size doesn't fit all. People will ask, what are they trying to take away from me. Fear that this whole effort is underfunded and lacking leadership.

- Be sure this ties in with the DLCDC land use laws, Climate Adaptation Framework update and the Hazard Mitigation Strategy. It's not helpful to duplicate or possibly contradict other statewide planning docs.
- Absolutely necessary is to STOP any further lowering of the water tables. Have a plan to overhaul "water rights" so that (1) surface water withdrawal CANNOT reduce river/stream/wetland "flow" below scientifically determined minimum amounts (NOT "negotiated" flow!) and (2) total ground water "water rights" withdrawals do NOT lower the water table. Other immediately important and necessary actions: Repeal HB2437! Pass HB2020!
- Will the water supply be able to meet the demands of the projected population growth?
- The current vision seems to be way too high of an overview and a bit vague in any details. There is already the state developed Integrated Water Strategy and a developing Climate Change Adaptation Framework that provide the details on what activities the state can implement to protect water quality and quantity. Why develop another water plan when there are already plans developed and waiting for the necessary resources to implement?
- Focus please on conservation and efficiency for out of stream uses and restoring natural water ecosystems.

- Salmon are about to collapse from another threat, ocean acidification causing the loss of their main food sources in the ocean. We need to speed up restoration - dike, tidegate and undersized culvert removal - not add more barriers. Preventing building in high risk areas and strategic retreat should be emphasized before any new infrastructure is upgraded or built. Right now, local governments don't have the backbone/community support for those difficult decisions. So, it needs to come from the state. Higher water conservation rules for any new building and renovation also needs to come from the state.
- I do believe in listening and learning and hope others will play that way also. Looking for solutions to water for 100 years it will take more than doing what "we" have been doing again and again. There needs to be some way to say that not everywhere will provide everything. Maybe there will be some places where salmon were but will not be in the future do to other uses for the water and other places where salmon are the primary use.
- As an Agricultural user of surface and ground water. We intend to be a positive force in the discussion. If we are asked for our input then I hope it would be heard
- DEQ doesn't have enough legislative support or backbone to ban unnecessary toxics (like residential use of lawn chemicals) or consumer products carrying PBTs going thru our WWTPs, etc. We need more strength to protect people from PBTs to avoid aquatic extinctions and preserve our ability to recreate safely, etc.
- Please place the protection and restoration of our rivers and streams at or above the needs of the human community
- The vision needs to be crystal clear that the protection and restoration of instream flows, wetlands, floodplains and other aquatic ecosystems is part of the Governor's vision. Earlier documents nodded to this; but revamped/revised documents/presentations/powerpoints have moved away from these commitments in significant ways.
- 100 years is WAY too short a timeline. Climate change is accelerating faster than we are willing to acknowledge. Why not a 10 year plan with a 15 year backstop? The time for lack luster, in name only, efforts that keep our public lands in play for extraction, damage the chances of future success. Nothing is incremental anymore. We lost that chance in about the year 2000.
- Our 100 vision is useless if we continue on our current course of wasteful water uses and a without bold changes in forest industry practices. We must create a larger riparian zone and stop the destructive clear cutting.
- Remove dams for the sake of salmon and wildlife habitat.
- OWRD is totally ineffective as a regulatory agency and needs to be completely restructured, and our antiquated laws regarding water need to be re-written to reflect environmental needs.

- We need to deal with industrial forestry, which reduces summer flows for AT LEAST 40 years following every clear cut. Short rotations means that streams never recover. (Perry & Jones, 2016)
- I would like to see water addressed as a cultural resource as well as a tangible resource. The cultural lens is important to indigenous people as well as most people who have lived in Oregon for any time. We camp next to rivers, we get married next to rivers, we put the ashes of our dead into the ocean. The cultural aspect and accessibility are important component of planning for the future.
- Although this is 100-year vision, I would encourage the mindset to be one of growth, what needs to happen to thrive, and not just survive the next 100 years. Planning needs to consider all stages from storage, conveyance, treatment and reuse. Economics may need to be revisited to see how these infrastructure projects are paid for in such a way as to not leave the debt to future generations in order to meet our current needs.
- I would urge an audit of all users within each water district and create a clear pathway to improve efficiency within each sector
- good
- I read the site where it pointed out that some communities are growing while others shrinking. I would share that much of the shrinking communities are only shrinking because infrastructure investments are no longer prioritized making life more difficult in those communities. As the state population will inevitably increase, small and rural communities must be ready to handle the influx of urban refugees due to housing pressures. Also, 100 year vision does not allow for building sense of urgency. The planning horizon can be long, but it would be better to declare 2020 the year of water.
- Oregon needs to commit to educating its citizens about opportunities to benefit many communities. Specifically the Allocation of Conserved Water program administered by the Oregon Water Resources Department is under-utilized. This program has the greatest potential to benefit the states streams. Also some investment should be made into creating groundwater mitigation banks, similar to the one utilized in Deschutes County. Also the field staff of the Oregon Water Resources Department is way under staffed. It is not reasonable to think that one water master can monitor the water use of thousands of water rights in their region. Increased scrutiny of water waste would also benefit the state.
- I'm hopeful that this Water Vision work will address Oregon's prior appropriation water rights system, including the the structured inequity, incentive for overuse, and beneficial use components and be able to take a bigger picture view that diverse stakeholders can be a part of and use to move forward in a more productive way.
- The vision should include protecting the forested watersheds that so many Oregon communities rely on for drinking water sources.
- You either need to work more closely with tribes and Native-serving organizations or you need to speak more clearly about how you are working with tribes and Native-serving organizations.

- Thing big. Think differently. And acknowledge and build-in the need to educate residents and community members on the issues and proposed solutions.
- ENGAGE non motorized boating community - people who RECREATE in Oregon waterways
- please strengthen the orientation of your goals and actions to focus on ecosystems and hydrosystems as whole, interacting entities rather than on manipulating aspects of these systems to serve narrow purposes based on 'deliverable' results.
- It is nice to see a 100 year water vision, but what good will it do for those of us who are trying to exist with depleting water. Chasing the depth of the water is expensive and will destroy Oregon. Also, waste and water abuse seems to be on the increase. When will we see enforcement? Without enforcement the abuse will continue until we have no water.
- none
- Water supplies are not abundant even in water rich Oregon. They will become increasingly scarce over the next 100 years as human populations continue to increase. There needs to be increased education around pollution of water through pesticide use, storm runoff and illegal dumping and emissions. Conservation should be stressed at all times and an ethos of environmental stewardship needs to be cultivated.
- Very ambitious and well-intentioned process but unlikely to make much difference. Most Oregonians don't want to pay what it will take to achieve these goals.
- I am very supportive of focusing on this issue
- There are many local, state, and federal agencies that are tasked with some kind of water management issue. How will this effort bring these agencies missions and goals into alignment, so they don't contradict one another? Or at least to some common understanding of how the state wants to manage water.
- I am happy to see the state taking climate change seriously and perhaps we need to up the timeline
- I believe that the 100-Year Water Vision is long overdue and I look forward to monitoring it's progress.
- Without clear scientific understanding of who, what and where waters of the state receive negative impacts that compromise the quality of water, Oregon's Health, Environment and Safety goals will always be at risk.
- I fear this quest will open the door to many misconceived fears about the current and future quality of Oregon's water. The path forward must be supported by science and not emotion.
- Thank you! We need the same amount and consistency of social data (beyond just Census data) as we do for hydrology/geomorphology.
- Ensure all of Oregon is on the same page and following this goal! Don't turn a blind eye to the agendas of areas that may think they can manipulate the system and prevent these goals from being reached across Oregon.

