OREGON DEPARTMENT OF AGRICULTURE
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Agricultural Water Quality Program
635 Capitol St NE, Salem, OR 97301-2532
503.986.4700 | Oregon.gov/ODA

ODA Willamette Mercury TMDL Implementation Annual Report 2024

Date: February 28, 2025
DMA Name: Oregon Department of Agriculture
Subbasin(s): 17090001, 17090002, 17090003, 17090004, 17090005, 17090006, 17090007, 17090008, 17090009, 17090010, 17090011, 17090012, Multnomah Channel, Columbia Slough
Receiving Waterbodies: All perennial and intermittent streams in the Willamette Basin (HUC 170900)
Applicable TMDLs to your jurisdiction: Willamette Mercury TMDL
County(s): Columbia, Multnomah, Clackamas, Washington, Yamhill, Marion, Polk, Linn, Benton, Lane

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ACRONYMS USED

AgWQ Program	ODA Agricultural Water Quality Program
CREP	Conservation Reserve Enhancement Program
DEQ	Oregon Department of Environmental Quality
DMA	Designated Management Agency under a TMDL
FAS	ODA Focused Agricultural Solutions Program
FSA	Farm Services Agency
LAC	ODA Local Advisory Committee
LO	Agricultural Landowner(s)
HUC	USGS Hydrological Unit Code
Management Area	Agricultural Water Quality Management Area (north to south): NC = North Coast (170900 only) LW = Lower Willamette TU = Tualatin CL = Clackamas YA = Yamhill MP = Molalla-Pudding-French Prairie-North Santiam MW = Middle Willamette SS = South Santiam UW = Upper Willamette-Upper Siuslaw (170900 only) SW = Southern Willamette Valley
Matrix	ODA Mercury TMDL Matrix
NDVI	Normalized Difference Vegetation Index (greenness factor)
NRCS	Natural Resources Conservation Service
ODA	Oregon Department of Agriculture
OWEB	Oregon Watershed Enhancement Board
OWRI	Oregon Watershed Restoration Inventory
SIA	ODA Strategic Implementation Area
SOW	Scope of Work (OWEB Funding for SWCDs to Implement AgWQ Program; includes Focus Area Action Plan)
SWCD	Soil and Water Conservation District
TA	Technical Assistance
TMDL	Total Maximum Daily Load
USLE	Universal Soil Loss Equation
WQ	Water Quality

INTRODUCTION

In the 2021 Willamette Basin Mercury Total Maximum Daily Load (TMDL), the Oregon Department of Environmental Quality (DEQ) established the expectation for Designated Management Agencies (DMAs), including the Oregon Department of Agriculture (ODA), to develop a 5-year implementation plan, and to report progress on an annual and 5-year basis. ODA's implementation plan has been accepted by DEQ and is located here: https://www.oregon.gov/oda/Documents/Publications/NaturalResources/Willamette_Basin_Mercury_TMDL.pdf.

The Agricultural Water Quality (AgWQ) Program has developed the attached ODA Mercury TMDL Matrix (Matrix) as the framework for Mercury TMDL planning and reporting. The Matrix presents 18 ODA Strategies to address mercury on agricultural lands. Each Strategy includes a Measure, Timeline, and Milestone. For annual reporting on the 18 Strategies, ODA is leveraging (or adapting) existing initiatives, processes, and data to the extent possible. In annual reports, ODA will report on progress toward Milestones, once data are available to develop a Milestone for each Strategy. Additional Strategies may be developed in the future.

ODA's goal with the annual TMDL Reports is to satisfy reporting requirements, as well as tell the story of the local agricultural community in progress and efforts at protecting water quality.

TMDL Area

Management Areas and Soil and Water Conservation Districts

The following SWCD's and Management Areas are within the TMDLBoundaries:

Management Areas	*Soil and Water Conservation Districts*
Lower Willamette	West Multnomah
Clackamas Subbasin	Clackamas (part)
Tualatin River Watershed	Tualatin
Yamhill	Yamhill, Polk
Molalla/Pudding/French Prairie/North Santiam	Marion
Middle Willamette	Benton (part)
Upper Willamette andUpper Siuslaw	Upper Willamette (part)
Southern Willamette Valley	East Multnomah (part)
South Santiam	Linn
North Coast Basin (Multnomah Channel HUC10)	Columbia (part)

COMMUNICATIONS AND FOCUSED ACTIVITIES

Strategy 1 Engage Stakeholders on Willamette Mercury TMDL

Strategy	Engage stakeholders to discuss ODA approach to mercury TMDL
How	Present ODA approach to statewide and local stakeholders and solicit input
Fiscal Analysis	Existing Monies
Measure	(1) Number of presentations/year, (2) Number of non-ODA attendees/year
Timeline	Ongoing
Milestone	10 presentations per year
Status	(1) 9 ; 2024 included 9 presentations and one panel participation directly related to the Willamette Mercury TMDL. Most of the presentations were to SWCD personnel and SWCD Boards, one NRCS Working Group, and the panel participation was Johnson Creek TMDL panel. Automation/tracking of meeting attendance hasn't been completed, but an estimate of total is about 110 non-ODA people in attendance.
Adaptive Management	

