

2012 Memorandum of Agreement Relating to Agricultural Nonpoint Source Pollution

Oregon Departments of Agriculture and Environmental Quality

Status Report to the Board of Agriculture

November 28, 2018

Summary: Key accomplishments, needs, recommendations and next steps described in this report

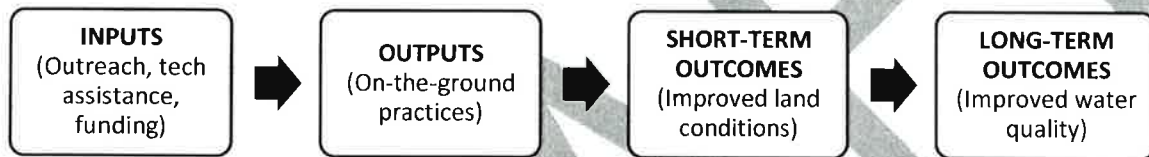
- Oregon Department of Agriculture has developed and is implementing a monitoring strategy for the Agricultural Water Quality Program in consultation with DEQ, as described in the Memorandum of Agreement (MOA).
- In collaboration with DEQ, ODA has identified two main strategies to conduct an evaluation of Area Plan and Rule effectiveness as described in the MOA. These two strategies are Strategic Implementation Areas (SIAs) and Focus Areas.
- Between 2012 and 2017, ODA initiated 20 SIAs and continues to select about 6 to 8 new SIAs per year. Starting in 2018, water quality monitoring is being incorporated into all SIAs as part of the Coordinated Streamside Management process.
- ODA has also worked with all 45 Soil and Water Conservation Districts to identify FAs.
- ODA, agricultural producers, and partner agencies and organizations continue to make progress toward achieving load allocations through efforts to achieve compliance and uplift. These efforts include streamside vegetation restoration, erosion prevention and control, nutrient management, and manure management.
- Both ODA and DEQ have found evaluating agriculture's attainment of existing load allocations to be difficult. However, we anticipate that upcoming Total Maximum Daily Loads will provide more specific information that will better allow the agencies to conduct these evaluations.
- ODA and DEQ evaluate each area plan and rules through the biennial review process as described in the MOA. DEQ also provides a water quality status and trends report to each local advisory committee as part of the biennial review process.
- Through the biennial review process, ODA has worked with local advisory committees to add long-term measurable objectives and short-term milestones into all 38 area plans.
- Oregon Department of Agriculture and Oregon Department of Environmental Quality conducted a review of the 2012 MOA in August 2018 and determined that changes are not needed to the MOA at this time. However, we have identified the need for a programmatic level review and have laid out a process to launch and conduct this review when resources allow.

Background and scope of the MOA

The 2012 Memorandum of Agreement (MOA) between the Oregon Department of Agriculture (ODA) and Oregon Department of Environmental Quality (DEQ) describes how the two agencies will work together to address agricultural nonpoint source pollution. It addresses how the agencies will collaboratively fulfill their roles related to monitoring and evaluating the effectiveness of Agricultural Water Quality Management Area Plans (Area Plans) and Rules (Area Rules). The MOA also broadly describes the ODA and DEQ consultation process for review and modification of Area plans and Area Rules, as well as a dispute resolution process. Finally, it describes Oregon's process for adoption and

1. Determine Program effectiveness in achieving desired upland and streamside vegetation conditions that protect water quality.
2. Determine Program effectiveness in protecting water quality.
3. Help make modifications as needed to protect water quality (adaptive management).
4. Identify geographic locations or specific issues where voluntary or regulatory program tools could be used.
5. Guide changes to Area Plans and Rules.

This strategy includes key types of monitoring to evaluate the effectiveness of Area Plans and Rules, including ambient water quality monitoring, land condition monitoring, conservation practice implementation monitoring, and monitoring of other implementation activities such as education and outreach. All of these types of monitoring may not take place in all areas around the state. Key monitoring questions are centered around tracking “inputs”, “outputs”, and “outcomes” to provide information on what activities are being done to help achieve desired land conditions and water quality.



To implement the monitoring strategy, ODA gathers data on inputs, outputs, and outcomes. Input data are currently gathered quarterly and include outreach and education activities, technical assistance, and funding for conservation practices. Output data are also gathered quarterly and include conservation practice implementation, for example stream length of fencing projects, acreages in no-till, number of manure storage facilities built, etc.). Some output metrics, such as acreage in no-till or manure storage facilities, are related to bacteria and sediment, while others are related to temperature such as length of riparian planting or streamside vegetation conditions.