- Have the Oregon tribes been consulted? For the next steps, are you able to break the long term 100 year vision into a 25, 50 and 100 year plan?
- Please 1. be clear in communications about how this vision will translate to actions over the coming years, 2. offer in-person meetings/sessions across the state with at least one month advance notice and advertising, and 3. articulate how small, rural communities that have relatively small populations/community capacity but have major effects on water quality and quantity will be factored into the water vision and future investments.
- I have other ideas on, especially, how to conserve the use of fresh water. They range from asking Oregon residents to invest in a "California Car Duster" (which Oregon should have its own version of); to requiring community development/building departments to require methods of landscaping that conserve water (including the use of "Turface," which I've used personally with great success in having an "eco-lawn"); and to have a "graduated rate structure" which costs more as water usage increases. These are a few ideas that I'd actually like to discuss by phone with the proper person. It's easier to briefly explain them than to try to put the message into this survey. My number is 503-364-2448. I look forward to a phone call soon. Thank you.
- Many of our communities and their water systems are vulnerable to natural hazards, such as impacts of drought, earthquakes and tsunamis and are not prepared to respond to such events. These challenges require a coordinated approach since no one entity can address them alone. The Governors focus on the future of how water is managed in Oregon presents a timely opportunity to be proactive about understanding and meeting our current and future water needs to help find solution to critical issues like:
 - Replace aging infrastructure, improve conservation, enhance regional water supply options, and more effectively share water.
 - Relieve pressure on rivers, streams, and tributaries while meeting the water needs for communities and industries.
 - Create redundancies in our system so we are more resilient to drought, storms, and other natural vulnerabilities.
 - Create a learning and action network for small water providers who are often most vulnerable to environmental and regulatory challenges.
- The issue I see almost daily is the smaller communities don't have the staff to do more than deal with the day to day issues. Oregon needs to create a task for of dedicated, boots on the ground people that assist these smaller communities with the issues they face. Many have part-time or volunteer staff and their water systems are crumbling but they don't have the staff or time to deal with those issues and are constantly in crisis mode. They need help, they need someone to help assess their needs and help with grants applications, planning, rate structure, etc.



Technical Workshop Meeting Summary

To engage in a conversation about the management and data needs of water managers across Oregon, the state hosted a full day technical workshop to stage that discussion. In total, 100 people were in attendance, representing cities, counties, federally recognized tribes, environmental groups, watershed councils, irrigation districts, and many more. We discussed the information needed to address specific water management questions. A natural resource agency panel gave an overview of data that the state has, and data gaps, which framed a series of breakout groups focused on data around future trends, water quality, water availability and use, the environment, and funding.

Table of Contents

What questions do water managers need information to support?.....	408
Large Group Discussion.....	408
Small Group Discussion.....	409
State Agency Panel: Conditions Memo.....	418
Break Out Groups.....	420
Future Trends.....	420
Large Group Discussion.....	420
Small Group Discussion.....	420
Availability and Use.....	423
Large Group Discussion.....	423
Small Group Discussion.....	423
Environment	426
Large Group Discussion.....	426
Small Group Discussion.....	426
Funding	430
Large Group Discussion.....	430
Small Group Discussion.....	430
Quality.....	433
Large Group Discussion.....	433
Small Group Discussion.....	433
What asksand offer do you have of those in the room and of the state?.....	436
Large Group Discussions	436
Small Group Discussion.....	437
Offers	437
Asks	439

The bullet points below were taken from the large group conversations and associated flip chart notes. They do not necessarily represent all the viewpoints in the room, and are not intended to be shared opinions across the entire group.

What questions do water managers need information to support?

Large Group Discussion

- Where does the money come from for big infrastructure projects?
- How do we develop plans to replace aging main infrastructure, not likely to stand an earthquake?
- How do we secure water supply for the future, both quality and quantity
 - What does the funding look like
 - What regulatory structure are we working in
- How much water will we have and when?
- Can out farmers get ahold of the water they need
- What codes do we need to abide by?
 - Code and policy modifications needed to upgrade our legal framework for water availability
- What will happen to agriculture as climate change continues (concerns around food)
- What do water users actually need to maintain central functionality to maintain their work?
- What do water user ACTUALLY need? Want vs. need
- What are emerging contaminants in our water systems?
 - Are they safe? How do we treat them?
- How do we educate the public about emerging contaminants?
- Need real-time stream gages to project impacts of climate change
- What role does county government play in overseeing disperse water systems, especially in low-income areas?
 - The smaller, private, and other water companies and districts do not have resources. Many of these systems are leaky, old. How can the state work with county to help with this? Who is in charge?
- Funding is the primary issue
- Metrics talked about for overall water availability are tied to climate change.
 - Would be great to have real-time stream gaging for all major streams and tributaries to create a water balance and determine what is available and what is being used
- Gaging stations closed by USGS and counties because of cost. Many of these long-term records are lost – the money really isn't that much.

Small Group Discussion

- How can we design a system to allow for groundwater recharge? Where will that recharge be beneficial?
- Where do we need to maintain functions currently provided by flood irrigation? What are those functions?
- Where can we work in forest to improve water?
- We need flow and temperature data to determine impacts and opportunities to reduce impacts to both natural systems and agricultural systems
- I need constantly updated climate modeling that is scaled to my basin
- I need groundwater data to understand the groundwater/surface water interaction
- What changes need to be made in water user actions/education/attitude/etc. to match existing/future water supply?
- Designing an irrigation conveyance system and needing to know specific points of delivery/places or use
- Understanding so water use on a section or river to identify potential management/infrastructure
- Quantifying the impact of on the ground activities (e.g. infrastructure upgraded both built and natural) particularly assigning economic value to non-use impacts (e.g. improved habitat) so that we can receive federal funding.
- Where to regrow forests? Where to maintain buffers? Where to provide additional shade
- Infrastructure/system improvements or changes needed to match future water conditions need to know those future water conditions (amount timing how different from past, etc.)
- Water supply (and potential water use limitations/restrictions) for the upcoming year
- What will future hydrograph look like so that we can project future water supplies when designing an irrigation system?
- Where to co-locate power, fiber, mobilize data infrastructure with water infrastructure?
- Coho/chinook smolt survival as result of large wood debris projects
- What system upgrades need to be made, at what priority levels, timeline etc.?
- Need for more flow gauges in smaller streams and existing flow gauges are on large streams
- Where are all the fish passage barriers for salmon and steelhead?
- Need to know what operational or infrastructure changes will be required by state/federal regulators with enough lead time to build investments, make changes etc.
- Future demand/climate streamflow/water use data

- How to keep irrigated ag moving forward and staying viable along with other water needs
- Infrastructure funding for private water systems.
- Business or has done per their staff
- Aging infrastructure conservation funding support from state on water monitoring
- What do water users actually need to maintain essential functionality of the activity they are using water for?
- Where to focus investments for watershed health?
- Possible info: Forest health and the relationship between forest health and upland water storage and stream/spring flow
- Farmer/rancher and relationship between soil health and water storage and stream flows
- More measurements on water budget
- Method for prioritizing necessary "system" improvements
- What are our water needs? How much water available? How much water would be available in future?
- How much water can I conserve?
- What are the water demands in my community?
- Management decisions: Communicate planned uses changes to others and anticipate consequences
- It is as much about generating new data or implementing actions based on data we already have and understand?
- Will definitions of beneficial use change in 100 years?
- Is there a contamination threat to a water source?
- Can we change water use through education?
- Are there reliable models for how water availability will change with climate change?
- What data exists? Unreliable data better than no data? 80/20 rule: so/80 rate 20% of efforts result in 80% of gain
- Duplication of effort? Consolidation of agencies sharing data GIS platform watershed/basin approach permits at city/county
- How do we manage water loss old infrastructure leaks on customer side who do not care that there is leak
- Is new infrastructure "properly" built?
- MGMT issue uncertainty of regulatory compliance for innovative approaches for innovative approaches to achieving water vision goals
- Do existing rules (written in the past) apply to today's conditions?
- How do we build trust among those in conflict?

