2019-2021 Biennial Report

The *Oregon Plan* for Salmon and Watersheds

Contents

Investments and Accomplishments

The Oregon Watershed Enhancement Board (OWEB) invested over $96 million for watershed enhancement projects in Oregon during the 2019-2021 biennium. This total includes funding from the Oregon Lottery, Pacific Coastal Salmon Recovery Fund, salmon license plate revenues, and other sources. These dollars leverage significant funding that is provided by other agencies and partner organizations, increasing the impact of OWEB funding throughout the state (Figure 1). Partners under the Oregon Plan for Salmon and Watersheds (Oregon Plan) are as important and diverse as the actions they undertake to benefit salmon and watersheds. These partners include landowners, non-profit organizations, local businesses, tribes, and all levels of government, each contributing to collaborative investments designed to support priority conservation actions across the state.

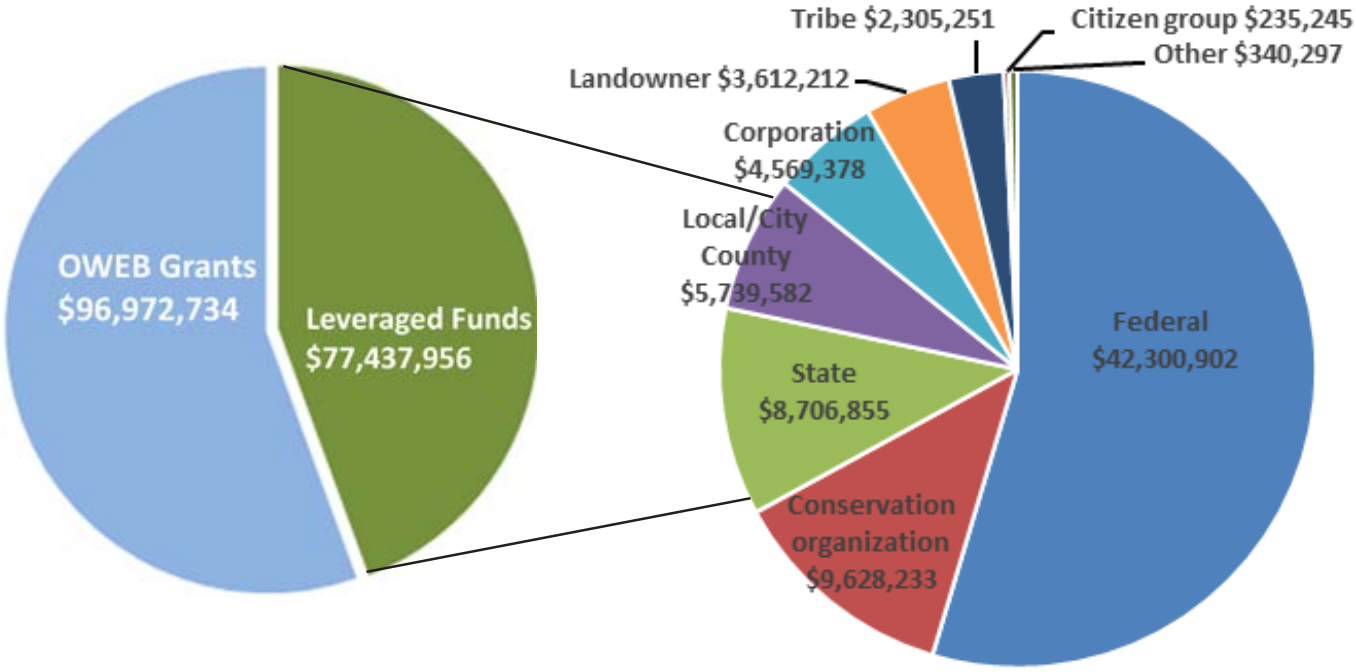


Figure 1. Grants awarded by OWEB and the amount of leveraged funds contributed by grant participants. Data are provided from the OWEB Grant Management System from 7/1/2019 through 6/30/2021. OWEB has specific requirements for matching funds. Leveraged funds further grant objectives and are necessary to achieve the project's proposed outcomes, but may include funds that are additional to what the grantee is claiming for OWEB's required matching funds.

Every two years, Oregon Plan agencies provide information included in this Biennial Report. The actions funded by OWEB are required to be reported to the Oregon Watershed Restoration Inventory (OWRI), a restoration database maintained by OWEB for several reasons: 1) to document how public funds are spent, 2) to quantify restoration and conservation results to inform future planning, management and conservation efforts, and 3) to recognize the contributions made by various partners. Some organizations, such as private timber companies and small woodland owners, also report to OWRI to document additional actions—above and beyond those required by regulations—that they have taken to enhance the state's watersheds. Additionally, the U.S. Forest Service (USFS) and the Bureau of Land Management (BLM) provide summary information to OWEB to provide a more comprehensive picture of restoration work across the state.

Watershed Metric	Oregon Watershed Restoration Inventory (OWRI)	OWRI Compared with 2017-19 biennium	BLM	USFS	Total
Riparian Miles (e.g., Streamside Plantings)	206 miles	85 ↓	--	5	211
Instream Habitat Miles (e.g., Wood Placement)	111 miles	22 ↑	45	111	267
Miles of Fish Habitat Made Accessible (due to stream crossing improvements)	142 miles	56 ↑	43	85	270
Stream Crossings Improved for Fish Passage	94 crossings	32 ↑	11	45	150
Push-Up Dams Retired to Improve Fish Passage	6 dams	2 ↑	8	--	14
Fish Screens Installed on Water Diversions	17 screens	20 ↓	--	3	20
Upland Acres (e.g., Juniper Thinning, Seeding)	72,484 acres	1,288 ↑	240,777	7,262	320,523
Wetland Acres (e.g., Wetland Habitat Created)	1,514 acres	189 ↑	6,080	--	7,594
Miles of Road Closure and Decommissioning	6 miles	5 ↓	5	177	188
Miles of Road Improvements (e.g., Erosion Control)	31 miles	36 ↓	--	27	58
Miles of Riparian Invasive Treatments	299 miles	7 ↑	--	--	299

Table 1. Metrics for watershed restoration activities completed and reported from 1/1/2019 to 12/31/2020 as reported by state and voluntary sources (OWEB's Oregon Watershed Restoration Inventory). Where comparable data standards were applied, metric data is provided from the Bureau of Land Management [BLM] and U.S. Forest Service [USFS]. Federal information excludes projects already reported to OWRI. BLM upland habitat reflects significant east-side hazard fuels reduction. USFS metric does not include full total of actual upland acres treated by USFS.

Additional Information Available Online

Several online resources provide additional information about the Oregon Plan for Salmon and Watersheds accomplishments.

During the 2019-2021 biennium, OWEB continued work under a targeted grant offering, Telling the Restoration Story, initiated in the previous biennium. The offering identifies areas where agency investments have yielded quantifiable restoration outcomes and describes the factors that contribute to success. At the time of this report, nine projects have been completed, encompassing a variety of restoration actions throughout the geography of the state. Each project is producing a suite of outreach products. For more information see Telling the Restoration Story (geo.maps.arcgis.com/apps/webappviewer/index.html?id=7bc381f4422944778431a65f2b9b7fd6).