Strategy 2 Public Messaging

Strategy	Develop and implement effective messaging to reduce erosion to the public
How	ODA work with partners to identify or develop effective messaging, utilizing 1) existing staff, 2) new PR staff, 3) hired marketing campaign
Fiscal Analysis	Existing Monies, new PR Hire, marketing campaign consultant; all options would need additional monies for publications, materials, surveys
Measure	Targeted community surveys of message recognition and knowledge
Timeline	Timeline is highly dependant on funding
Milestone	Message(s) identification, Target audience(s), Delivery Method(s), Success measure(s)
Status	Partner discussions beginning. Additional monies for PR and Marketing have not been received, some progress has been made on Message identification in Strategy 8 – Enhanced SIA (Focused Ag Solutions) where we got some extra monies for expansion of capabilities. For the Target Audience of Ag Producer's, the message that resonates well is Soil Health and Erosion prevention.
Adaptive Management	

Strategy 3 Water Quality Management Plans

Strategy	Update Area Plans with Mercury TMDL Practices and Measurable Objectives
How	DEQ-ODA presentation and LAC discussion, update plans during 'full' reviews only; add Tss Status and Trends in all Area Plans
Fiscal Analysis	Existing Monies
Measure	For Willamette Basin: (1) # of full reviews completed with DEQ-ODA & Local Advisory Committee (LAC) (2) # light reviews with landowners at these events

	(3) Measurable objectives and Tss in 100% of Area Plans/or noted for insert=ion at next full review
Timeline	Ongoing
Milestone	(1) First plan cycle adds mercury TMDL text to all area plans (2) Next cycle inserts one or more TMDL measurable objectives into WQ plans
Status	(1) There were 3 Full Reviews done in 2024 within the Willamette Basin (North Coast, Sandy, Mid Coast, and Southern Willamette Valley) (2) There were 4 Light Reviews completed in 2024 within the Willamette Basin (Clackamas, Lower Willamette, Middle Willamette, and Mollala-Pudding) (3) The Willamette Mercury TMDL has been inserted into the plans, but measurable objectives and Tss for the TMDL have not been standardized.
Adaptive Management	Will need to look at standardizing objectives and Tss implementation, the Focused Ag Solutions programs will aid with this standardization.

Strategy 4 Landowner engagement and implementation

Strategy	SWCDs engage landowners and provide technical assistance, seek funding assistance for practices focused on sediment
How	Inform landowners of link between erosion and mercury, benefical management practices, assistance avialble. SWCDs seek funding and align efforts with partners
Fiscal Analysis	Existing Monies (1) OWEB Scope of Work funding for 11 SWCDs (2) OWEB SIA TA funding for SIAs
Measure	By Management Area and Year: (1) # of events that actively engage LO (2) # landowners at these events (3) # landowners provided with technical assistance (4) # landowners provided with on-site technical assistance (5) # of implementation funding proposals submitted (6) # of funding proposals awarded (7) # of conservation plans written
Timeline	Ongoing
Milestone	Milestones will be developed based on the first couple of year's data; 2024 and 2025

Status	See Tables Below * Note that we don't have data tieing the event or TA to sedimentation, however, a majority of these events will cover sedimentation, soil health, cover crops, water management, or riparian plantings.
Adaptive Management	We will investigate adding an event emphasis to the data. Added # of LO's provided materials, as there was a substantial amount of focused outreach on erosion and cover crops that is not covered in the available metrics. Will need to investigate adding more modern metrics for video creation and use, website creation and use, etc.

	2024 Landowner Engagement				
Management Area	**No. of Events that actively engage landowners**	**No. of landowners at these events**	**No. of landowners Provided with materials**	**No. of landowners provided with technical assistance**	**No. of landowners provided with on-site technical assistance**
Clackamas	5	67	2598	49	35
Lower Willamette	0	13	417	31	47
Middle Willamette	9	191	156	110	34
Molalla-Pudding	15	379	4056	323	88
North Coast	4	101	38	68	46
South Santiam	0	0	0	74	12
Southern Willamette	2	76	100	18	7
Tualatin	6	247	590	107	69
Upper Willamette	1	30	30	1	1
Yamhill	15	350	180	82	78
TOTAL	**57**	**1,454**	**8,165**	**863**	**417**

2024 Implementation Proposals and Plans				
Management Area	No. of Implementation Funding Proposals Submitted	No. of Funding Proposals Awarded	No. of Conservation Plans Written	Acres of Conservation Plans Written
Clackamas	0	0	0	0
Lower Willamette	2	2	0	3
Middle Willamette	6	5	9	70
Molalla-Pudding	15	13	1	3
North Coast	1	1	1	8
South Santiam	2	2	4	8
Southern Willamette	1	1	1	19
Tualatin	9	9	4	115
Upper Willamette	1	1	0	0
Yamhill	6	5	1	8
TOTAL	**43**	**39**	**21**	**234**