Both inputs and outputs are primarily gathered through ODA’s Interagency Agreement with Soil and Water Conservation Districts (SWCDs) to carry out these tasks and aggregated into statewide information about accomplishments. ODA is currently working to determine which inputs and outputs to measure, how to measure them, and how to report them. We are also working to "crosswalk" the output data we receive with those gathered by partner agencies including NRCS and OWEB to ensure as complete a picture as possible of water quality improvement efforts that are occurring.

To evaluate outcomes, ODA utilizes data collected through programmatic Strategic Initiatives: Strategic Implementation Areas and Focus Areas. These initiatives, and the specific data gathered by ODA and DEQ, are discussed in more detail later in this report.

Effectiveness evaluation

Section V of the MOA states that as part of the ODA/DEQ collaborative evaluation of Area Plan and Area Rule effectiveness, ODA will work with DEQ to evaluate the effectiveness of the plans and rules.

Source Modeling to simulate thermodynamics and hydrology to assign percent effective shade targets. For other parameters such as bacteria, DEQ uses watershed-scale data gathering and modeling to characterize each source's contribution, establish the total loading capacity of the waterbody, and develop load allocations. In some cases, LAs are established collectively for all nonpoint sources, while others identify specific nonpoint sources such as agriculture.

Both agencies have found evaluating agriculture's attainment of existing TMDL load allocations to be difficult given the limited information available. When agriculture's LA is part of an overall nonpoint source LA, it can be especially difficult to separate out agriculture's responsibility as well as evaluate agriculture's progress to fulfill it. However, we anticipate that upcoming TMDLs will provide more specific information that will better allow the agencies to conduct these evaluations.

Making progress on some load allocations is easier than others. The agencies have found improving sediment and other pollutant management is more straightforward than achieving shade and temperature conditions. Generally, it is faster to achieve vegetation conditions that promote filtration of overland flow and streambank stability, and manage waste and sediment to prevent pollution, than to achieve adequate shade conditions to meet temperature load allocations (expressed as expected shade targets). This is due to the length of time it takes for site conditions to improve to the extent that shade is present, and the challenges presented by legacy issues such as stream channelization and invasive weeds.

ODA makes progress toward agriculture's temperature LA through administrative rules that focus on moderating solar heating in streamside areas, and through establishing goals in Area Plans. Both ODA and DEQ agree that compliance with the administrative rules alone will not be sufficient to achieve load allocations and water quality standards; land condition "uplift" above and beyond rule compliance will be needed. An example of "compliance" versus "uplift" is a streamside area where the farmer or rancher's current activities are not preventing beneficial vegetation from establishing, but invasive weeds have taken over. The farmer or rancher is considered to be in compliance, but land condition "uplift" above and beyond compliance would include suppressing the invasive weeds and actively establishing beneficial vegetation. ODA relies on partners in uplift such as Soil and Water Conservation Districts, Watershed Councils, and state and federal agencies to support this uplift work.

ODA uses the Streamside Vegetation Assessment method to evaluate streamside vegetation. This method calculates percentages of vegetative cover in different categories using aerial imagery to measure landscape conditions. DEQ evaluates and provides comments on the suitability of ODA's landscape condition monitoring to measure progress in achieving LAs during the ODA biennial review of Area Rules and Area Plans. DEQ headquarters staff have worked with ODA staff on consistency between ODA and DEQ for evaluating landscape condition.

During every biennial review, DEQ and ODA's consultation includes a review of available water quality data to determine the extent to which agriculture has made progress towards attaining load allocations. As discussed later in the report, there is significant variation by management area in the data available and extent to which monitoring is able to characterize status and trends in agriculture's influence on water quality.

MOA Section VI: Area Plan Review and Modification

the establishment of streamside vegetation. After implementation, the SWCD will reassess the condition of streamside vegetation and evaluate progress.

The consultations have also resulted in DEQ preparing water quality status and trend reports that the LACs have found very useful in their evaluation process for those areas with robust water quality data. However, standardized monitoring strategies and active data collection needs to be developed and implemented to provide the information necessary to accurately evaluate status and trends for temperature as well as bacteria, sediment, nutrients and other water quality parameters influenced by agricultural management activities. This is consistent with the Coordinated Streamside Management approach.