Information about investments in Oregon Plan basins is available through online mapping tools and can be customized into reports for local areas. Oregon Explorer (oregonexplorer.info) provides access to these statewide datasets and mapping tools. The OWEB Investment Tracking Tool (oregonexplorer.info/content/oweb-investment-tracking-tool) provides information about where OWEB funds are invested across the state. This tool shows grants in progress as well as completed projects. Information about OWEB primary grant types is available for each Oregon Plan reporting basin, and can be shown for each subbasin, watershed council, or Soil and Water Conservation District (SWCD) boundary. Through the Oregon Watershed Restoration Tool (tools.oregonexplorer.info/OE_HtmlViewer/Index.html?viewer=owrt), restoration information can be filtered for each of the Oregon Plan basins, sub-basins, or watershed councils. Data can be shown by restoration activity type on the mapping tool by county, legislative districts, or watershed council or SWCD area. The tool offers the ability to create custom reports that list the restoration data (e.g., stream miles treated; upland acres treated) and graph the data for specific areas and timeframes of interest. For these online tools, information is uploaded each calendar year, and is current as of OWRI's most recent calls for data.

Coordinated Actions Around the State

Collaboration is the heart of the Oregon Plan, and coordinated efforts continued throughout the 2019-2021 biennium. The Oregon Water Vision launched an ambitious approach to address crucial water challenges facing the state over the next 100 years. In addition, state agencies and partners continue work on several important initiatives, for example: updating Oregon's climate change adaptation framework; implementing the Greater Sage-Grouse Action Plan; addressing challenges with tide gates along the coast; and planning for the removal of four dams on the Klamath River to benefit native fish and water quality. Efforts to identify efficiencies in water related monitoring and reporting continued through interagency teams such as the STREAM Team and the Conservation Effectiveness Partnership. Strategic investments in local partnerships working to achieve ecological outcomes continued through the Oregon Water Resources Department's (OWRD) Place Based Planning program and OWEB's Focused Investment Partnerships.

Inter-Agency Initiatives that Describe or Address Monitoring and Information Needs

Water: In 2018, Oregon initiated a collaboration to steward the state's water resources under a changing climate and shifting demographics. Working towards a long-term, 100-year vision (www.oregonwatervision.org), the initiative engaged Oregonians to help frame the vision and identify key information gaps and ways to address them. The Water Vision builds on the Integrated Water Resources Strategy (IWRS) (www.oregon.gov/owrd/wrdpublications1/2017_IWRS_Final.pdf), an inter-agency framework to manage Oregon's water needs and supplies under increasing challenges. Updated in 2017, the IWRS includes specific recommendations for improved water resources data collection and monitoring methods and investing in healthy ecosystems. At the close of the 2021 session, the Oregon Legislature approved over $530 million in water and infrastructure funding to improve access to clean water in cities and counties across Oregon.

Place-based planning: Place-based integrated water resources planning (also known as place-based water planning) is a voluntary, locally initiated and led effort, in which a balanced representation of water interests work in partnership with the state to understand and meet their instream and out-of-stream water supply needs. Place-based planning provides a framework and support to implement the Integrated Water Resources Strategy, and the many recommended actions it contains, at the local level. Across Oregon, four partnerships are continuing to make progress towards developing integrated water resource plans, funded through OWRD and other partners. Agencies also work together to provide guidance and technical assistance to the planning efforts. Each of these partnerships is highlighted in the Oregon Plan Reporting Basins section of this report. In 2021, the Oregon Legislature authorized additional funding for these groups to complete plans and transition to implementation. For a series of updates and the status of each planning effort, see OWRD's Place-Based Integrated Water Resources Planning (www.oregon.gov/OWRD/programs/Planning/PlaceBasedPlanning/Pages/default.aspx).

Climate Change: Along with a general trend towards warming temperatures, climate change brings high variability in natural events such as floods, droughts and fire. All of these events have potential to impact OWEB's investments. At the same time, OWEB project activities have potential to contribute climate benefits for public health and the economy. To guide the agency towards climate-smart actions throughout its operations and investments, the OWEB Board established a Climate Committee in 2020.

In addition, in the 2019-2021 biennium, OWEB participated in two key statewide initiatives:

- Oregon's natural and working lands offer significant climate benefits through the ability to sequester carbon. In 2020, Governor Brown issued Executive Order 20-04 on Climate Action, calling for natural resource agencies to address the climate crisis, and charging the Oregon Global Warming Commission to complete the states' first Natural and Working Lands carbon sequestration proposal (Keeporegoncool.org/natural-working-lands).
- Updated in 2021, the Oregon Climate Change Adaptation Framework (www.adaptationclearinghouse.org/resources/the-oregon-climate-change-adaptation-framework. html) identifies key risks and

recommendations for agency and stakeholder actions to address this emerging challenge to the state's natural resources and local communities. Many state agencies participated in the process to identify short and long-term strategies for adapting to the effects of climate change, including impacts on watersheds and aquatic habitat. The Department of Land Conservation and Development coordinated the update process and continues to facilitate implementation of Framework strategies in cooperation with agencies.

Fire Restoration and Recovery: In response to the catastrophic wildfires in 2020, the Oregon Departments of Environmental Quality and Forestry, along with OWEB co-convened a State Natural and Cultural Resources Recovery Task Force with multiple state, federal, and Tribal partners that provided critical coordination and implementation in the recovery response. Among other activities, the task force compiled assessment data on areas impacted by the wildfires and identified priorities for restoration action based on impacts to drinking water sources, soil stabilization and slope stability, and areas of potential risks to cultural resources. To address these priorities, the Oregon Legislature in 2021 provided funding to expand tree seedling capacity, upland and riparian reforestation, and floodplain restoration and reconnection.

Conservation Effectiveness Partnership (CEP): CEP (www.oregon.gov/oweb/resources/Pages/CEP.aspx) is a collaborative effort among the Oregon Departments of Agriculture (ODA) and Environmental Quality (DEQ), the Natural Resource Conservation Service (NRCS), and OWEB, with the recent addition of the Oregon Department of Fish and Wildlife (ODFW). CEP aims to describe the effectiveness of cumulative conservation and restoration actions in achieving natural resource outcomes through collaborative monitoring, evaluation and reporting. In the 2019-2021 biennium, the group completed a technical report describing the outcomes of no- or minimum-till practices in Wasco County's Fifteenmile Creek; initiated a case study describing the long-term water quality monitoring outcomes in Floras River watershed in Curry County; and initiated the first prospective watershed case study in Thirtymile watershed, Gilliam county.

Tide Gates: A primary limiting factor for Oregon coastal coho population growth is access to winter rearing habitat within estuaries. Tide gates have historically been used on the Oregon coast to convert coastal wetlands into agricultural fields by controlling the flow of brackish estuarine waters. Tide gates can affect the ability of coho to access estuarine habitat that is crucial to their life cycle. Efforts to address issues with replacing tide gates with fish-friendly alternatives are being coordinated through the Oregon Tide Gate Partnership (oregontidegates.org), including state and federal agencies, conservation organizations, industry groups and local communities. In the 2019 – 2021 biennium, the Partnership 1) completed and published the Oregon Tide Gate Inventory (https://oregontidegates.org/tide-gate-inventory/); developed the Tide Gate Decision Support Tool (https://oregontidegates.org/decision-support-tool/); 3) completed process mapping (https://oregontidegates.org/regulatory-process/) for the regulatory permit process for tide gate project applicants; 4) made significant progress on the development of a pipe-sizing tool to assist with tide gate engineering; 5) coordinated with the Oregon Business Development Department to develop a new Tide Gate Grant and Loan Program that funded 13 planning and four construction projects; 6) hired a full time Tide Gate Coordinator position to provide assistance and coordination to tide gate owners, local partners, and agencies involved in tide gate upgrades.