Strategy 5 Landowner Engagement and Implementation

Strategy	SWCD's assist implementation of on the ground practices focused on sediment
How	SWCDs and partners help landowners implement practices that reduce mercury inputs to water bodies
Fiscal Analysis	Existing Monies (1) Existing SWCDs may have a tax base that can fund additional projects (2) Other funding such as NRCS/FSA, OWEB, DEQ 319 grants (3) landowners
Measure	By Management Area and Year: (1) Practice Groups (Upland practices and Riparian Practices) (2) # of Practices (3) Make data visible locally such that local entity can make goals and see progress
Timeline	(1) And (2) Ongoing; (3) By 2027
Milestone	Milestones will be developed based on the first couple of year's data; 2024 and 2025
Status	See Tables below.
Adaptive Management	

IMPLEMENTATION PRACTICES – RIPARIAN AND UPLAND CATEGORIES

2024 Willamette Basin Implementations – Riparian and Upland (Sedimentation Influencing Practices)		
Riparian	**Value**	**Units**
Land Management	687	acres
Exclusion Fencing	1,575	feet
Tree Breaks	6,500	feet
Heavy Use Area	778	sqft
Watering Facility	1	each
Upland		
Land Management	793	acres
Fencing	9,032	feet
Heavy Use Area	14,800	sqft
Compost Facility	2	Each
Water Management	1	Each

IMPLEMENTATION PRACTICES – FUNDING

2024 Willamette Basin Implementations – Funding Sources (Sedimentation Influencing Practices)		
	No. Implemented	**%**
CREP	2	2%
Landowner	19	23%
OWEB	12	15%
SWCD	50	60%
Total*	83	
By number implemented, not $		

IMPLEMENTATION PRACTICES – BREAKDOWN BY TYPE

2024 Willamette Basin Implementation Practice Breakdown (Sedimentation Influencing Practices)		
Brush, Riparian and Planting	**473**	**Acres**
314 Brush Management	38	
315 Herbaceous Weed Treatment	74	
384 Woody Residue Treatment	163	
391 Riparian Forest Buffer	57	
490 Tree shrub site prep	29	
612 Tree and Shrub Establishment	75	
647 Early Successional Habitat	2	
550 Range Planting	35	
Fencing and Windbreaks	**17,737**	**Feet**
382 Fence	10,607	
422 Hedgerow Planting	6500	
380 Windbreak Establsihment	630	
Livestock Heavy Use Area	**15,578**	**SqFt**
561 Heavy Use Area	15,578	
Pasture Management	**143**	**Acres**
512 Pasture and Hay Planting	5	
528 Prescribed Grazing	138	
Conservation Cover	**740**	**Acres**
327 Conservation Cover	200	
340 Cover Crop	540	

Manure Composter	**2**	**Each**
317 Compost Facility	2	
Tillage Management	**83**	**Acres**
329 No Till	83	
345 Residue and Tillage Management	0.1	
Irrigation	**126**	**Acres**
441 Micro-Irrigation	126	
Drainage Management	**325**	**Feet**
606 Subsurface drain	285	
620 Underground Outlet	40	
Waterways	**3**	**Facilities**
614 Watering Facility	1	
558 Roof Runoff Structure	2	

IMPLEMENTATION PRACTICES – BY MANAGEMENT AREA

2024 Implementations by Management Area (MA) (Sediment Influencing Practices Only)											
	CL	**LW**	**MW**	**MP**	**NC**	**SS**	**SW**	**TU**	**UW**	**YA**	
Brush, Riparian and Planting	0	90	140	184	0	0	5	35	0	19	428 ac
Fencing and Windbreaks	0	1,575	0	7,130	0	0	0	9,032	0	0	17,737 ft
Heavy Use Area	0	778	35	4,165	0	0	0	10,600	0	0	15,578 sqft
Pasture Management	0	142	0	0	0	0	0	0	0	0	142 ac
Conservation Cover	0	0	0	653	0	0	0	4	0	83	740 ac
Irrigation	25	39	0	62	0	0	0	0	0	0	126 ac
Drainage	0	0	285	40	0	0	0	0	0	0	325 ft
Waterways	0	1	0	1	0	1	0	0	0	0	3 each
Manure Compost	0	0	0	0	0	0	0	1	1	0	2 each
Tillage Management	0	0.1	0	0	0	0	0	0	0	83	83 ac

Strategy 6: ODA Ag Drainage Channel Maintenance

Strategy	Maintenance and Regulation of Ag Drainage Channels via Notices of work and monitoring
How	Program to monitor and regulate agricultural maintenance of natural drainage channels while restoring bank stabilization after maintenance
Fiscal Analysis	Existing Monies
Measure	Continually tracked by miles of channel maintained and number of permits within the TMDL Area.
Timeline	Long-term program (although new)
Milestone	Goal is to increase utilization each year
Status	2024 includes **10 ADCM permits** covering **10 miles of channel**. There have been about 1.75 linear miles of drainage channels maintained with approximately 4,550 cubic yards removed since 2019. This is the first year of reporting, but there has not been a big influx of new ADCM permits. Since this is the first year of reporting, there is no comparison.
Adaptive Management	There are currently no plans for change. However, the ADCM program systematically reviews itself biennially and will continue to do so at each TMDL implementation report.