- How do we get other districts water partners to work together? Share info partner in projects? Equipment needs
- How can we manage stormwater to simulate natural hydrology, especially in urban areas (huge effects on water quality and quantity and aquatic systems)
- Water resources environmental benefit/impacts of maximizing in stream flow vs water reuse?
- 70% of the state has had water rights adjudicated but the Umpqua has not. There not good data on water usage in the basin and allocations for different water needs.
- What is the water usage for the Umpqua basin and current water quantity predictions?
- Managing for water quality for all users data gaps in water rights who is using it and how much
- Managing for voter quality accountability for ignoring 303d listed bodies of water
- How will local government engage in a process to prioritize projects, collaborate/combine resources to invest in projects that create positive collective multi-objective impacts (WQ floodplain fish health etc.?)
- What "natural infrastructure" projects will address identified needs where are they how do we participate how do we get funding?
- Need to be able to determine how what we will plan to address water quality needs and requirements of wastewater and stormwater in a cost effective way affordable to the public that will provide maximum benefit to rivers streams watersheds economy and communities 5,10,20,100,years
- River system needs statewide regulatory framework that will enable investments in projects that meet objectives of water vision how regulatory certainty will be provided etc.
- Where is water over allocated? Which basins or streams
- What are minimum preserve water quality?
- Where are water rights misused or invalid can they be cleaned up?
- How can future development better accommodate restored stream floodplains and wetlands
- Can we shift from beaver eradication to population restoration?
- How can we shift water use dialogue from a rural/urban debate?
- With diminished snowpack can we turn our soils into better "reservoirs"?
- Data that accurately reflects how municipal planners can allow growth
- Planning guidelines for new off channel storage
- Intent of state government to invest in water planning and infrastructure improvements?

- Purposeful communication with citizens about backup plans in catastrophic events. "Is there a plan b?"
- State needs to figure out how to integrate each agency's decision process and be able to support the type of permitting and regulatory framework that will enable and facilitate types of infrastructure and environmental investments needed to solve problems
- Data needed for state identify how to create regulation framework to efficiently and effectively support outcome we need
- Drought planning data flows, understand basin hydrology, climate change, surface water and groundwater
- Adapting to climate change data projectors snow runoff surface water groundwater
- Algae bloom management data environmental conditions water quality upstream drivers of blooms
- Tributary water quality management data flow soils erosion
- Hydrogeology how do you plan for long term resiliency if you don't understand how water moves through the system?
- Environmental compliance flows hydrology basin scale surface and groundwater integration fish persistence thermal impacts
- Basin resource management data to inform policy management hydrology meteorology hydrogeology
- Better understand hydrology data and data analysis
- Protection and restoration of stream flows
- Need base peak and ecologic flows and demand forecasts
- floodplain hazard mitigation floodplain storage protection and restoration data to support floodplain mapping
- Better understanding of groundwater/surface water interconnections and how this effects watershed hydrology
- WQ compliance data. What do fish need to swim and thrive temp and habitat equality
- Sustainable groundwater management groundwater studies and measurement needed
- Timely information back from state agencies regarding water rights
- Public information how do we make the general public actually care? How do we get information packaged in an easily digestible format?
- Funding priorities public benefit for public monies
- water use management need water use data water availability stream gauge and accurate water rights data and location
- Aquatic habitat interventions where are -----blank---- when?
- How can WRD manage the ongoing uncertainties regarding water availability in the face of shifting environmental regulations of the natural and built systems

- Irrigation modernization ensuring it's not just using and piping but is holistic and includes public benefits flow efficiency fish pop
- resolving complex water issues
- Climate change resiliency ecosystems communities farms recreation
- The translations of complex data into more digestible info for general public
- Data on agricultural water use in multiuse watershed what is the agriculture impact in terms of WQ and water supply?
- Green infrastructure is working? What hasn't worked? What context is important to consider when planning for these projects?
- Managing demand how can we use less water for domestic uses? Information on messaging and innovations to reduce domestic use
- Treatment new chemicals of emerging concern are always on the horizon. Where can I get information on how to adapt current treatment processes or on new processes that will help in the future
- Redundancy key for emergency management but some systems have no alternative sources what resources are available to systems that need to seek alternatives is a man source goes down?
- Removal of outdated dams and or infrastructure
- Water transport aging fish passage barriers bridges tidegates. Impact on roads emergency preparedness. Impact on wildlife. Funding
- Ocean impact (acidification) coast and bay PH carbonate chemistry temperature
- Freshwater bacteria(ag) sediment(forestry) pesticides temperature (industry) microplastics TMDL limits (DEQ)
- Lidar of coastlines and rivers. Somal or other mapping of seagrass and kelp beds. Mapping of habitats and adjacent land uses
- Our management decisions are often driven by the regulatory framework. i.e. HAB monitoring and treatment seismic standards water right acquisition
- Investment decisions are driven by funding sources around rates and admin burden
- Regulatory reassurance and recurring supplies water quality and infrastructure standards
- The Tualatin basin has a great model to coordinate data collection, management and turning it into information. It connects stakeholders on technical and policy issues. It includes state and local partners
- Key management decisions for drinking water is how to supply safe reliable drinking water to our future community? Our challenges are financial regulatory
- Ability to use treated waste water as municipal water treated efficient reuse regulatory hurdles

- Regulatory framework changes arbitrary and capricious make it difficult to plan
- Measurement of ag water withdrawals
- Ag water use is a huge part of the pie where are they in this conversation?
- Crops of the future what will be grown and how much water will be needed to supply them?
- How much water does my community truly have over time compared to our downstream neighbors when water rights are considered as water availability lessons
- Getting water to community post disaster or emergency event
- Develop a plan around the replacement of our main water reservoir (50yrs old) and the lines that go to it from our springs/water plant. Masterplan says RSV will not withstand quake
- Reached its life expectancy
- Pipes to it are the old asbestos pipe (50 yrs. old)
- No secondary water source
- To support and fund major infrastructure improvements in cities while planning and systematically diversifying water storage and use in light of climate change. Do we have all of our water storage needs (eggs) in one (dams) basket? and should we be looking at statewide storage and use differently than before
- Role of country government in coordinating water supply issues for rural and urban communities plus encouraging best practices of water use and protection on agricultural land and forests
- Periodic water spikes
- What is the cause? Tested for more than 10 years!! no single cause or source
- Understanding the energy impacts of a changing aquifer which implementing 680 po... energy use
- More prescriptive path for geothermal well implementation
- Designing a college campus with minimal water use
- Implementing the plan with limited funding
- Ensuring our implementation reaches the goal of a net zero water use campus
- Better water planning support information
- Funding sources available to support need/project identifies in masterplan beyond rate increase to consumer low interest loan etc.
- Ways counties can find funding for infrastructure and resilience also find expertise to identify data needs and interpretation of present water resource
- We should be making all the effort to reuse while we find new way to gather store and use the water we get.
- What water contaminant are coming from locations outside Oregon?

- China etc. What are the contaminants? How do local entities deal with these contaminants?
- What is the time of cost of water in my community? Are we charging companies the true cost? How much does it cost to clean and deliver water?
- Develop. Do we improve or not based on current and future water progress water budget
- Need for visions to guide decision making such that we don't lose sight of why we do things a certain way or see when we need to change. "Touchstones" that elevate contentious issues back to shared objectives vs fighting over tactics
- How will all future capital plans for (one water) drinking, storm, wastewater collectively impact single ratepayers
- How operationalize precaution principle? Upstream policy decisions that embody the precautionary principle to minimize the rate of introduction of new and emergent contaminants
- High priority need good asset inventories and management of natural and built water infrastructure so that we can maximize green infrastructure alternatives
- What are the risks to water resources and water systems from a changing climate? (Hotter, drier, wetter, etc.)
- How do large industrial projects like the Jordan cove energy project afford water quality equality
- 5 years-- identifying and preventing HABs cyanobacteria
- What are the future discharge regulations? ... related to facilities plans
- What is the future water quality? for... consumption discharge
- As the director of a public utility investing rate pay or money in clean water infrastructure I need clarity about DEQ regulatory direction
- Indicators for decision makers as in financial reporting and what has been created for salmon recovery in WA state... Assumes data are available and managers/others know what matters
- Need to understand how local decisions interface with regional and larger scale impacts e.g. may have great protective policies or regulations in one county or city but how does that negatively or positively impact adjacent counties... push polluters or certain development next door?
- 20 year facilities plan wastewater treatment and surface water we need certainty around regulatory requirements and ability to partner with nonpoint sources to achieve meaningful benefits to the watershed
- Secured capacity for present and future demands may not necessarily increase, but it must be stable.