Sage Grouse: The SageCon Partnership (sageconpartnership.com) brings together landowners, agencies and interest groups to address threats to sagebrush rangelands and the species that rely on them. Through implementation of the 2015 Oregon Sage-Grouse Action Plan (https://oregonexplorer.info/content/oregon-sage-grouse-action-plan?amp%3Bptopic=179&topic=203), the state has developed tools and resources to guide coordinated implementation, and partners have invested heavily in on-the-ground actions to improve habitat. See the SageCon Dashboard (https://oe.oregonexplorer.info/externalcontent/sagecon/SageCon_Dashboard.pdf) for more information on the status and trends of sagebrush rangeland condition, sage-grouse populations, and collaborative conservation efforts in southeastern Oregon.

Strategic Enterprise Approach to Monitoring (STREAM) Team: This partnership of seven natural resource agencies collaborates regularly on technical issues related to water monitoring and information needs. STREAM Team is discussing the value of sharing continuous water temperature datasets among agencies to

better track and understand the impact of climate change on Oregon water resources. The team also maintains a mapped catalogue of current state natural resource monitoring locations for planning and sharing monitoring information.

Water Monitoring

Statewide streamflow monitoring: OWRD works with the U.S. Geological Survey, U.S. Bureau of Reclamation, and others to operate a statewide network of gauging stations that is essential for the management of Oregon's water resources. In addition to gauges run by partners, OWRD operates more than 250 gauges. Monitoring streamflow (apps.wrd.state.or.us/apps/sw/hydro_near_real_time) is essential for regulation and distribution of water rights, including those for instream uses, according to priority date. OWRD also requires water use measurement where needed in order to ensure compliance with water rights and to distribute and manage water.

Statewide ambient water quality monitoring: The Oregon Department of Environmental Quality (DEQ) maintains a network of over 150 ambient water quality monitoring stations throughout the state. Testing occurs for water quality variables such as temperature, dissolved oxygen, nutrients, pH, turbidity, conductivity, chlorophyll a, fecal indicator bacteria and other water quality parameters. The data from this and many other water quality monitoring programs is publicly accessible online (https://www.oregon.gov/deq/wq/Pages/WQdata.aspx). The Oregon Water Quality Index (Oregon.gov/deq/wq/pages.wqi.aspx) provides information on trends in some of these variables over time throughout the state.

Oregon DEQ Toxics Monitoring: DEQ's laboratory collects water samples from across Oregon. Sites include coastal estuaries, large rivers, and small streams. The program analyzes samples for over 500 chemicals, including metals, pesticides, consumer products, industrial chemicals, and flame retardants. Beginning in fall of 2019, the toxics monitoring program (www.oregon.gov/deq/wq/Pages/WQ-Monitoring-Statewide.aspx) transitioned from risk identification toward a trending network of sites based on data previously assessed by this program and other spatial considerations. Due to travel restrictions created by the pandemic, the toxics monitoring programs focused on the Willamette Basin and the impacts of wildfires in 2020.

Temperature Monitoring: DEQ continued its partnership with ODFW conducting long-term continuous temperature monitoring at 21 stations along Oregon coastal streams. While DEQ leads water quality monitoring in Oregon, monitoring responsibilities are shared among other natural resource agencies. The Oregon Department of Agriculture (ODA) occasionally collects information about water quality to support the Agricultural Water Quality Management Program, and the Oregon Department of Forestry (ODF) conducts research and monitoring to verify that forest management practices maintain water quality. Throughout Oregon, local organizations with strong community ties – watershed councils (www.oregon.gov/oweb/resources/Pages/Watershed-Councils.aspx), SWCDs, and others – gather on-the-ground information about water quality, stream flow, and other indicators of watershed condition. Many of these organizations are supported by DEQ's Volunteer Monitoring Coordinator through the provision of water quality instrumentation, the development of monitoring plans, and through data review and management services. Most of the data is submitted to DEQ and publicly available via DEQ's Ambient Water Quality Monitoring System (AWQMS) at https://www.oregon.gov/deq/wq/Pages/WQdata.aspx.

Fish Population and Habitat Monitoring

ODFW continues to conduct extensive fish and habitat monitoring throughout Oregon. This monitoring is described and called for in numerous conservation and recovery plans that the Department has developed with extensive external input. These plans describe specific, measurable criteria for conservation and recovery, and provide a common framework for all partners to coordinate, monitor and track their progress on conservation and recovery efforts.

Throughout the 2019-2021 biennium, ODFW continued to lead long-standing Oregon Plan monitoring programs. The Aquatic Inventories Project (odfw.forestry.oregonstate.edu/freshwater/inventory/index.htm) collects data on stream habitat and juvenile salmonids using a rigorous quantitative stream survey methodology. The Oregon Adult Salmonid Inventory and Sampling Project (odfw.forestry.oregonstate.edu/spawn/index.htm) coordinates and conducts salmon and steelhead spawning ground surveys. The Salmonid Life Cycle Monitoring Project (https://odfwlcm.forestry.oregonstate.edu/) operates traps to estimate abundance and survival of adult and juvenile salmonids, as well as effects of habitat modification on populations. Each project also conducts research to evaluate and improve fish and habitat inventory methods. ODFW is actively working to add new monitoring and assessment tools. For example, monitoring with environmental DNA (eDNA; detecting fish and other aquatic organisms using DNA that has been shed into the water) has potential to expand the number of native species monitored, provide information on species distribution and improve detection of aquatic invasive species. ODFW is also working to develop tools to better forecast stream temperatures and flows to support climate resilient conservation planning and management actions.

Status and trend monitoring results are available through reports for specific projects and conservation plan implementation reports as well as through the Salmon and Steelhead Recovery Tracker (www.odfwrecoverytracker.org) or StreamNet (www.streamnet.org). Fish distribution information is available from the Natural Resource Information Management Program (https://nrimp.dfw.state.or.us/nrimp/default.aspx?p=259) and through the Oregon Fish Habitat Distribution and Barrier Data Viewer (https://nrimp.dfw.state.or.us/FHD_FPB_Viewer/index.html). The Oregon Conservation Strategy (www.oregonconservationstrategy.org) and the Oregon Nearshore Strategy (oregonconservationstrategy.org/oregon-nearshore-strategy/) describe key conservation issues, limiting factors, and priority monitoring needs for fish and wildlife species of conservation concern throughout the state.

Integrated Monitoring Projects with Statewide Relevance

Intensively Monitored Watersheds (IMWs) are watershed-scale monitoring efforts designed to answer questions that typical project-level effectiveness monitoring cannot. IMWs look at an entire suite of restoration actions at a larger watershed scale and attempt to determine how these combined restoration actions affect physical and biological conditions. Located throughout the Pacific Northwest, results from IMWs are informing ongoing restoration programs as the coordinated effort reaches completion. For an example IMW project within Oregon, see the Upper Middle Fork John Day River IMW (www.oregon.gov/oweb/data-reporting/EM/Pages/IMW.aspx).

Oregon Plan Agency Programs

The work done regularly within state natural resource management agencies is crucial to the Oregon Plan. Highlights of programs and recent progress related to the Oregon Plan are described below, with updated links to further information.