The MOA describes several objectives as part of the ODA-DEQ review of existing information, including whether existing strategies have been effective in achieving the goals and objectives of the area plan, and whether the rate of progress is adequate to achieve the goals of the area plan.

To address these MOA objectives during the biennial review, ODA presents a review of existing information to the LAC and provides recommended updates to Chapters 3 (Goals and Objectives, Milestones and Timelines) and 4 (Implementation Accomplishments and Evaluation of Monitoring Data) of the Area Plan. In addition, both DEQ and the SWCD provide an update of their activities in the management area. The LAC discusses whether adequate progress has been made since the last biennial review, including whether existing strategies have been effective in achieving the goals and objectives of the Area Plan, and whether the rate of progress is adequate to achieve the goals of the Area Plan. The LAC is responsible to recommend strategies necessary to achieve water quality goals and objectives. The LAC can approve ODA's recommendations as written or may wish to provide additional recommendations, including adaptive management measures, to update the Area Plan. In consultation with the LAC, ODA is ultimately responsible to review the Area Plan, Area Rules, and/or implementation as needed to achieve the goals of the Area Plan and water quality standards. If DEQ believes that an Area Plan and associated Rules are not adequate to achieve and maintain TMDL agricultural LAs, DEQ will provide ODA with comments on what would be sufficient to meet those allocations. If the agencies' respective staff disagree on the comments, the MOA provides a process for agency leadership to work together to resolve the issues. The law provides a provision for the Environmental Quality Commission to petition to the ODA Director if the agency disagrees with the sufficiency of ODA's work.

ODA and DEQ review of monitoring and implementation information and sharing with LAC

Water quality status and trend reports are another part of the consultation process and are also presented to LACs during biennial reviews. ODA staff used to summarize data provided by DEQ. However, two years ago, DEQ started providing their own status and trends reports that are now summarized by ODA staff and included in area plans after discussion with the LAC. As part of monitoring water quality status and trends, DEQ regularly collects water samples at ambient sites on more than 50 rivers and streams across the state. In 2015, ODA and DEQ evaluated the current ambient monitoring sites and determined that additional agriculturally-influenced sites should be added to the suite of locations. An additional 19 sites were added and are currently being monitored by DEQ.

In 2016, DEQ started providing status and trend reports for biennial reviews that summarize the information from these ambient sites and additional data in DEQ, US Geologic Survey, and US Environmental Protection Agency water quality databases. Program staff work with local partners in

5-year Review of the MOA

In August 2018, ODA and DEQ conducted a five-year review of MOA implementation, as described in Section VIII of the MOA, and evaluated whether changes were needed. Because the agencies have worked closely to identify processes to implement the MOA and believe we have identified strategies to fulfill all of the components of the MOA, ODA and DEQ agreed that changes were not required. The agencies have developed an informal MOA implementation strategy document and will review and update it every 2 years following the launch of our programmatic consultation, or more frequently if needed.

Both ODA and DEQ recognize that continuous improvement in the Agricultural Water Quality Program is critical to achieving the state's water quality goals, and believe that focusing our resources on the ground, working with partners to implement Coordinated Streamside Management in Strategic Implementation Areas, should be a critical focus for our agencies over the next five years and beyond. We plan to continue adaptively managing our work together through five-year reviews of this MOU but also much more frequently with each year of Coordinated Streamside Management implementation.

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Appendix A: Summary of Strategic Implementation Area Pre and Post Evaluations, 2014-2017

Note: the following table summarizes concerns found during the evaluation process in all Strategic Implementation Areas launched so far. For SIAs launched between 2014 and 2016, the table includes both pre and post data. For SIAs launched in 2017, data are not yet available (NA) but will be added following the post evaluation process.