- Seismic resiliency of source and source capacity, treatment storage and transmission infrastructure
- Funding and a plan for funding as infrastructure is repaired replaced and added.
- Meeting future regulatory requirements with the existing treatment facilities what must be built?
- How can we reconcile conflicting or siloed regulatory authorities and agency missions to get the one water?
- Do we have primary secondary and tertiary water supply resources? If so are there already demands on all of them?
- Any energy given to using the ocean as a water source? (Israel has done this well)
- Are the rural voices being "heard" as well as the urban voices?
- How do we work with our community stakeholders and regulators on dealing with WQ issues like PFAs mercury lead etc. That crop up and that we have to address right now but might not have the data or treatment capabilities yet.
- How to assess stream channel conditions and functions at a detailed level to guide developments related investments in stream corridors inside and outside UGB
- What communication tools and political leverage can we develop to bring muni interests and development/ag/forest interests into common cause for long term?
- Where do we need to put our R and D efforts? Which processes need more attention ex: stream temp, groundwater
- Understand the key metrics that drive watershed health conditions in urban and rural areas
- Link between water supply reuse program future trends in population growth and climate change and how do we balance/ prioritize decisions around those?
- Understand link between surface water shallow groundwater in rapidly urbanizing water shed to support base flow for fish wildlife riparian veg.
- How can we understand reserve instream water rights such that our investments in stream habitat in stream habitat enhancement structures still have water running by them
- What do we invest limited funding into? Conservation infrastructure environment restoration education increases capacity etc. What's most effective use of funding?
- How effective are green infrastructure facilities in removing sequestering and degrading storm water contaminants including those we don't know about?
- Planning- the hardest part of planning is knowing what planners have to work with. Usable water rights usable source water quality access to resources ability to work within environmental regulations
- How do you decide what communities are a priority of infrastructure funding?

- What crops are we going to grow?
- Realistically how much water is being used and by whom-- to start understanding re: conservation
- Work force capacity to implement/monitor projects in an effective/responsible way
- How much built needed? ASR capacity location basin
- What needs to be prioritized and why?
- Future agricultural intensity due to climate change. How much agricultural use do we need to plan for?
- Where to focus restoration funding in response to climate change but still retain critical resources to support multiuse direction that governs our agency? USFS
- What water treatment systems should we build?
- How to communicate water crisis to public?
- Management compliance within existing regulatory framework for quantity and quality
- Data needed: Quantity and certainty of available water for use and irrigation. Population data and predictions. Impact on watersheds of current voluntary and mandatory practices. What are we doing that is currently working?
- Funding
- Real-time stream gauging quantity/quality modern hydrologic data reflects climate change and new weather patterns. Biological metrics for watershed health use/withdrawal vs demand/projected demand. Balance between watershed health and resource extraction
- How do we plan development around projected comparing value of water? How do we value comparing uses of water? What are the contributing sources of water quality issues?
- Information for how much water is available in the future for ecosystem and public health. Availability!
- Education is a constant decision struggle. Everyone K-12-cc-uni public needs to be education on reducing their "needs" on how and where they inter connect with water! Food systems retreat purchases communities government. Education!
- Modernization of code policy affecting water reuse, nutrient recovery and wasted food. Code and policy modification!
- Water quantity available for farmers in the Willamette Valley. Quantity? (Availability)
- Water availability for farmers where when how much? Availability!

State Agency Panel: Conditions Memo

Oregon Department of Environmental Quality: Justin Green

- Water quality programs sets standards, established TMDLs, enforcement, and state loan revolving fund. Data for standards, modeling, geographical data, and permitting data – who is discharging what. Rely on modeling – what can we do to develop a comprehensive understanding of water quality. LIDAR – topography related to where water goes.

Oregon Water Resources Department: Racquel Rancier

- IWRS drives what we do. When we think about water and where we need data, we are considering our entire water resources – surface water, groundwater, and natural systems. What are our needs and demands – instream and out of stream? Challenges – climate change, conditions of infrastructure? How do we meet our needs now and in the future? Planning. We have information across the state – stream gages and models – but not on every stream. Groundwater – info, do we have it everywhere? Data needed for planning? Sometimes. We have gages. We have groundwater levels. We have groundwater studies. We need to know water use. We need to know geology. Along with science data, we need information about the status and presence of infrastructure. IWRS is how we might knit these efforts together.

Oregon Department of Fish and Wildlife: Anna Pakenham

- Environmental goal and data needs form IWRS. Native species require habitats, and this relies on water quality and quantity. Flow and quantity – for species, need to understand species specific flow needs. Only 15% of the state has had an instream flow standard set. Critical for planning – if we can't talk about flow needs for species, we can't find a balanced solutions. How often are we meeting our flow targets? Annual? Seasonal? Dry vs wet? ODFW working on this. Water quality – temperature. Species chase streamflow and temp. ODFW doing quite a bit of field based data, but state-wide data set is limited to reach scale – rely on VIC or NorWest models to actually assess whether meeting targets. Disconnect between agencies ability to work together to collect data. Cold water refugia – critical habitats, will be important for climate change resilience. Barriers, riparian wetlands- have location information. Less on condition and species needs of these areas. There will be a shift in the natural hydrographs – unclear how this will impact species needs. Been seeing regional models that produce info – but can they help us make decisions at a scale of a project? Priorities – where is it most important to invest? What are targets today? What will they be in the future? Where can we leverage our work together?

Oregon Watershed Enhancement Board: Renee Davis

- Funding! At least 50 years of underinvestment – will need more coordinated and strategic approach to financing. Can be a whole host of approaches. We know there is a massive need, many funding sources already exist, state, federal, SWCDs, BOR, EPA/DEQ, OWEB, OWRD. Interested in hearing more about gaps. Don't have a great handle on what these needs are. Until we have a better handle on existing conditions and priorities, it is difficult to match up the funding sources with needs. Need to have funding for planning and feasibility as well as implementation. The numbers are massive – don't have the whole host of resources. Will need to be strategic. Develop new revenue streams – what might these look like?

Break Out Groups

Future Trends

Large Group Discussion

- Data to support decision making
- Analyzing data over longer time horizons without stationary assumptions
- How will changing water availability impact different populations?
- Earthquake impacts?
- Increased risk of fire?
- Cost of litigation vs cost of collaboration

Small Group Discussion

- Data indicators of public trust decisions
- Scenario planning data (avail, usable for decisions)
- Ongoing confirmation/refine scenarios
- Data on future extremes and potential impacts
- Storage potential of natural areas/infrastructure
- Safer locations for future development/urbanization
- Data on public understanding of future trends
- Data on effective R- higher education on future trends and resource limitations
- Interactions between different kinds of change
- Data in form usable for major decisions (e.g. land use)
- What other water managers are doing to respond
- Data on how tech upgrades (AMI) can benefit, esp. in rural systems
- Tech upgrades that help bring more data for better management decisions
- Data on pop decline (especially rural communities)
- Population distribution across geography
- How do pop changes negative or positive effect cost/affordability
- How will climate refugees affect decisions -nonlinear and pop change
- Storage /transport/management- re-evaluate based on future inst of historic
- How fire changes hydrology - quality/quantity
- Standard practice for watershed master planning future screening
- Projected changes in plan communities - hydrology spd. yield water quality land suit and ag/forestry
- Water quantity implications for ag use
- Potential sector shifts, market changes
- How to analyze data for longer time horizons without stationarity - data models dynamically adjusting, machine learning AI