Business Oregon

Business Oregon (www.oregon4biz.com) is Oregon's economic development agency, providing resources to emerging and innovative business operations throughout the state. Throughout the 2019-21 biennium, Business Oregon continues to provide financial support for the environmental strategies outlined in the Oregon Plan. Project subjects include tide gates, brownfields, water, and wastewater management, with several new projects awarded to provide benefits to communities in rural Oregon. Additionally, Business Oregon partners with DEQ and the Oregon Health Authority to implement the Drinking Water Source Protection program. While the program's primary focus is protecting public drinking water quality, many studies and projects implement actions that protect watersheds, such as efforts to reduce sediment deposition and associated water turbidity. Recent coordination efforts with DEQ have resulted in Business Oregon managed grant awards that represent partnerships with watershed councils and federal landowners.

Oregon Department of Agriculture (ODA)

ODA (www.oregon.gov/oda) works closely with stakeholders including Oregon's Soil and Water Conservation Districts (www.oregon.gov/ODA/programs/NaturalResources/SWCD/Pages/SWCD.aspx). ODA supports the Oregon Plan through the agency's Natural Resource Programs, including the Agricultural Water Quality Management Program, Agricultural Drainage Channel Maintenance Program, programs to support the proper use of pesticides and fertilizers, and through its noxious weed and insect pest prevention and management programs.

Oregon's Agricultural Water Quality Management Program is a vital part of the state's strategy for improving the condition of the state's waters. The program works with Oregon's 38,000 farms and ranches, which vary significantly in size, products grown, climate, and ownership. In the 2019-2021 biennium, focused work in small watersheds called Strategic Implementation Areas (SIAs) was an important area of emphasis for the program.

ODA's Pesticide and Fertilizer Programs include Oregon's Pesticide Stewardship Partnerships (PSPs). PSPs help local partners identify specific pesticide concerns, encourage improved management practices, and support the voluntary reduction of pesticide impacts. DEQ assists ODA in coordinating with local partners, conducts lab analyses, and helps evaluate pesticide data in support of PSP efforts. ODA works closely with other state natural resource agencies and stakeholders to identify, guide, and evaluate PSPs. During the past biennium, nine PSPs continued ongoing efforts (Walla Walla, Wasco, Hood, Clackamas, Yamhill, Pudding, Amazon, Middle Deschutes, and Middle Rogue).

ODA's noxious weed and insect pest prevention programs focus on early detection and rapid response to invasive species before they gain a foothold in the state. Much of the program's work focuses on preventing and managing insect and plant pests that have the potential to damage watershed health. The noxious weed program works closely with local partners to manage priority weeds of concern and, in some cases, deploys bio-control agents such as a newly released agent for gorse. The insect pest prevention and management program monitors for economically and environmentally damaging pests and initiates treatments to keep these species out of the state. The program continued multiple large-scale treatment projects during the 2019-2021 biennium and greatly appreciated the collaboration of local partners to assist with pest monitoring after the COVID-19 public health emergency disrupted the program's planned 2020 trapping schedule.

Oregon Department of Environmental Quality (DEQ)

DEQ (www.oregon.gov/DEQ/pages/index.aspx) is responsible for protecting surface and groundwater to provide for a wide range of uses, including drinking water, recreation, fish habitat, aquatic life, and irrigation. The DEQ develops water quality standards, monitors water quality, and provides other services to control and monitor point and nonpoint source pollution. The DEQ also establishes Total Maximum Daily Loads (TMDLs) on water bodies that do not meet water quality standards. A TMDL identifies the amount of a pollutant that a water body can receive and still meet water quality standards. Throughout the 2019-2021 biennium, DEQ continued to develop and implement TMDLs. During this period, DEQ also developed water quality status and trend reports statewide. Water quality status and trend reports evaluate water quality standards attainment and trends using water quality monitoring data available in public databases. The results are used to support a number of water programs including DEQ's review of Agricultural Water Quality Management Area plans and rules; and for assessment of progress implementing Total Maximum Daily Loads. During the 2019-2021 biennium, DEQ undertook and completed significant improvements to the biennial assessment and reporting of statewide surface water quality data to EPA. Major upgrades to this 'Integrated Report' (https://www.oregon.gov/deq/wq/Pages/WQ-Assessment.aspx) included a statewide data call, enhanced methodology for evaluating and displaying results, and the establishment of a modernized framework and foundation for future assessment work. DEQ also co-managed the implementation of the Oregon Pesticide Stewardship Partnership Program (PSP) with ODA.

Oregon Department of Fish and Wildlife (ODFW)

ODFW (www.dfw.state.or.us) develops conservation, recovery, and management plans for Oregon's native fish (www.dfw.state.or.us/fish/CRP/conservation_recovery_plans.asp) and wildlife (www.dfw.state.or.us/wildlife/management_plans/index.asp) species. These plans assess populations and describe management strategies and actions for the species and their habitat. Plans are developed in pursuit of ODFW's mission to protect and enhance Oregon's fish and wildlife and their habitats for use and enjoyment by present and future generations and they support the Oregon Plan. Many different parts of the agency are involved in developing and implementing these plans, and certain plans have specific Implementation Coordinators that guide internal and external plan actions. ODFW also has numerous programs dedicated to watershed protection and improvement, including programs covering Wildlife Habitat, Water Quality and Quantity, Fish Passage, Fish Screening, and Western Oregon Stream Restoration. ODFW will also be implementing a new Habitat Division during the 2021-2023 biennium.

Oregon State Police (OSP), Fish and Wildlife Division

The mission of OSP is to develop, promote, and provide protection to the people, property and natural resources of the state, along with ensuring the state's safety and livability. The purpose of the OSP Fish and Wildlife Division is to assure compliance with laws which protect and enhance the long-term health and equitable utilization of Oregon's fish and wildlife resources. Recent issues and progress are published monthly in OSP's Fish and Wildlife newsletter (www.oregon.gov/osp/programs/fw/Pages/Newsletter.aspx).

Oregon Department of Forestry (ODF)

ODF (www.oregon.gov/ODF/Pages/index.aspx) manages state-owned forestlands in Oregon and administers the Forest Practices Act on non-federal forestlands to ensure that water quality and resource protections are maintained during and after commercial forest operations. Under the Federal Forest Health Program, ODF works closely with the United States Forest Service (USFS) and local partners to increase the pace and scale of restoration in Oregon's national forests. ODF monitors the implementation and effectiveness of FPA rules to maintain water quality and fish habitat such as analysis of large wood and riparian habitat. These efforts continue to support watershed health, jobs, and economic development in Oregon's rural communities.

ODF also maintains a landowner assistance program that helps conserve a working landscape across non-industrial private forestlands. ODF leverages partnerships with federal, state, and local agencies to provide technical and financial assistance to non-industrial private forest landowners interested in managing their forests for a variety of economic, environmental, and social benefits. Primary federal partners include the USFS, Natural Resources Conservation Service (NRCS), and the Farm Services Agency. ODF's Stewardship Foresters are available to assist landowners with forest management planning that enables access to financial assistance grants – primarily through the NRCS Environmental Quality Incentives Program – for a variety of activities that are focused on reducing fire severity, as well as enhancing overall forest health and water quality. Funding is also available within ODF and through other agencies/partners that is used for community wildfire planning, fuels reduction projects, and post-fire restoration. Finally, ODF is a key partner in assisting landowners with planning and implementing riparian restoration projects through the Conservation Reserve Enhancement Program (CREP) (www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-enhancement/index).

Oregon Department of Land Conservation and Development (DLCD)

DLCD (www.oregon.gov/LCD/pages/index.aspx) oversees implementation of Oregon's Statewide Planning Goals. Several of the planning goals incorporate environmental objectives that support salmon and

healthy watersheds. These goals and objectives are implemented through local comprehensive plans and development codes. DLCD provides assistance to local governments when they update their plans and codes to accommodate growing or shifting population needs.