SIA Name	Mgmt Area	Year started	Total Parcels	# Ag Parcels	Serious concern		Significant concern		Moderate concern	
					Pre	Post	Pre	Post	Pre	Post
Noyer Creek	Clackamas	2014	623	237	0	0	2	2	16	0
Mill Creek	Lwr Deschutes	2014	2023	315	1	0	3	0	6	0
Indian Ford	Mid Deschutes	2015	277	100	0	0	8	0	12	0
Johnson Cr	Lwr Willamette	2015	932	766	0	0	0	0	23	0
Wagner Cr	Inland Rogue	2015	1104	289	0	0	3	0	12	2
Threemile	Lwr Deschutes	2015	481	254	0	0	3	1	4	0
Salt Cr	Mid Willamette	2015	912	453	1	0	6	0	29	6
Nehalem	N Coast	2015	734	134	0	0	2	0	7	1
Lwr N Yamhill	Yamhill	2015	328	260	0	0	4	0	14	5
Odell Cr	Hood R	2016	1175	443	0	0	2	2	8	0
Neil Cr	Inland Rogue	2016	1134	297	0	0	1	1	3	1
Nehalem	N Coast	2016	3795	576	0	0	1	0	20	1
Abiqua	Molalla-Pudding	2016	2223	687	0	0	4	1	4	1
Cache Hollow	Umatilla	2016	361	233	0	0	0	0	0	0



Oregon
Department
of Agriculture

AGRICULTURAL WATER QUALITY MANAGEMENT PROGRAM

AGRICULTURAL WATER QUALITY MANAGEMENT AREA

BIENNIAL REVIEW SUMMARY REPORT TO THE BOA & DIRECTOR

Management Area: Tualatin River						
Meeting Date: March 28, 2018						
LAC Members Present: Dan Logan, Jim Love, George Marsh, Bruce Roll, and Jerry Ward						
2018 Measurable Objective for the Tualatin Management Area						
2018 Condition: Since 2005, 59.9 stream miles have been enrolled in voluntary incentive-based programs in the Tualatin Management Area.						
Measurable Objective: By 2020, 75 agricultural stream miles will be enrolled in voluntary incentive-based programs. 15.1 stream miles needed to achieve.						
Tualatin River Management Area's Cumulative Reporting of Activities and Accomplishments January 1, 2016 – December 30, 2017 Accomplishments tracked by the Tualatin SWCD						
Activities						
Community and Landowner Engagement Events and Activities: 32						
Total Attendees to all Events and Activities: 1,704						
Fact sheets and Brochures Developed/Distributed: 7/ 690						
Landowners Provided with Technical Assistance: 31						
On-Site Evaluations: 10						
Dairy-McKay Focus Area (Opened 2015:Tualatin SWCD)						
Current Condition: As of June 2017 there are 129.1 stream miles in Class 4 (high priority stream segments).						
2017-2019 Milestone: By June 30, 2019: Decrease Class 4 to 119.9 stream miles along Dairy and McKay Creeks. A potential decrease of 7 percent (10 stream miles); from 72 percent to 65 percent. The focus of stream restoration is on high and medium priority streams in agricultural lands.						
Dairy-McKay Focus Area Activity Accomplishments 2013-2017						
Landowners Contacted (mailings): 2,981 mailings and 100 phone calls				On-Site Evaluations: 32		
Community and Landowner Engagement Events: 7				Fund Applications for Landowner Projects: 2		
Total Attendees to Community and Landowner Engagement Events: 290				Voluntary Conservation Plans: 10		
Fact sheets and Brochures Distributed: 30				Total Acres in Voluntary Conservation Plans: 40		
Landowners Provided with Technical Assistance: 12						
Dairy-McKay Focus Area Applied Conservation Practices and Units						
Cover Crop				46.7 ac		
Nutrient Management				233 ac		
Tree and Shrub Site Prep				1.0 ac		
Agricultural Water Quality Partner Accomplishments						
Programs	Number of Plans/ Contracts		Projects Acres		Number of Stream Miles Planted	
	2015-2017	2006-2017	2015-2017	2006-2017	2015-2017	2006-2017
Enhanced CREP	5	49	43	544	2.8	29.8
VEGBAC	8	36	68	219.6	2.0	12.7
NRCS	239 acres were enrolled under conservation plans and contracts between 2015-2017; for a total of 42,973 acres since 1990					
Summary of Impediments:						
<ul style="list-style-type: none"> Native plant resources are an issue. There is not enough nursery stock to handle the demand of stream planting projects. Also skilled contractors are also hard to find. The LAC would like the SWCD to spend more time engaging livestock owners. The Tualatin SWCD has agreed to draft an outreach strategy by the next biennial review in 2020. There has been a lot of crop conversion leading to bare ground and soil erosion issues during early establishment seasons of newly planted crops. Need more outreach on soil erosion and solutions. Drainage infrastructure is failing and is need of repair and upgrades and better water quality management. 						