- Different temporal and spatial scales
- Better use of data we already have : adaptive management
- How will changing water quality/avail affect different populations differently?
- How do we make more equitable investments across state
- Overview of climate risks and how they may change
- Impact on water resources from major seismic event
- How would a seismic event interact with other changes
- Opportunities to create local resiliency - strategy (eg. island of evc infra)
- Effects of CC on instream flow and species
- Finer spatial scales for climate impacts
- Diner res data on current clime conditions
- Effects of CC on of water demand for timing and quality by region
- What data do we need to have good climate models
- Future water quality likely regulatory longer range planning
- Data from other states with climate impacts
- Eval. of whether current regs/support water conservation
- Demand forecasting for instream species needs - cold water refugia
- Forecasting of future ground/surface water supplies
- Understanding current ground water supplies
- How will land use changes affect watershed function
- Finding the right scale for climate scenarios/models
- Economic Development - Business needs emerging trends commercial industrial residential ag tech industry needs
- Housing demand
- Aggregated water usage by geographic location and demographic
- Spatial analytics of population growth vs food/water supply demand
- Data on redundant water supply and systems
- Micro climate predictive clime change models
- Data around forest practices impacts on native habitats
- Data around forest practices and impacts to source water
- Data bank of successful and unsuccessful management attempts
- Cost benefit analysis management techniques
- Long term needs assessment for state agency staffing
- water vision implementation
- Watershed based climate models as it relates to source water
- Communications tool kit for complex data management
- Data format standardized key performance metrics

- analysis of current baseline data
- Future market analysis for natural resource industries
- Impact analysis for water reuse
- Inventory of successful management stories "communications Network"
- Inventory of conditions of built infrastructure
- Projections of climate impacts on aquatic ecosystems temp, stream flow etc.
- Data around stored water and temp management
- emerging funding trends clock chain "farm to fork"
- Standardized data sharing platform (open)
- Cost benefit analysis of emerging contaminant treatment
- Cost benefit analysis of decentralized water reuse (stacked benefits)
- Population growth models that reflect influx of climate refugees
- Regional economic analyses
- Analysis of potential impacts of climate policies on utilities
- Scenario analyses on impacts and costs of climate change
- Cost of increased risk of wildfire Where? what are the impacts and costs
- Where and when are harmful blooms (HABs)?
- Holistic watershed health assessments
- Data on aquifer vulnerability
- Emerging management and response
- Aquifer restoration after contamination
- Cost of litigation vs cost of collaboration

Availability and Use

Large Group Discussion

- Historic water-how has it moved and how is being used?
 - Re-evaluate the use
- Better stream gaging ad higher resolution
- Models the combined snowpack, rain
- What are allowed water right uses and are people using their rights legally?
- Evaluating potential for conservation
- Better hydrogeology data
 - Statewide and site specific
- Impacts on water supply of forestry impacts
- Link between supply, demand and return source conditions
- How is water temp impacted by geology
- Prior appropriation
- Is there a way we use water now that depletes our ability to use it in the future
- What is the extent of over allocation?

Small Group Discussion

- Aggregation and analysis of existing underground water storage data
- Underground water storage - How much more, where, elevation, quality
- More data on groundwater recharge
- Aquifer testing to collect data on storage coefficient and transmissivity
- How surface and groundwater are connected
- Collecting data on education programs related to water
- Assessing public's general knowledge of water science
- Better understanding of water reuse and availability
- Reevaluate storage transport use and how its oved in state
- Historic water availability (how it has moved in state) and use and how it is changing (future planning for next 100 yrs)
- Better stream gauging at higher resolution (more robust network of gauges)
- Models that combine snowpack, rainfall, instream needs to predict availability
- Water rights clarifying around uses are they using their rights appropriate legal use adjudication
- Use water availability modeling to guide water use (ex. crop use in the future)
- Evaluating potential for water conservation
- Data on non-point consumption of water (ex. juniper forest mgmt.)
- Gathering data on the use, accuracy, and effectiveness of using existing models

- Modeling potential capacity of above ground storage of water
- Higher resolution spatial and temporal data on water use by sector watershed
- Data on receptivity of water users form prior appropriation to another model
- Data on other water models within our prior appropriation system
- Data on the productivity of dryland farming practices
- Data necessary for model calibration
- Better hydrology data -- how water moves through system, time, sustainability of resource watershed scale and site specific re...
- Soil moisture data incorporated with other data sets to monitor watershed health
- Showtel data
- Regulation/gov information from federal regulating federal storage projects
- Meteorological stream flow inform water based planning scale process to data, how can find use of data and validation and verification of data and standards
- Water rights data for usability data for solving critical problems including who has legal rights regulation patters ad water right holders updated/digitalized
- Water use needs how changes/shifts across times
- Crop type site specific inform water transactions
- Forest management impacts on water supply changes in hydrologic cycles
- Who is already using water in the basin
- Prior appropriation doctrine -- use it or lose it update in terms of current uses, how does this change in season availability, what education efforts are there to water users
- Climate adaptability what resources/tools avail? USFS
- Municipal water supply and growing population education regarding water conservation water use, what systems (legal or incentive) for establishing rate structures?
- What is the overall supply demand return resource
- Conditions for the entire state of Oregon
- What is our total water source availability?
- How much are we using?
- How much of our extraction goes back to the original source?
- How long will this last based on future time casted demand?
- Efficiency rates of ag, municipality and conservation opportunities, system loses what is diverted vs delivered
- Precipitation monitoring
- Private sector data integration weather data and other
- USGS groundwater studies statewide
- Long term impacts of climate change on snowpack
- Is there a way we use water now that depletes our ability to use water in future?

- Adapting current water management system to CC species needs and water right overlay related to timing
- In season water management what models can be used for efforts?
- Database of interconnectivity between water users and ecosystems
- Population change (up or down) what impact on water availability?
- Hydropower what can/can't be done to explore hydro ground
- Valsert water storage projects pros and cons of projects, stream flow historical related to retention, positive benefit to cooler water
- Water use, what percent of water is extracted? What amount flows back to system? diversions and consumptive portion
- How our water supply to our neighboring states?
- Measurement and reporting -- understanding water use, real time, POD/POU water management purposes
- Egnal requirements
- Water temp, how impacted by geology? How does entire system impact temp?
- Water supplies reliable for farming, what are the impacts of winter storage on ecology? scientific analysis
- Extent of over allocation current conditions compared to past allocations
- Stream gauge at PODs how current data relates to future water supplies
- Needs financial and data management and collection
- Illegal use how much being illegally used
- dry vs wet season changes in hydrology of system
- Groundwater limited areas. How do we know who is included? Information to setup?
- Past conditions related to water supply. Information from people who live/have lived in area
- Updates water availability analysis
- Water rights Update/validate information overlap with optimal conditions on the ground
- Prioritize based on need and changing demands
- Instream uses how effective? Education to water users to use system?
- What are instream flow targets for fish (base/peak/ecology)
- State/federal funded trowling on how data may be collected, analyzed, and managed

Environment

Large Group Discussion

- Critical habitat
 - Eel grass and wetlands
- Climate change and land use
- Storage capacity for both built and natural infrastructure
- Impacts of agricultural practices on habitat
- Long-term effects of pesticide application
- Understanding groundwater-surface water connection
- Address instream needs
- Data on ecological and health impacts on emerging contaminants
- Impacts on most vulnerable communities and the environment
- Reduced infrastructure costs with natural systems
- Land use impacts on stream-basin scale
- Where in watersheds is effective water treatment occurring?
 - How do we expand it?