DLCD includes the Ocean and Coastal Services Division, which oversees the Oregon Coastal Management Program (OCMP) (www.oregon.gov/LCD/OCMP/pages/index.aspx). The program is carried out in partnership with other state agencies and coastal jurisdictions. OCMP provides funding and technical assistance on research and planning projects to improve our knowledge of natural resources in the coastal zone. OCMP also administers Oregon's federal consistency authority under the Coastal Zone Management Act. This authority provides the state a mechanism for applying state and local policies, including those applicable to the management of habitats, water quality, and harvest, to direct federal actions and federal permits/licenses, ensuring the activities comply with state coastal policies.

The department's Natural Hazard Mitigation Program is also relevant to salmon and healthy watersheds. Staff promote incorporation of mitigation strategies, such as steering development away from floodplains and landslide risk areas, into local comprehensive plans. When applied, these measures help preserve watershed functions.

During the 2019-2021 biennium, DLCD was a key partner in efforts to protect habitat and other resources crucial for salmon recovery. DLCD works to ensure that local land use regulations on rural lands consider the management of soil, air, water, and wildlife resources and that land use review appropriately protects these functions. While this objective has been included in the Statewide Land Use Goals since the early days of the program, its emphasis becomes more important as Oregon faces increased pressure for rural development. The Oregon Natural Hazard Mitigation Plan update was published in September 2020, including risk-reduction actions that promote healthy forests and protect natural floodplains.

During the 2019-2021 biennium, OCMP continued to analyze the impacts of offshore seafood processing waste discharge in the vicinity of Oregon's Coastal Zone for incorporation into a Geographic Location Description (GLD). When federally approved, the GLD will provide the state authority to review federal actions in the area specified by the GLD for consistency with state enforceable policies. In November 2020 OCMP was awarded a grant from the National Fish and Wildlife Foundation to improve coastal community planning capacity for estuarine resilience in the face of threats such as sea level rise. Over the next biennium OCMP will identify potential restoration projects, which aim to restore estuary function and reduce flood hazard, for local governments to employ as additional funds become available.

Oregon Department of State Lands (DSL)

DSL (www.oregon.gov/DSL) works on behalf of the State Land Board to ensure a legacy for Oregonians and their public schools through sound stewardship of lands, wetlands, waterways, and the Common School Fund. The Department is also the state partner of the South Slough National Estuarine Research Reserve in Charleston, Oregon.

The Department oversees the state's removal-fill and wetland conservation laws and the use of state-owned waterways. DSL's work to regulate the removal and fill of material in wetlands and waterways protects water quality and habitat. The Department's compensatory mitigation program directs activities to repair, restore, or minimize the impacts of projects on aquatic resources, including the purchase of mitigation credits. DSL also manages the state's waterway authorization program, for example, overseeing registrations for docks and leases of state-owned waterways for marinas and ports.

Stewardship, research, and training activities at South Slough Reserve benefit the immediate Coos watershed and help improve statewide understanding of estuarine and coastal systems. Researchers monitor changes in environmental conditions, while tracking the impacts of climate changes. Staff and volunteers implement

projects to help restore wetlands and streams, enhancing water quality and salmon habitat. Additionally, the Reserve's Coastal Training Program provides technical assistance and knowledge to coastal policy decision makers in the Pacific Northwest.

To fulfill its mission of sound stewardship DSL continuously works on developing and improving tools available to the public for identifying where aquatic resources may be. This includes the statewide and local wetland inventories used by cities and counties for land use planning. The Department also maintains Oregon's official Essential Salmonid Habitat (ESH) map. The map helps protect areas where salmon spawn and rear by using scientific data from Oregon Department of Fish and Wildlife to identify areas that are critical for salmonids to thrive and therefore require a permit to remove or fill any quantity of material.

During the 2019-2021 biennium, DSL engaged in rulemaking to update and streamline the process for maintaining the state's ESH map, supporting more frequent map updates. With more frequent updates the Department can be more confident that the ESH map is representative of critical salmonid habitat throughout the state. The Department worked to mitigate the impacts of regulated projects on waterways and wetlands through the continued development of new stream mitigation accounting and support of the state's wetland mitigation program. The Department also successfully partnered with the Oregon State Marine Board and community partners to respond to and prevent abandoned vessels and to remove marine debris. Finally, South Slough Reserve continued to monitor conditions, restore habitat and train coastal decision makers.

Oregon Department of Transportation (ODOT)

ODOT's Geo-Environmental Section (www.oregon.gov/ODOT/GeoEnvironmental) provides continued guidance on ODOT's projects and programs, including a biology program (www.oregon.gov/ODOT/GeoEnvironmental/Pages/Biology.aspx) to help ODOT (www.oregon.gov/odot) with all aspects of planning related to biological resources. For example, the Fish Passage Program (www.oregon.gov/ODOT/GeoEnvironmental/Pages/Fish-Passage.aspx) was developed with ODFW and has fostered partnerships with government agencies, watershed councils, and other stakeholders to support the recovery of threatened and endangered fish and native migratory fish by removing fish passage barriers on the state highway system. The Program identifies high-value streams that bring the greatest benefit to native migratory fish, provides a list of priority barriers to address, and implements fish passage mitigation banking to expedite strategic actions. During the 2019 – 2021 biennium, ODOT constructed a total of 22 projects that addressed fish passage. These projects opened or improved access to over 102 miles of habitat for native migratory fish. In addition, ODOT paid $2.0 million dollars into an ODFW managed account to address high priority fish passage barriers across the state. This fund was allocated to 11 projects that will improve access to over 160 miles of habitat for native migratory fish.

ODOT manages stormwater runoff emanating from its impervious surfaces to minimize pollutant discharges as required by the Clean Water Act, the Endangered Species Act, and other local, state, and federal regulations. Stormwater management strategies consist of utilizing the adjacent roadside landscape to manage and provide runoff treatment including use of low impact development techniques and installing stormwater control facilities or structural best management practices such as bioswales and vegetated filter strips. In doing so, ODOT treats runoff not only from expanded impervious surfaces, but also from sections of existing highway which contribute runoff to those project areas; as a result, reductions of pollutant loading and concentrations are achieved which not merely mitigate for new construction and existing impervious surface, but also result in improved aquatic habitat quality.

Oregon Parks and Recreation Department (OPRD)

OPRD (www.oregon.gov/OPRD) provides and protects outstanding natural, scenic, cultural, historic and recreational sites for the enjoyment and education of present and future generations. The agency manages state parks, ocean shores, scenic waterways, recreation trails and bikeways; manages the State Historic Preservation Office; and provides assistance to local governments for recreation and heritage conservation. Funds for these projects come from Oregon Lottery revenues, proceeds of the sales of salmon license plates,

and from other revenue sources. Projects include riparian plantings, stream bank stabilization, upland restoration, forest health thinning, invasive species removal, endangered species habitat enhancement, hydrological restoration, and restoration monitoring. Additionally, federal Land and Water Conservation Grants provide matching funds to local governments to acquire or enhance outdoor recreation areas and facilities for public use. OPRD's Central Park Services offer guidance and supporting resources for trail and park development and improvements, and advise on natural resources and natural areas.

Oregon State Marine Board

Oregon State Marine Board (www.oregon.gov/osmb) has worked closely with ODFW to implement the Oregon Aquatic Invasive Species Prevention Program (AISPP) since 2009. The purpose of the AISPP is to protect Oregon against the introduction and spread of aquatic invasive species through the management of recreational boat inspection stations. Each year, the AISPP provides a comprehensive report for the public which is also submitted to the Oregon Legislature.