Strategy 7: NRCS and FSA-CREP Practices IMPLEMENTED

Strategy	Maintenance and Regulation of Ag Drainage Channels via Notices of work and monitoring
How	NRCS, FSA, and partners help landowners implement practices that reduce mercury inputs to water bodies
Fiscal Analysis	Existing Monies; NRCS/FSA Farm Bill conservation programs
Measure	By Management Area and Year: (1) Practice Groups (Upland practices and Riparian Practices) (2) # of Practices Make data visible locally such that local entity can make
Timeline	Ongoiong
Milestone	Milestones will be developed based on the first couple of year's data; 2024 and 2025

Status	Due to staff turnover, NRCS has not shared data with the State since 2022. FSA/CREP data agreements have not been put in place yet.
Adaptive Management	There are ongoing conversations with NRCS/FSA regarding data.

Strategy 8: Focused Agricultural Solutions – EPA Restoration Grant

Strategy	A new focused agricultural solutions approach to an SIA
How	Includes Mercury/Erosion Agricultural Solutions listing and publication, Community Outreach methods, and monitoring techniques
Fiscal Analysis	EPA Restoration Grant, OWEB SIA Funds and Existing Monies;
Measure	(1) Ag solution (BMP) development and publication (2) Number and type of community engagement/outreach events (3) Monitoring strategies developed
Timeline	2024-2029
Milestone	(1) Ag Solutions (2025) (2) 2025-2029 – Outreach Events (3) Monitoring strategies developed
Status	(1) A draft Ag Solution/BMP list has been developed, optimization and publication will happen in 2025 (2) The FAS has yielded many opportunities for ODA conversations to the community and a refinement of effective messaging focusing on Soil Health and Soil Loss as noted in Strategy 1 – Outreach. The first SWCD (Polk) in the program has begun outreach in 2025. (3) A new Remote Review has been developed for evaluation and prioritization of erosion potential, stream buffers and bare ground.
Adaptive Management	

COMPLIANCE

Strategy 9: Compliance activities

Strategy	Ensure compliance with relevant Ag Water Quality regulations
How	ODA conduct investigations to ensure or achieve compliance with: waste rule, riparian rule, sediment rule (if applicable)
Fiscal Analysis	Existing monies
Measure	(1) Cases, By Management Area and Year: No. of Cases Open (sediment, riparian, both) (2) Outcomes, By Management Area and Year: No. already in compliance (LOC) No. brought into compliance (LOC2) No. pre-enforcement notification (PRE-ENF) No. Notice of Noncompliance (NON) No. of Civil Penalties (CP) (3) Cases Timeline, by Management Area and Year: No. of cases achieving Process Management System (PMS) timelines
Timeline	Ongoing in response to complaints, notifications, SIA's
Milestone	(1) No Milestone (2) No Milestone (3) 90% of cases achieve timelines identified in PMS Case review <+30 days, Site visit to agency action <= 45 days
Status	(1) See Case and Categories Tables below (2) See Case Outcomes Table below (3) See Case Timelines table below
Adaptive Management	

Area Cases

2024 Cases Opened	
Management Area	**No. of Cases**
Clackamas Subbasin (CS)	6
Lower Willamette (LW)	1
Middle Willamette (MW)	1
Molalla/Pudding/FP/NS (MP)	7
North Coast Basin (NC)	8
S. Willamette Valley (SW)	1
South Santiam (SS)	0

Tualatin River Watershed (TR)	5
Upper Willamette and Upper Siuslaw (UW)	4
Yamhill (Y)	2
Total	**35**

Category of Investigations (2024 and continued cases)							
	Riparian	**Sediment**	**Manure**	**Nutrients**	**Pesticides**	**Farm Roads**	**Other**
CS	3	6	4	2			
LW			1				
MW							
MP	4	5	2	1			
NC	6	5	4	2			1
SW			1				
SS							
TR	4	4	1				1
UW	1		3				
Y		1	1				
Total	18	21	17	5	0	0	2

Case Outcomes

	CASE OUTCOMES				
	LOC	**LOC2**	**PRE-ENF**	**NON**	**CP**
CS	1	2	5		
LW		1	1		
MW					
MP	3	1	4		
NC	1	1	5		
SW	1				
SS					
TR			5		
UW	1	1	3		
YA		1	1	1	
Total	7	7	24	1	0

Case timelines are measured in two ways: The first is a goal of 30 days from site visit to the date the case is submitted to case review. The second is a goal of 45 days from site visit to agency action. Following are the results for 2024 (data for 2024 fourth quarter have not yet been collected) expressed in the percentage of cases that met the measures:

	Site Visit to Case Review	Site Visit to Agency Action
2024 Q1	80%	50%
2024 Q2	100%	83%
2024 Q3	81%	52%