Small Group Discussion

- Species inventory
- Species productivity, resiliency
- Optimum habitat parameters
- Identify critical habitat systems ex. wetlands eel grass
- Existing habitat identify barriers
- Water quality parameters and quantity; seasonality
- Diseases and pests
- Decision support tool
- Near water buffers more than streams
- Prioritized restoration opportunities effectiveness monitoring
- Monitoring for invasive species
- Land use monitoring
- Develop new tools to ID pollutant sources
- Beaver potential habitat
- Macroinvertebrate habitat
- Data collection baseline local with online function central location
- Stream flow
- Impacts from land use, climate change, population growth
- Land use and ecosystem interactions
- Storage capacity built and natural

- Fire resiliency
- Storage capacity condition
- catastrophic impacts to infrastructure
- Species diversity
- Indicator species
- Effectiveness of alternative agriculture practices on habitat
- Fish distribution aquatic species
- Effectiveness of public education and outreach over time
- Information on plant species that will adapt and thrive with climate change
- Effectiveness of restoration strategies ex. juniper removal floodplain connectivity
- Soil moisture and health - long term soil moisture monitoring
- Role of mycorrhizae fungi in ecosystem health
- Timing and sequencing of instream flows- impacts to aquatic species
- Long term effects of pesticide applications
- Understanding groundwater resources
- Connection between ground and surface groundwater (understand the resource, protect instream groundwater mgmt.) Use in resource planning ex. place based
- Include both academic and applied knowledge when looking at ground and surface water
- What fish need and biota in general
- Access statewide to consistent model(s) to plan for future climate change scenarios (CREP Model) (deciding type of infrastructure, location)
- Streamflow monitoring
- Water use measurements and reporting to manage rights inc instream
- Data on ecol. and health impacts of emerging
- Contaminants of concerns
- Understand base flows, peak flows, ecological flows (protect and restore of flow, water use and storage, water management use in place-based planning)
- Cold water sources (ex. springs) at reach scale (decisions about restoration, focus investments)
- Info needed to move through regulatory and policy pathways to implement watershed based solutions that fall outside built infrastructure models (decisions to invest in these approaches)
- Info that provides certainty about specific outcomes and regulatory schemes (decisions around 20 years and planning)
- Support for modeling approaches that inform policies and regulations that govern watershed health (ag water quality)

- Information "translators" to move data conversations to a place it can be utilized
- Demand forecast for instream needs (in climate change)
- Simulate "what if" effects of changing policies like use it or lose it
- Impact of most vulnerable communities and the environment
- Data about what sustainable resource extraction looks like where are we now
- Understanding wildfire risk
- Data relationship with our water neighbors (other states Columbia, Klamath, Ocean, Snake)
- Where will we see changes in human use that impact the environment
- Climate refugees change population trends
- What do students learn about environment
- GIS integrated layers base to visualize what is happening with water and how decisions are made
- Statewide clearing house to get certified into to support needs (develop management) update at real time
- Integrate data across all agencies at a basin level scale useable at scale
- Consolidate agencies so approaches integrated and competition for money is reduced and approaches are coordinated at basin scale silo down
- What reaches (stream) are most important in the future for fish habitat etc.
- Rating system for watershed health based on goals to be achieved very individualized using available data
- How non-point pollutants move through the environment
- Data and modeling about how change in weather patterns changes how we manage water
- Coordination of training and capacity building for those who have or want to collect data (agencies training is siloed and often internal)
- Adopt academic model for data dev and dissemination (peer reviewed consistent dissemination)
- Ensure data is useable for those who use it freely available supplemental data sets
- Expand on examples where agencies share training
- What are we doing to keep substances (ex microplastics, pharmaceuticals) out of our system at the front end (public education corporate changes)
- Capture scientific analysis in a way the public can understand and use
- Data to get simple approaches implemented ex. cattle management beaver use) adopt BMPs
- Watershed research how to make watersheds healthy, reduce infrastructure costs basic biological and ecological data

- Now water resources are impacted by land use and how land use might change in the future land cover and water resource/quality on a stream basin scale
- Changing needs with respect to agriculture (ex if CA central valley moves to or - what happens?)
- Data necessary to enforce water allocations in the field
- Invest in treatment technology and data to determine effectiveness of treatment both natural and built
- Where in watersheds is effective watershed treatment occurring how do we protect and invest in it - identify opportunities to expand
- Data needs to be at small scale and updated for adaptive management
- Regulatory system with feedback that allows adaptability
- What is the real impact of all of the field tiles recently installed?

Funding

Large Group Discussion

- 0 state funding for private water systems – how many do we have in a poor state?
- Federal money unallocated due to lack of ability of federal agencies to transfer money to State of Oregon
- Fire risk to source water areas - recovery of storage following fire
- Tax based approach for funding water infrastructure
- Information gaps to help educate and get buy in from all Oregonians
- One water- where should we send the money
- Where is funding needed the most?
 - Place-based planning efforts

Small Group Discussion

- Zero State funding for private water systems (non-special districts)
- Data: number of systems in this situation
- Data: money estimates for need for each
- Data: nonprofit vs for profit systems
- Zero federal funding for PWS
- Data: what are the relevant CFRs?
- Are existing state funding mechanisms finally utilized?
- What is ROI of the existing systems we use to manage water?
- Differences between rural and urban systems?
- Examine case studies on different subsidies
- Equity/at risk pol is human right to water
- Baseline cost and value add
- When allocating funding consider RO1
- Data: willingness to pay survey total potential vs real costs
- Valuation of irrigation water pricing/ag uses (a lot of variability in small geographies)
- Who will inform who gets competitive funding
- What is happening to integrate permitting related to water issues?
- What are the drivers behind water costs?
- And what are the water costs?
- What are the steps to get to drinkable water? (justify investment)
- How water bill cover sewer water etc.?
- Tradeoffs and costs of treatment vs source water protection?
- Centralized vs decentralized systems
- Trends: shifts among industries e.g. BPA/hydro energy costs)

- Planning for no impact development
- Baseline foundation info about what we have/what we know
- Fed money allocated because lack of ability to refer to state partners for priority
- Information what are the limitations for the feds? (e.g. GNA)
- Public/private partnerships inform best practice for these partnerships?
- Data: who is paying for those programs/projects leads to equity balance?
- Risk of fire to source water area reservoirs delivery infrastructure and cost to clean out reservoir rebuild plant etc.; forest health treatment leads to real world scenarios
- Bright spots and stories about how we're accomplishments deserved outcomes leads to water efficiency improvements -metrics, money and best practices -across different sectors ag muni
- Calculate/assess money efficiencies of consolidated services (e.g. one data scientist for 10 orgs instead of individual orgs. each having their own) highly trained services are better fit for this
- Also, assessment of resources available to begin to get efficiencies
- Better understanding the cost of not being able to retain talent for conservation work leads to links to previous efficiency comments
- Is there equitable access to/distribution of benefits to all users who pay?
- Equitable revenue, equitable investment
- Opportunity for cooperative data and info (e.g. Tualatin)
- Money for long term ongoing data
- Statewide "water exports" and capture that value?
- How much money to add to special public wants money
- Sync different timelines for different money
- Public willingness to pay for water examples and local
- Government agencies lead to current debt load current debt capacity and impact of new debt
- State needs to put in money (e.g. WA)
- Better advertising (DEQ SRF)
- What do we need to invest in to be ready for future trends?
- Someone to project water availability to meet food needs?
- Forecasting
- To be able to plan better
- Can we expand current sources for restoration
- Better awareness of moneys sowcest criteria
- Need for grant writers? How much money spent chasing money?
- Using emergency management money

- Info gaps to help educate and get buy in from all Oregonians (tax based approach)
- Info how to best utilize and target existing programs and support for grantees once they are in the door
- Data NRCS money left utilized, because of staffing limitations (IE) including co benefit practice
- Info about how to navigate funding processes and clarity around requirements (e.g. unrealistic expectations?)
- Assessment of redundant programs across agencies and how to remedy/streamline
- Coordinated information to present a package of options to do free infrastructure when approaching landowners
- How to translate data into information understanding of impacts, etc. to educate people?
- Cost of building redundancy into water systems

Quality

Large Group Discussion

- Baseline water quality data from all agencies and areas
- Real-time data
- Effectiveness of treatment technologies and strategy
- Can we do things differently relative to regulation
- Who has what data?
 - Sources of pollutants
- Pollution in urban areas
- GIS access to data, networked
- Pesticide use
- Public health analysis