The primary threats to Oregon's waterways are zebra and quagga mussels, hydrilla (an aquatic plant), and Asian carp. These aquatic invaders can spread to Oregon from boats that have not been properly decontaminated after their prior use in an out-of-state infested waterbody. During the 2019 and 2020 calendar years, the AISPP operated six boat inspection stations on Oregon highways leading into the state and performed 49,915 boat inspections. A total of 664 boats were cleaned due to some type of aquatic invasive species attached or found inside the vessel. Twenty-eight boats were contaminated with either quagga or zebra mussels, requiring full decontamination before being allowed to enter Oregon. In 2019, the Oregon Legislature passed an Aquatic Invasive Species bill that expanded law enforcement's authority to order a driver towing a watercraft back to an inspection station and imposed penalties for failure to comply. Additionally, the law also now requires all boaters to empty and drain water-holding compartments when leaving a waterbody and while the boat is being transported to better protect Oregon's waterways from aquatic invaders. These laws and inspection efforts have proven to be effective, as none of the invasive species mentioned have been detected in Oregon. Another important partnership within the program is with the Center for Lakes and Reservoirs at Portland State University (PSU). Resources are provided to PSU so that sampling and monitoring for the presence of harmful aquatic invaders can occur at high-risk water bodies.

Oregon Water Resources Department (OWRD)

OWRD (www.oregon.gov/OWRD) oversees water rights permitting as well as programs to monitor and regulate Oregon's groundwater and surface water. OWRD facilitates voluntary streamflow restoration efforts throughout the state, assisting with streamflow restoration projects, and reviewing final water applications (i.e., instream leases, new instream water right applications, instream transfers, and allocations of conserved water). OWRD monitors streamflows through a network of gaging stations and regulates for instream water rights. For example, in calendar year 2020, 65% of the total regulatory actions by OWRD (causing a change in water use) were conducted to benefit instream water rights. Additionally, in 2020, 25% of high priority watersheds had flow added, where needed, for fish. OWRD also ran 245 stream gauges. In addition, OWRD provides financial, technical, and planning assistance through its Water Resources Development Program. The Water Resources Development Program builds partnerships and incentivizes Oregonians to pursue integrated and innovative solutions for complex water challenges and an uncertain water future. This is done through cooperative partnerships, strategic investments, adaptive planning, accessible information, and effective coordination. Some program opportunities include: Place-Based Integrated Water Resources Planning (www.oregon.gov/owrd/programs/Planning/PlaceBasedPlanning/Pages/default.aspx), Feasibility Study Grants (https://www.oregon.gov/owrd/programs/FundingOpportunities/FeasibilityStudyGrants/Pages/default.aspx), and Water Project Grants and Loans (https://www.oregon.gov/owrd/programs/FundingOpportunities/WaterProjectGrantAndLoans/Pages/default.aspx).

Throughout the biennium, OWRD staff continued the review and processing of water management and conservation plans submitted by municipal and agricultural entities, thereby promoting the efficient water use and implementation of water conservation programs by these entities. Additionally, Amendments to the water management and conservation plan rules (OAR Chapter 690, Division 86) related to small water suppliers have encouraged more entities to submit plans, resulting in a compliance rate of 85%.

Recommendations from the OWEB Board

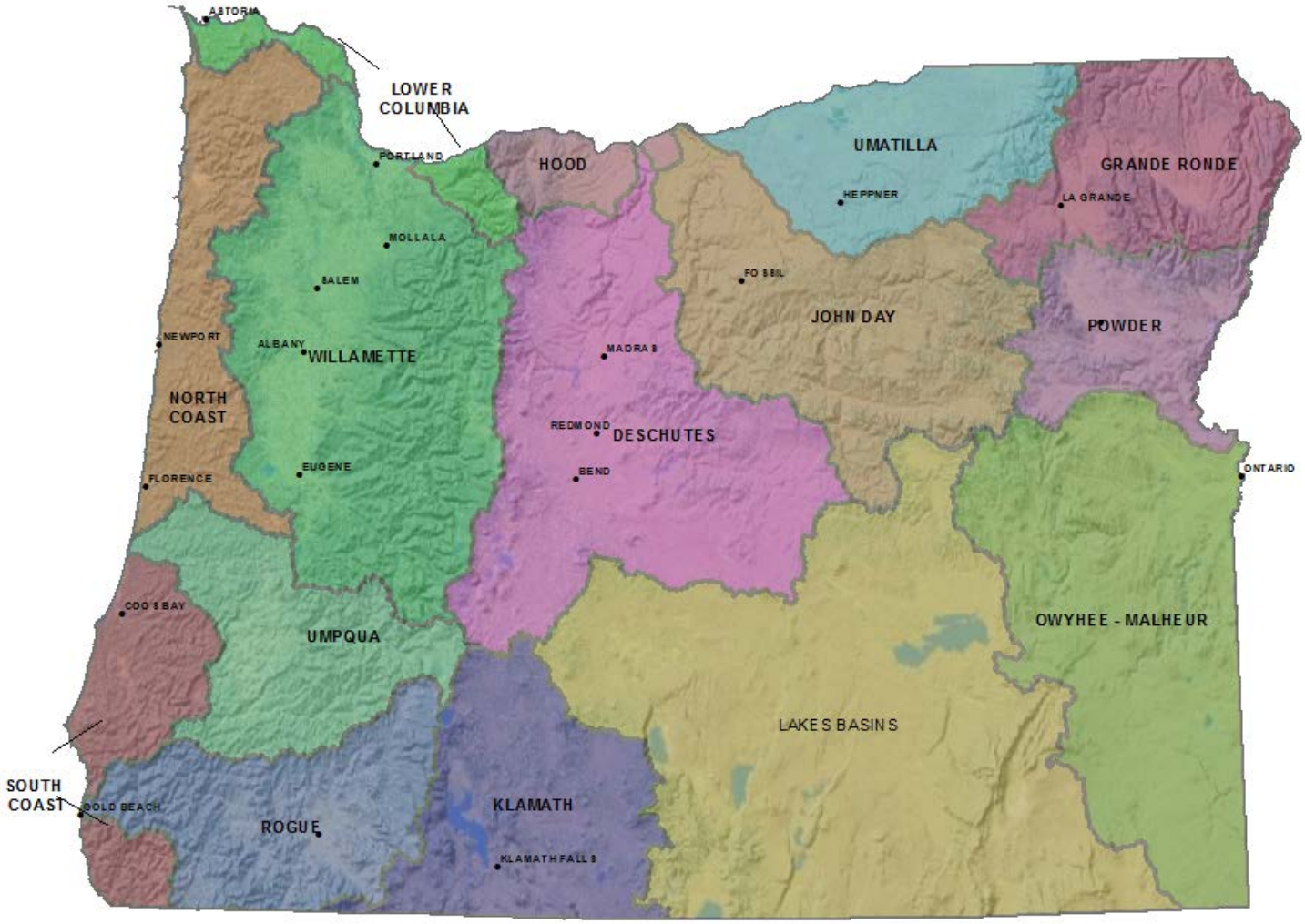
In the 2019-2021 biennium, the OWEB Board developed a robust committee structure to help the agency in addressing complex issues impacting Oregon's watersheds. The board approved the following committee-developed themes as recommendations for enhancing the effectiveness of the Oregon Plan for Salmon and Watersheds:

- **The impacts of climate change are being felt across Oregon.** OWEB is integrating climate mitigation and climate-smart adaptation into the agency's operations and grant-making. At the same time, it is vital to continue to provide interested parties with the technical resources and guidance to view watershed conservation efforts through a climate-lens.
- **Large-scale conservation efforts implemented by high performing partnerships are vital to addressing the various environmental challenges impacting our watersheds.** OWEB's Focused Investment Partnership program is unique in state granting programs, as it funds restoration at a landscape-scale. Long-term restoration investments in communities also have impacts beyond environmental, such as the socio-economic benefits of landscape restoration that could be explored with further monitoring.
- **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.** These systems are fundamental to OWEB's mission and the well-being of Oregonians. OWEB will continue the agency's work in furthering the statewide natural resource strategy and strategic allocation of resources for water related initiatives. As an example, through consultation with traditional and non-traditional partners, OWEB will coordinate with other state agencies to develop and refine a statewide strategy that supports the Integrated Water Resources Strategy and Oregon's 100-Year Water Vision.
- **Collaborative monitoring and shared learning continue to inform watershed restoration.** Climate change and wildfires pose new challenges and opportunities for those that study the science behind these issues, and for the restoration practitioners implementing projects in a changing world. It is critical for experts to share and translate knowledge in a manner that benefits all communities, as they work to address both long-standing restoration needs and emerging issues that face watershed restoration.
- **Diversity, Equity, and Inclusion will be integrated throughout OWEB's operations and grant programs.** Board and staff members will model diversity, equity, and inclusion while ensuring that interested parties and all potential partners are heard and engaged. OWEB will reach diverse audiences so that they are aware of the agency's grant programs, how they can participate, and to increase OWEB's understanding of the barriers to their participation. OWEB will incorporate diversity, equity, inclusion, and environmental justice into how and where the agency provides grant funding.

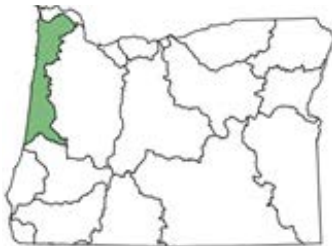
Oregon Plan Reporting Basins

The Oregon Plan for Salmon and Watersheds defined 15 basins in which actions to benefit fish and wildlife habitat would be reported. Brief descriptions and locator maps for each of these basins are shown below.

Information is provided about the amount of OWEB funding and about the total amount of funding leveraged by the OWEB dollars within each basin. Leveraged funding indicates partner support of OWEB efforts and helps understand the roles of partners across the state. Data is from the OWEB Grant Management System for grants awarded from 7/1/19 through 6/30/21 that were assigned to one of the Oregon Plan reporting basins. Some grants are applicable throughout the state and therefore not represented by a specific reporting basin.



North Coast

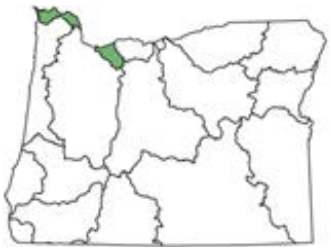


Total OWEB funds invested, 2019-21 biennium: **$9,051,870**

Total leveraged funds, 2019-2021 biennium: **$5,384,752**

The North Coast Basin includes watersheds of the Nehalem, Wilson, Trask, Nestucca, Siletz, Yaquina, Alsea, and Siuslaw rivers, many medium and smaller coastal watersheds, and two lake areas: the Siltcoos and Tahkenitch in the southern part of the basin. The dominant land use in the basin is forestry. Agriculture is limited to the rich alluvial floodplains along the major streams.

Lower Columbia

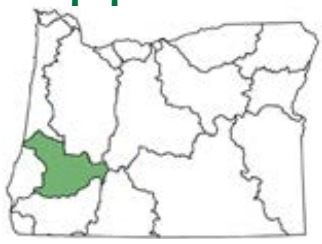


Total OWEB funds invested, 2019-21 biennium: **$2,705,626**

Total leveraged funds, 2019-2021 biennium: **$3,381,624**

In the Lower Columbia Basin, a number of relatively small streams drain onto floodplains and into the tidal reaches of the Columbia River. Water flows either from the Coast Range, or from the west slope of the Cascades. Nearly all of the Columbia River floodplain has been diked to protect farms and urban areas. Undiked areas of the floodplain support high species diversity. Maritime shipping, fishing, forestry, and wood processing are key elements of the economy in this basin.

Umpqua



Total OWEB funds invested, 2019-21 biennium: **$2,206,246**

Total leveraged funds, 2019-2021 biennium: **$577,057**

The Umpqua Basin includes the North and South Umpqua Rivers which join to form the mainstem of the Umpqua River. Cow Creek is a major tributary of the South Umpqua and the Smith River, the basin's other major tributary, joins the Umpqua near its mouth. The headwaters of the North and South Umpqua Rivers are found in the Cascade Ecoregion, come together in the Umpqua Interior Foothills Ecoregion of the Klamath Mountains, and flow through the Coast Range on the way to Winchester Bay and the Pacific Ocean. The land use for much of the basin is forestry with some agricultural activities such as pastures, vineyards, orchards, and row crops found in the narrow valleys and foothills in the central portion of the basin. Winchester Bay is an important shellfish area on the Oregon Coast.

South Coast

Total OWEB funds invested, 2019-21 biennium: **$5,975,549**

Total leveraged funds, 2019-2021 biennium: **$2,838,122**

The South Coast Basin includes watersheds of the Coos, Coquille, Elk, Sixes, Pistol, Winchuck, and Chetco Rivers, a small portion of the Smith River Watershed, several smaller coastal rivers, and the Tenmile Lakes area. Forestry, ranching, agriculture, commercial and recreational fishing, and tourism are significant factors in the economy of communities in the basin. Significant portions of ancient marine terraces in this basin have been converted to cranberry or lily production. The Coos and Coquille valleys historically were large timber producers along with cattle and dairy industries.

Rogue

Total OWEB funds invested, 2019-21 biennium: **$6,472,353**

Total leveraged funds, 2019-2021 biennium: **$4,577,523**

The Rogue Basin includes five drainages: Lower, Middle, and Upper Rogue, Illinois, and Applegate. The headwaters of the Rogue River begin in the wetter Cascade Mountains Ecoregion while the other major tributaries, Illinois and Applegate Rivers and Bear Creek, originate in the drier Klamath Mountains Ecoregion. The main towns in the interior of the Rogue Basin are located in the major river valleys which are surrounded by oak savanna foothills and, at higher elevations, the Siskiyou Mountains. Agricultural lands including orchards, vineyards, cropland, and pasture-lands are found throughout these valleys.

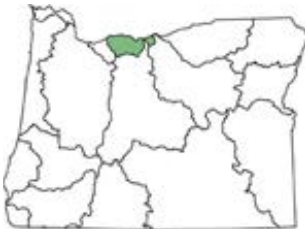
Willamette

Total OWEB funds invested, 2019-21 biennium: **$16,255,920**

Total leveraged funds, 2019-2021 biennium: **$11,842,197**

The Willamette Basin encompasses the Willamette Valley, the west slope of the Cascades Range, and the east slope of the Coast Range. The Willamette River is the 13th largest river in the lower 48 states and has 13 major water storage reservoirs on its tributaries. Much of the Willamette Valley was originally bottomland riparian hardwood forests, wet prairies, oak savannas, and oak woodlands. Extensive agricultural areas, urbanization, and fire suppression have greatly reduced these habitats. Today, the basin supports concentrated areas of high technology, diverse agricultural production, forestry and wood products industries, and roughly two thirds of the state's population.