Strategy 10: Area Rule Review

Strategy	Analyze & Possibly Change Area Rules - are they adequate to ensure acheivable water quality goals?
How	ODA evaluates Area Rules and Adequacy, gathers input from Stakeholders, proceed with changes as necessary (factors related to mercury: bare ground, riparian conditions)
Fiscal Analysis	Existing monies
Measure	(1) ODA Review Milestone (2) No. of Area Rule Presentations (3) Beginning Process of Area Area Rule Changes
Timeline	Any Area Rule changes to be started by 2028
Milestone	(1) Completion of ODA Area Rule Review (2) No Milestone (3) Start of Area Rule Change Process (if applicable)
Status	(1) ODA is reviewing Area Rules in reflection of the Willamette Mercury and upcoming Temperature TMDL's (2) 13 minimum; ODA/DEQ site visit, Willamette County Public Works Meeting, statewide County meeting, all FAS/SWCD presentations (3) Rule changes for the Yamhill, Clackamas, Molalla-Pudding, and Southern Willamette Valley Management Areas are removing language referencing the RUSLE soil loss equation to align rules with other management areas. No TMDL specific rule changes are imminent at this time.
Adaptive Management	Extent of regulation changes has forced this ODA evaluation

Strategy 11: ODA Compliance and Cooperative Data

Strategy	ODA standardize Compliance Outcomes with ODA (NRCS) Practice Codes AND implementing method for entry of Voluntary Practices implemented in the field
How	ODA conduct investigations to ensure or achieve compliance with: waste rule, riparian rule, sediment rule (if applicable)
Fiscal Analysis	Existing monies; current ODA staff; Database creation would speed implementation from contracted resources
Measure	By Manaagement Area and Date, have the implemented practices available, both by Compliance and voluntary
Timeline	This is a new procedural practice to fall after the standardization of our basic internal data, goal to be complete by 2029
Milestone	The data flow diagram, path, and process is to be created first
Status	Not yet started
Adaptive Management	The TMDL requires quantification of sedimentation reduction practices and outcomes on an annual basis

Strategy 12: Strategic Implementation Area (SIA) Compliance Evaluation

Strategy	ODA conducts Compliance Evaluation at start of SIA process and updates data through SIA process
How	ODA evaluates likely compliance via public domain summer imagery and field verification from public venues (factors related to mercury: bare ground, riparian conditions)
Fiscal Analysis	Existing monies and ODA Staff
Measure	By MA, by SIA, # (%) tax lots at start (field evaluation) and end of ODA SIA compliance phase: (1) LC = Likely in Compliance (2) RO = Restoration Opportunity (3) CO = Compliance Opportunity (4) PV = Potential Violation
Timeline	For each SIA: Compliance evaluation is completed at beginning and updated at 'compliance end-Phase II,' which is at the four-year mark of the SIA process.
Milestone	For each SIA: By the end of the 4-year ODA SIA process, all ag tax lots are LC (Likely in Compliance) or RO (Restoration Opportunity).

<table>
<tr><td>Status</td><td>(1) By MA, by SIA, # (%) tax lots at start (field evaluation) and end of ODA SIA compliance phase:
Howell Prairie SIA, Molalla/Pudding, French Prairie, North Santiam MA
Compliance phase closed 11/4/2024.
<table><tr><th></th><th>LC</th><th>RO</th><th>CO</th><th>PV</th><th>Total</th><th>% In Compliance</th></tr><tr><td>Field Eval. Results</td><td>397</td><td>114</td><td>40</td><td>3</td><td>554</td><td>92.2%</td></tr><tr><td>Compliance End</td><td>402</td><td>125</td><td>25</td><td>2</td><td>554</td><td>95.1%</td></tr></table>
Deer Creek and South Yamhill River SIA, Yamhill Management Area
Compliance phase closes 6/30/2025.

North and South Scappoose Creeks SIA, North Coast MA
Compliance phase closes 11/29/2027.

Sauvie Island SIA, North Coast Management Area
Compliance phase closes 11/30/2027.

Bear Creek SIA, Upper Willamette Management Area
Compliance phase closes 11/30/2025.

Lower and Middle Clear Creeks SIA
Compliance phase closes 7/9/2025.</td></tr>
<tr><td>Adaptive Management</td><td></td></tr>
</table>