Small Group Discussion

- Risk assessment
- How do you prioritize or determine treatment options?
- Education understanding leads to learning, location level equals trust
- Small/rural community how to support? Capacity building provide resources?
- Where are the small water systems? Source and burden
- Who is responsible?
- Milestones (financials) for community capacity building
- Test contaminants at lower levels what are the impacts, how do we translate this, convey messages for public?
- Planning management future planning for adaptive management
- Toxicology
- Testing methods- what is most accurate?
- Testing affordability
- Public health analysis
- Public values and understanding
- Public support and value/awareness, how does this translate to finding? Equitable solutions- how can we support?
- GIS access data, map it. Collect more network data
- Analysis of current data
- Pesticide use/ag
- Who uses what where/practices
- Expenditures
- Contextual information for users

- Why this data matters?
- List of indicators management decisions/indicators for mission/goals
- How do 3 goals work together to create healthy ecosystems?
- What do data points mean in the watershed? Context of data/data toolbox/grouping parameters
- Who has what data?
- What activities are occurring in the watershed and how does it inform what to monitor for?
- What is working when it comes to water and why
- Stream buffers what works where and why
- Data on sources of pollutants in urban areas
- Meaningful projections of water quality
- Adapting data management and analysis
- How is weather changing
- Population growth data
- How much does public know about WQ?
- How do regulations schemes interact?
- Monitoring new industries tech
- Real time WQ data and informing public
- New testing methods for real time
- Short term prediction methods
- Effectiveness of treatment technologies and strategies/approaches
- Can things be done differently
- Preventative data to prevent reversion
- Unintended consequences ex. R.O. plus residuals cost/benefit
- Triple/bottom line analysis - eco. env. social and cultural
- Quadruple
- Desalinization from treatment where do you discharge hot salty water
- Additional resources for data analysis capability
- Data translation-number to policy
- Fate and transport of pollutants in water cycle
- Provision of data to dischargers
- Be more proactive
- Quality of data
- Education of public on data preventing
- Are we working at right parameters or suite of parameters when developing policy
- Are resources being utilized or expended effective and agile

- What is causing negative impacts
- Baseline data from all agencies and areas
- Should we regulate on watershed scale?
- Look at things holistically
- Better provisions of data to public
- Accumulation of agency data
- State lead real time data similar to air monitoring
- Are enhancements improving water quality?

What asks and offer do you have of those in the room and of the state?

Large Group Discussions

- Promote data rehab with local water master office and BOR – two agencies that run gages
- Expand soil moisture monitoring to support watershed health with BLM
- CWS implemented watershed based permit and water quality trading program – get ahold of them
- CWS has modeling group working water supply and water temperature work – Tualatin area
- ODE have information on where hydro or new hydro might be, and data and funds for hydro/water needs
- Ask that disadvantages groups have an easy way to inform the water vision
- Share case studies of solving problems and how overcome, and examples of existing studies and how integrated work could lead to results
- Beaver Creek streamflow data in Lincoln County
- Evaluation data on the risk of climate change on of wastewater infrastructure
- PHAS contamination
- OHA has an inventory of municipal and non-municipal drinking water systems, in the process of mapping public water systems in the state, and location of private water systems
- OSU Climate Toolbox – web available and great tool to see potential climate impacts
- City of Salem and Clatsop County – available streamflow and other water supply data
- Information to county commissioners on behalf of Water Vision
- Would be nice to be included in future Water Vision meeting – want to see where things go
- Municipal groundwater mitigation program
- State assemble task team about diverting and mobilizing water where we need it in the future – real team
- Oregon Lakes Association – eastern dry land lakes, especially Lake Albert
- Interested in LiDAR and bathymetry data to help map volume
- Harmful Algal blooms – OLA interested in being a part of this information in the future
- Cow Creek Tribes – funds for Winchester Dam Gage, offer Lamprey distribution data for Southern Oregon
- Wastewater providers – quite a bit of expertise related to water quality issues and strategies – relate to One Water strategies, these groups have tons of information, but not money, time, and resources
- Ask that there be funds focused on mining rich dataset of privately collected data

- Ask that state natural resource agencies work together to facilitate out-of-the-box thinking and processes that allow projects that need to happen – funding and regulatory – enable projects to move forward, and state agencies develop internal cultures that support this idea
- Counties – convene group meetings directly with all of the stakeholders
- Ask that data be consolidated and be accessible – don't make a report and stop
- Ask bill 3182 be passed – on-site potable water reuse
- Ask OWRD to work with USGS to retrieve discontinued gages
- Ask ODFW to carry out more BIRs to understand fish and resource needs now and in the future
- State – please fund more analysis for long-term needs for population and food needs for water
- Ask OWRD- how much is available for storage? When and where?
- How do interested folks connect with education on water conservation? Lane Community College willing to do education in Lane County.
- Recode is developing a water reuse tool statewide – code, policies, incentives
- Ask of state – provide more PR about water crisis or climate change- diffuse misinformation and provide data resources
- Ask of state – build platform for coordinated data access – indexing of available databases at multiple scales with major local, state, federal partners
- Ask of state – more of this conversation with a local habitat conservation plan group – Upper Deschutes water basin, irrigators unwilling to take less water and release more, some public education might help
- Offer – USFS – Joy – lots of data, but needs direction on what kind of data people need, suggest a meeting between USFS and state to outline needs
- Track down university resources at Willamette for people that have projects that involve policy oriented changes

Small Group Discussion

Offers

- We have... climate change impact data and analysis for the Clackamas river water pro...
- Identify water conservation opportunities (my offer)
- Tillamook estuaries partnership has 20 or more years of bacteria levels in Tillamook country's rivers, creeks and bays
- Lower Nehalgy watershed council and salmon super highway have Tillamook country culvert inventory

- Ted Dewitt's group (EPA, Newport) has ocean acidification nutrient load etc. research results
- Oregon water utility council can provide expertise in management and funding challenges
- Offer: Continue to support local monitoring efforts stream WQ, pesticide stewardship partnership, effectiveness monitoring soil moisture monitoring
- Able to provide details on funding problems for private non special district water systems
- Offer: Construction cost information of water infrastructure projects
- Oregon farm bureau: we would like to work with the state to begin to understand the on farm water supply and conservation needs to be able to assess both long term ag water demand and conservation needs
- With appropriate sideboards that address landowner privacy concerns
- After speaking with Finne MacDonald (CWS) it may be possible to collect new data and develop new IDF curves for hydrologic analysis. These new IDF curves would be based on a model developed from the UN. climate protection model. It will take time and money and legwork to develop a group interesting in this update. Need a gauge on the Willamette at Martis confluence
- Offer: Recode is developing a jurisdictional water reuse tool for development. The tool maps pathways with every source, fixture, reuse and disposal mechanisms. The tool will cover the entire state
- Any watershed talks that need water conservation education
- Workforce steps cervantesb@lanece.edu
- Me- Work closely with participants in the LJD place based group to recode water allocation
- Marion SWCD has technical free assistance for grants for water/soil/wetlands riparian invasive projects for land in Manan Co.
- I can offer all the watershed data that city of Salem collects analyses and streams Nathan Josh city of Salem
- Data water temp (continuous) for 30 stream sites in Clatsop CO collected by north coast WS association
- We have a method for simulating the daily flows in the 9000 reaches of the Willamette river basin, under different assumption about future climate out to the end of this century. We are making this model publicly available. The model in NSF-funded and published in the proceedings of the National Academy of science steering committee for the CW3M model Rebecca McCocin chair David Couklin tech support. Rebecca is the director of the N Santiam WC Dave is with Oregon Freshwater Solutions