Hood



Total OWEB funds invested, 2019-21 biennium: **$1,735,508**

Total leveraged funds, 2019-2021 biennium: **$7,671,446**

From east to west the Hood Basin includes: Spanish Hollow, Fifteenmile, Mill, and Mosier Creeks; Hood River; and Eagle Creek. All streams flow in a northerly direction discharging directly into the Columbia River either just upstream or downstream of The Dalles Dam. The headwaters for Hood River (Mount Hood), and the smaller Eagle Creek, are in the wetter Cascade Ecoregion. With the exceptions of Mosier Creek, entirely with the Eastern Cascade and Foothills Ecoregion, and Spanish Hollow Creek, entirely within the Columbia Plateau Ecoregion, all other streams flow through both ecoregions. These watersheds are mostly located in the rainshadow of the Cascades and receive most precipitation in the winter with an occasional summer thunderstorm. Land use is primarily forestry, agriculture, and recreation in the western part of the basin, with dryland wheat and range in the remainder.

Deschutes

Total OWEB funds invested, 2019-21 biennium: **$9,957,669**

Total leveraged funds, 2019-2021 biennium: **$20,302,769**

Bordered by the Cascade Range to the west, this basin includes the high Cascade lakes, wild and scenic waterways, and a rapidly growing human population. Tourism, agriculture, forestry, ranching, and the high technology industry dominate the economy of the basin. Fed by snowfields of the Cascade and Ochoco ranges, the basin's headwaters flow from springs through high elevation wet meadows and lava plains before dropping through scenic canyons and shrub steppe. Irrigated agriculture, rangeland, and wheat lands lie along the lower Deschutes. The construction of the Pelton (1958) and Round Butte (1965) dams on the Deschutes River completely blocked anadromous fish passage to the upper Deschutes Basin.

Klamath

Total OWEB funds invested, 2019-21 biennium: **$1,310,213**

Total leveraged funds, 2019-2021 biennium: **$455,749**

The Klamath Basin is located in the southern part of Klamath County in the Eastern Cascades Slopes and Foothills Ecoregion. The Basin includes the Klamath River: Sprague, Williamson, Upper Klamath Lake, and Upper Klamath River drainages. The Lost River drainage is also included in this reporting unit. The Oregon portion of the Klamath Basin is in the rain shadow of the Cascade Range. Lower elevations in the basin are arid semi-desert and upper elevations are dry alpine coniferous forests with precipitation higher closer to the crest of the Cascade Range. Primary land use along the basin's major streams is irrigated agriculture. The majority of these irrigated lands are drained wetlands. The Lost River begins and ends in California, and flows through one of Oregon's closed basins. The Lost River is part of Bureau of Reclamation's Klamath Project. Most of the basin is within Klamath County with the eastern edge in Lake County and the southwestern section in Jackson County.

Umatilla

Total OWEB funds invested, 2019-21 biennium: **$1,154,395**

Total leveraged funds, 2019-2021 biennium: **$964,353**

The three major rivers in the Umatilla Basin flow from their headwaters in the Blue Mountain Ecoregion through the Columbia Plateau Ecoregion to the Columbia River. The Umatilla and the Oregon portion of the Walla Walla River basins are mostly in Umatilla County with the majority of the Walla Walla Basin within Washington State. The Willow Creek drainage is located mostly in Morrow County and the confluence with the Columbia River is in Gilliam County. Lower elevations in the basin are arid sagebrush-steppe and grassland flanked by the moister and predominantly forested Blue Mountains. The Umatilla Basin is characterized by irrigated agriculture at lower elevations continuing upstream along the major river corridors and grazing at higher elevations.

John Day

Total OWEB funds invested, 2019-21 biennium: **$9,540,624**

Total leveraged funds, 2019-2021 biennium: **$8,370,281**

The John Day Basin includes the mainstem of the John Day River and the North, Middle, and South Forks. The John Day River is one of the most significant undammed stream systems in the West. The upper mainstem and the three major forks of the John Day flow from their headwaters in the Blue Mountain Ecoregion. The Lower John Day flows through an incised canyon that bisects shrub-steppe and wheat ranches in the uplands of the Columbia Plateau Ecoregion before flowing into the Columbia River at the eastern edge of the Columbia River Gorge. The tributary streams on the Lower John Day (Rock, Hay, Thirtymile, and Grass Valley Creeks) also originate in the Columbia Plateau Ecoregion. The economy of the basin is dependent on natural resource industries: forest products, farming, ranching, recreation, and mining.

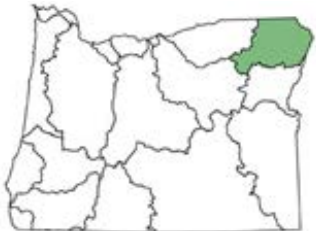
Lakes Basin

Total OWEB funds invested, 2019-21 biennium: **$7,111,905**

Total leveraged funds, 2019-2021 biennium: **$6,044,231**

The Lakes Basin is an area of closed watersheds where streams flow through the desert landscape of Lake, southern Harney, and southwestern Malheur counties and eventually into inland lakes like Malheur, Abert, Silver, Summer, Goose, and Warner, instead of flowing to the ocean. Ranching and forest products principally support the basin's communities.

Grande Ronde



Total OWEB funds invested, 2019-21 biennium: **$3,033,769**

Total leveraged funds, 2019-2021 biennium: **$1,379,584**

The Wallowa, Grande Ronde, and Imnaha rivers flow from the majestic Wallowa Mountains to the Snake River. Mountain headwater streams in subalpine forests transition through deep canyons and meander through agricultural communities in the lowlands before flowing once again through deep canyons to join the Snake River. This basin is the historic homeland of the Chief Joseph band of the Nez Perce Tribe. Ranching, agriculture, and forest products are important to the economy in this basin. Nestled between the Imnaha and Grande Ronde rivers, Zumwalt Prairie supports the highest density of raptors in Oregon.

Powder

Total OWEB funds invested, 2019-21 biennium: **$2,832,637**

Total leveraged funds, 2019-2021 biennium: **$1,420,258**

Draining south and east from the Blue Mountains, the Powder and Burnt Rivers flow to the middle Snake River and eventually to the Columbia River. The Powder Basin is a complex landscape which includes the Blue and Elkhorn Mountains to the west and the Wallowa Mountains to the northeast. This topographic complexity results in a diverse mix of ecosystems including shrublands, grasslands, and forests, as well as climatic zones. The basin receives from 10 to 60 inches of precipitation annually. A variety of economic activities occur in the basin including ranching, agriculture, and mining. The Powder Basin contains remnants of the original Oregon Trail traveled by settlers in covered wagons.

Owyhee-Malheur

Total OWEB funds invested, 2019-21 biennium: **$2,922,727**

Total leveraged funds, 2019-2021 biennium: **$2,215,509**

The Owyhee-Malheur Basin is located on the eastern edge of the state and is drained by the Owyhee and Malheur Rivers. The landscape of Owyhee-Malheur is harsh and dry, composed of scattered rock outcrops and vast expanses of semi-arid sagebrush-steppe. The lower portions of the Owyhee and Malheur basins, along the western edge of the Treasure Valley, support rich irrigated agriculture and are particularly known for production of Spanish onions. Both the upper Malheur and Owyhee basins are primarily used for cattle ranching, including numerous ranches and large tracts of land managed by the BLM.