MONITORING

Strategy 13: Calculations and Modeling of Erosion Index

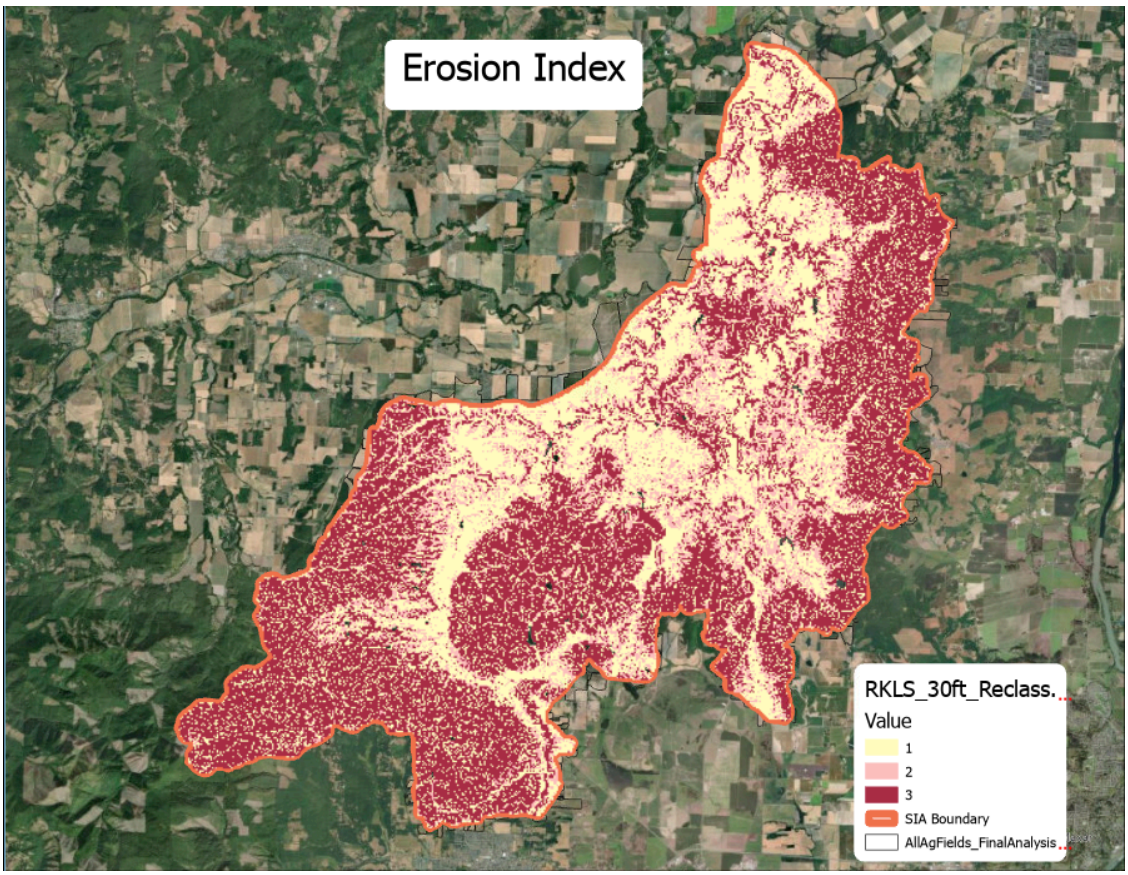
Strategy	ODA- Calculation of Erosion Index: GIS Analysis/modeling of susceptibility of landscape to erosion
How	ODA calculates erosion susceptibility from landscape parameters derived from aerial images
Fiscal Analysis	Existing monies
Measure	By MA and year: The erosion index will give a priority for restoration efforts
Timeline	Ongoiong
Milestone	(1) The first milestone will be the initial model output (2) Next will be ground verification

Status	(1) ODA has completed the initial Erosion Index modelling with existing layers (See example below) (2) Some ground verification has been done
Adaptive Management	This strategy has been elevated in priority due to the Focused Ag Solutions approach to reducing sedimentation. Next, the focus will be on utilization of the layer, in concert with other GIS layers.

Figure below is the mapped Erosion Index Calculation for Polk Focused Agricultural Solutions Area. The Erosion Index is the non-crop/management factors of the Universal Soil Loss Equation (USLE), for prioritization of outreach and education efforts.
Annual Soil Loss (ton/yr) = R * K * LS * C * P, where C and P are ignored (equal to 1) and:

A = Estimated Annual Soil Loss (ton/ac/year)
R = Rainfall erosivity factor
K = Soil Erodibility
LS = Slope Length and Steepness factor calculated from Digital Elevation Model.
C = Crop/Cover Factor (ignored by setting equal to 1)
P = Erosion Control Practice Factor (ignored by setting equal to 1)