- We could create a data gap analysis specific to our organization to help focus the data depends focus on infrastructure watershed plans etc.
- I have information on hydrology of terminal lakes in eastern or Ron Larson
Rlarson@ccountry.net
- Oregon lakes association has expertise to advise on developing a HABs state wide program oregonlakes.org
- theo.dreher@oregonstate.edu OSU micro has specific information on cyanobacterial HABs genomics in Oregon -- use in monitoring reason understanding
- USFS Joy Archuleta Our agency has lots of data. We would require same direction on what data you are requesting
- Suggest meeting with state to outline the request
- Locate university resources for policy oriented analysis. Willamette University. Susan Smith
- 30-120 days I will continue to stay engaged and provide input
- AVWA we can offer expertise related to water quality issues and strategies
- L.... distribution data for Southern Oregon Database managed by Teba
- Continued honesty and engagement with process/ framework for collaborative partnership
- ACWA committee meetings are offered as info share opportunities
- Jay MacPherson 541-726-2587 x57 spatial temperature patterns due to impacts of climate change OSU climate toolbox. OHA DWS has inventory of municipal and non-muni drinking water treatment systems location mapping effort underway security concerns. Drinking water source protection plans DEQ for surface OHA for ground water. Location and quality of private water systems (incomplete)
- Evaluation data on impact on wastewater facility assets from seismic event. (Eugene/Springfield water pollution control facility)
- Data results of PFAS analysis wastewater influent effluent bio solids (Eugene/Springfield water pollution control facility)

Asks

- 2020 session: fund the 2 ODFW water positions that didn't get funded in 2019
- 2021 session: fund NR agencies more, fund ODFW's water program, fund WRD's water quality work; water masters science, require measurement and reporting
- Set irrigation efficiency standards, require public interest test of transfers, enforce the law, and don't issue water rights when you didn't have science or data to show resource can sustain it.

- I would like to expand the soil moisture monitoring capacity and network in order to inform agencies such as BLM or to support watershed health monitoring --Paul Demaggio JSWCD Meta? NRCS? BLM?
- Promote data rehab local OWRD and BOR
- Passing house bill 3182 "risk based framework for onsite non portable water reuse" will allow acceleration in water conservation and increase public health risk. This is "modernization of Policy and code goal identified today. Pat@recodenow.org recode
- Consolidate data
- OWRD to work with USGS to retrieve the discontinued gauges
- ODRD to carry out more basin investigation studies to understand fish/instream needs now and in future
- To state more technical assistance to small water systems
- We need LIDAR data on lake basins in eastern or and state lands. we need instream flow measurements for the lower Chewaucan River OWRD oregonlakes.org
- Funding for Wincluster Dam Gorge money cubs out at early Nov 2019
- Convene group meetings directly with association of Oregon counties league of cities farm bureau cattlemen and large environ advocacy groups
- State agencies develop a vision and organizational culture that will support out of the box expansion of flexibility to facilitate the type of projects and initiatives that are needed to achieve 100 year vision goals
- Share case studies depicting problems and how the obstacles were overcome
- Ask what existing problems need to be solved and use for an integrated solution among agencies and parties. Problem equals opportunity worksheet
- Water stream data for Beaver Creek. There has been some studies done in past. Are these rewards available? How do we get access to this historic information? Adenlingler@srwd.org 541-563-3599
- Temp mitigation is based on salmon fish
- What about mitigation value for cold water refuges?
- Work a current backlog of permits water rights and other regulated aspects of water
- What effects have past watershed restoration investments had on water quality? How do we know?
- Is there data linking soil health/quality to water quality?
- Would like to see... state investment and commitment in OHA-BWP and WRD via staffing and general funding
- More stream gauges
- Cover more debris with gauges
- More WQ standards

- More meteorological statistics
- Better organized access to data
- Transparent data collection and instrument collaboration
- water availability analysis statewide
- More hydrogeological data
- More state specific data
- State funding and/or other support (technical assistance.. etc.) to conduct data collection
- Reduce complications and risks of accessing funding and grants e.g. easier process, less long-term standings to operations, clearer potential risks to water rights etc.
- Regulatory/mgmt. processes to allow for experimental or trying new/different actions to address potential/actual concerns
- Simplified reporting requirements
- Removing risk or negative consequences to sharing data with potential regulators or the general public
- Continue to invest in existing and add additional stream gauges (staff action)
- Expedite grant revision and contract process
- Could we fly flir with LIDAR to identify refuges?
- Hood river basin study- hydraulic model that factors in climate change model, existing water use, potential water conservation scenarios and stream habitat (IFIM). Could be a good example of what could be replicated across the state at a slightly larger scale.
- Method for the state to share a comprehensive data set for a basin. One place to go to obtain all existing data from all state and federal agencies would provide a big head start in analysis place based planning
- Make spatial data (e.g. infrastructure water quality limited agencies) all available in one place
- In the long run, have/offer funding to public universities in Oregon to support data collection and analysis related to water vision topics
- For publicly available data, provide graphical user interfaces so that the public can query and interpret data more easily
- Support creative solutions for regional complex problems especially with staff and new tools
- Budget line item(s) to fund both national estuary programs (lower Columbia and Tillamook) at some level to support restoration projects
- State managed data repository (single website) for ecological data population growth projections, water needs
- Make aging infrastructure a budgetary priority even in rural areas

- Provide funding
- Follow up through implementation
- Don't create another new fund- use ones that already exist
- Communicate policy changes
- Take this information back to the region for discussion
- More support on state programs and funding resources
- Stop suing each other
- Provide number of private water associations
- Make immediate steps to change state funds to be available to all private water systems
- Temperature load reduction attributed to irrigation causal piping. How much thermal load could be offset?
- Oregon farm bureau: we would like to work with the state to begin to understand the on farm water supply and conservation needs to be able to assess both long term ag water demand and conservation needs
- With appropriate sideboards that address landowner privacy concerns
- Curriculum for water conservation/efficiency
- How to connect with interested folks/agencies to help with education of communities/small systems
- Any watershed talks that need water conservation education
- State- please fund more analysis to interpret data in longer term needs/demand have on population models and food needs
- OWRD you say water is available for storage by how where when and how much can be allocated to farmers?
- Give access to data
- Don't just make a report and stop
- Eliminate or archive historical data that is not contributing to solutions
- Work with Louise John day place based planning group to prioritize watersheds in terms of water needs and identify short term and long term solutions and actions for implementation
- City of Salem be included in core visionary meetings in the future
- Better municipal stormwater mitigation to protect fragile water systems --Legislatively required maybe comp plans on land use?
- Water conservation efforts and required conservation measures for new development (land use issue)
- I believe the single most important item or priority based on today's efforts is for the state to assemble a task team to create a plan around diverting/mobilizing water where

we need it. That single item could address multiple issues raised today. It all starts there!! Form a team!!

- More focus top down on conservation and water issues, better informed communities of concerns and needs regarding water for the future all topics
- Give report to Clatsop soil and water cons. district on issues brought up here
- Hold work session for county commissioners to convey to them the discussion and ideas brought out in this meeting
- Citizen involvement and engagement make the water goals and issues more public and better education and understanding water master plan data concerns, budgeting
- Citizen involvement opportunities to bring a different perspective to the conversation
- OWRD to adopt CW3M for the Willamette river basin and use CW3M's approach of methods for other parts of the state Dave Coutzliu Oregon Freshwater Simulation
- How will/can the state support local community's organizations, municipalities in their implementation of actions to achieve the vision? Ways to downscale the vision to a county for example? The funding for projects related to the vision? Etc.
- Build complex platform for coordinated data access at multiple scales with major fed, state and local government partners
- Data and analysis re: ecological flow needs from uses QS21 USFWS NOAA ODFW WATERWATCH on watershed basis
- Have more of the conversation with a local habitat conservation plan group- the proposal has a huge impact on upper Deschutes water basin
- Irrigators are not willing to take less and release more
- Can the state provide more P/R about the water crisis and or climate change
- Help diffuse misinformation provide resources for data
- Local government agencies need/ask for stare. NR agencies to work in partnership with local government to create a stream lined pathway (regulatory) to get water and ecosystem projects that achieve or vision goals done