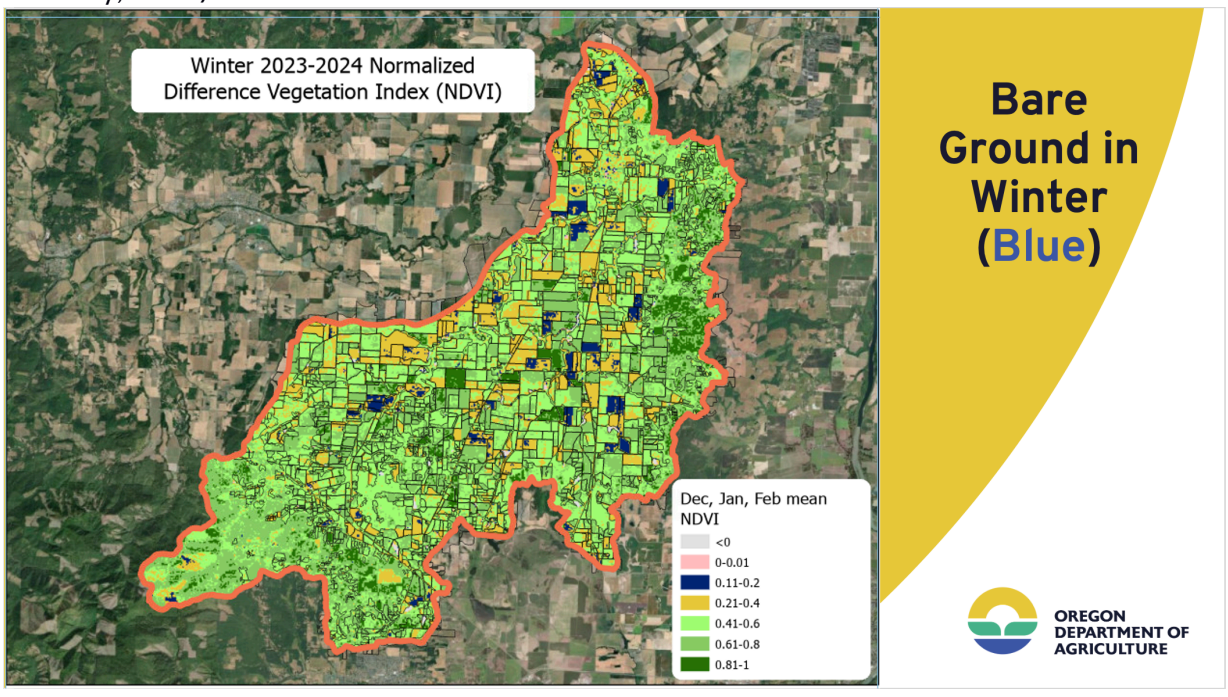
The Erosion Index has been classified into 3 categories of flat, undulating and sloping. This process is documented and easily expandable to larger areas.



Strategy 14: Vegetative Cover Evaluation of Ag Lands in Winter

Strategy	Vegetative Cover Evaluation of Ag Lands in Winter: Assess upland ag conditions that reduce erosion
How	ODA conduct remote assessments of cover on ag lands in winter: (1) Coarse visual assessment and (2) Remote sensing automated analysis
Fiscal Analysis	Existing monies: (1) current ODA staff (2) Unlikely that current ODA staff to scale this up to entire Willamette Basin
Measure	(1) By MA: HUC-12s with more or less winter cover - classes TBD (#, %) (2) By MA: ag lands with cover (acres, %)
Timeline	Pilot assessments to be available 2024
Milestone	Milestones to be developed if/when results are available
Status	Pilot winter assessment, and procedures for any area, have been completed for the Polk FAS. Example output is shown below. Next Milestones to be (1) Field Verification, (2) Modifications for Improvement and (3) Education/Outreach utilizing Data
Adaptive Management	

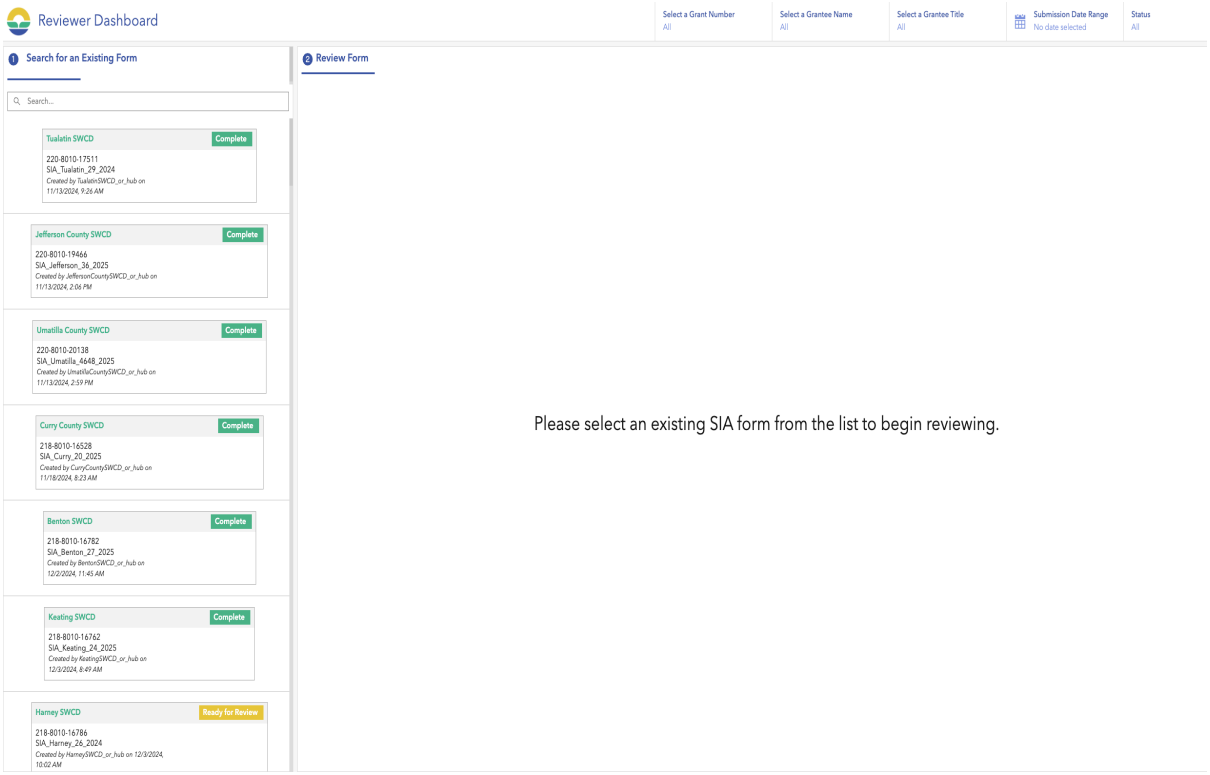
Figure below is the mapped Normal Differential Vegetation Index (NDVI-greenness factor) for Polk Focused Agricultural Solutions Area for the mean winter (December, January, February, 2024) NDVI.



Strategy 15: ODA Water Quality Program Data Flow and Reporting

Strategy	ODA Water Quality Program Data contained in common database
How	Standardize internal (SOW, SIA, FA, Compliance, Voluntary) & provide gateway for external data (OWRI, NRCS, CREP)
Fiscal Analysis	Existing monies; This progression is within our Strategic plan, but funding resources will accelerate the implementation of this strategy
Measure	(1) percentage of data contained in databases (2) Percent of data reported from databases
Timeline	The timeline will depend on funding sources, but pilot stages will be completed in 2023-25 biennium Goal to have internal data processes complete by 2029
Milestone	Each data source implemented in a database is a milestone
Status	EPA Restoration Grant/FAS funding has provided a head start here: (1) Approx. 5% of program data. All SIA data reports are now being reported directly into an accessible Database, 2024 data were entered directly from SWCDs. ODA is currently in the process of re-entering older SIA data into the DB. SOW, FAAP and Monitoring Plans are next to construct a direct DB entry (digitization) – happening spring 2025. (2) 0% is Reported Now – reporting comes after entry.
Adaptive Management	Next integration will be OWRI, Compliance, and Reporting.

The figure below is a screenshot from ODA WQ's Data Acquisition HUB. Fall 2024 incorporated SIA Annual Reports, in 2025 the HUB will expand to include data input from SWCD's for Scope of Work(SOW), Focus Area Action Plans(FAAP), and Monitoring Plans.



Strategy 16: Monitoring of Baseline Tss in Conjunction with other State Agencies

Strategy	Monitoring of baseline Tss on agricultural lands and in conjunction with other State DMAs and DEQ
How	(1) Discussions with other State DMAs regarding coordinated TMDL Monitoring/Utilizing common tools (ODF,DEQ) (2) Develop Plan Outline (3) Request Legislative Funding
Fiscal Analysis	Existing monies: (1) current ODA staff (2) Unlikely that current ODA staff to scale this up to entire Willamette Basin
Measure	Documentation of Discussions, Plan Outline and Funding Request
Timeline	The full-cycle of discussions, plan outline and funding request to be completed by 2028 (5yrs)
Milestone	Multi-agency plan for monitoring data
Status	Some initial conversations have been made between ODA and ODF
Adaptive Management	

Strategy 17: SWCDs Monitor Tss within Agricultural Areas

Strategy	SWCDs monitor TSS within agricultural lands
How	(1) Prioritize Existing Ambient Sites for Ag & Identify Holes (2) SWCDs in SIAs (3) SWCDs in Focus Areas
Fiscal Analysis	Existing $: (1) Monitoring Specialist (2) OWEB SIA monitoring grants (3) OWEB SOW for 1 Focus Area
Measure	By MA, by year: baseline TSS in mg/L
Timeline	(1) Prioritized 2025. (2) SIAs up to 10 years of monitoring (3) Focus Area monitoring timeline is undefined
Milestone	Milestones are the TSS targets listed in Table 10-2 of the TMDL
Status	Methodology for Strategic Tss Monitoring is being developed in the smaller Focused Ag Solution Areas for expansion to other areas.
Adaptive Management	.

Strategy 18: ODA Annual Reporting Web Map Publication

Strategy	ODA create a viaible map of ersion objectives and monitoring results
How	Utilize currently developing ODA infrastructure to report and visualize Area goals and progress
Fiscal Analysis	Existing $ and program strategies will get us most of the way there, additional funding via grants and/or legislature will be used for specific aspects of Area Plan Reporting Strategy
Measure	Through visible publication of results on the website maximum TSS in mg/L
Timeline	This project will be prioritized within our ODA IS Strategic Implementation Plan
Milestone	(1) Hardware and software installed via Strategic Imp Plan (2) Data use, visualization and entry projects pilots
Status	Currently in the preparatory stage here, data digitization and acquisition must come prior to this work
Adaptive Management	