



DRAFT

Seal Rock Water District

Drinking Water Protection Plan

April 2026



Prepared by:

GSI Water Solutions, Inc.

1600 SW Western Boulevard, Suite 240, Corvallis, OR 97333

This plan was funded by a Clean Water State Revolving Fund Planning Loan from the Oregon Department of Environmental Quality.

This page intentionally left blank.

Contents

SECTION 1: Introduction.....	7
1.1 Background and Goal	7
1.2 Seal Rock Water District Source Water Area.....	7
1.2.1 Water Rights.....	12
1.3 Drinking Water Protection Plan Development.....	12
1.3.1 Source Water Assessment.....	12
1.3.2 Plan Development Process	12
1.3.3 Public Outreach and Engagement.....	13
1.4 Organization of the Plan	13
SECTION 2: Risk Assessment	15
2.1 Introduction to Risk Assessment	15
2.2 Natural Hazards	16
2.2.1 Drought.....	16
2.2.2 Low Streamflow	17
2.2.3 Highly Erodible Soils	18
2.2.4 Landslides.....	20
2.2.5 Earthquakes.....	20
2.2.6 Tsunamis.....	20
2.2.7 Saltwater Intrusion	20
2.2.8 Severe Storms and Flooding.....	21
2.2.9 Wildfire	21
2.2.10 Invasive Species	21
2.3 Municipal	21
2.3.1 Infrastructure	21
2.3.2 Vandalism and Sabotage	22
2.3.3 Cybersecurity.....	22
2.4 Forest Management.....	22
2.4.1 Clearcut Harvest	22
2.4.2 Non-Clearcut Harvest	23
2.4.3 Chemical Applications	23
2.4.4 Access Roads.....	23
2.4.5 Riparian Impacts.....	24
2.5 Rural Residential.....	24
2.5.1 Rural Homes and Landscaping.....	24
2.5.2 Domestic Wells	24
2.5.3 Septic Systems	24
2.6 Transportation.....	25
2.6.1 Roads and Stream Crossings.....	25
2.7 Recreation	25
2.7.1 Creek Recreation	25
2.8 Agriculture	25

2.8.1	Non-Irrigated Crops	25
2.8.2	Livestock	25
2.9	Industrial.....	26
2.9.1	Electric Power Transmission Lines	26
2.9.2	Rock Quarry.....	26
2.10	Encampments and Dumpsites.....	26
2.10.1	Off-Grid Encampments.....	26
2.10.2	Dumpsites.....	26
2.11	Identifying and Addressing New Risks.....	26
SECTION 3:	Strategies to Address Risks.....	29
3.1	Introduction to Strategies.....	29
3.2	District Activities.....	33
3.3	Monitoring.....	33
3.4	Landowner Coordination	34
3.5	Outreach	34
3.6	Pollution Prevention.....	34
3.7	Critical Area Protection and Restoration	35
3.8	Emergency Planning	36
SECTION 4:	Implementation Plan.....	37
4.1	Overview of Timeline and Partnerships	37
4.2	Phase 1.....	45
4.2.1	District Activities	45
4.2.2	Monitoring.....	45
4.2.3	Landowner Coordination.....	46
4.2.4	Outreach.....	47
4.2.5	Pollution Prevention	47
4.2.6	Critical Area Protection and Restoration.....	48
4.2.7	Emergency Planning.....	48
4.3	Phase 2.....	49
4.3.1	District Activities	49
4.3.2	Monitoring.....	49
4.3.3	Landowner Coordination.....	50
4.3.4	Outreach.....	50
4.3.5	Pollution Prevention	51
4.3.6	Critical Area Protection and Restoration.....	51
4.3.7	Emergency Planning.....	51
4.4	Phase 3.....	52
4.4.1	District Activities	52
4.4.2	Monitoring.....	52
4.4.3	Landowner Coordination.....	53
4.4.4	Outreach.....	53
4.4.5	Pollution Prevention	53
4.4.6	Critical Area Protection and Restoration.....	53

4.4.7	Emergency Planning	54
4.5	Potential Funding Sources	54
SECTION 5: Contingency Plan		59
5.1	Threats to the Drinking Water Supply	59
5.2	Prioritization of Water Usage	60
5.3	Responses to Potential Incidents	60
5.4	Key Personnel and Notification Roster	60
5.4.1	Key Personnel	60
5.5	Short-term and Long-term Replacement Potable Water Supplies	61
5.5.1	Short-term Actions	61
5.5.2	Long-term Actions	62
5.6	Short-term and Long-term Conservation Measures	62
5.7	Plan Testing, Review, and Update	63
5.8	Personnel Training	63
5.9	Public Education	63
5.10	Logistical and Financial Resources	64
SECTION 6: Future Water Sources		65

Exhibits

Exhibit 1-1.	Beaver Creek Drinking Water Source Area Overview	9
Exhibit 1-2.	Map of Landownership	11
Exhibit 2-1.	Risk Prioritization Matrix	15
Exhibit 2-2.	Drought Conditions 2012 to 2025	17
Exhibit 2-3.	Drinking Water Source Area Erosion Potential Map	19
Exhibit 3-1.	Overview of Risks Addressed by Strategy	31
Exhibit 4-1.	Implementation Plan Overview by Phase	39

Appendices

Appendix A	Seal Rock Water District Water Rights
Appendix B	Public Outreach Examples
Appendix C	Seal Rock Water District Source Water Assessment (2023)

Abbreviations and Acronyms

AMI	Advanced Metering Infrastructure
AWWA	American Water Works Association
BLM	Bureau of Land Management
BRAT	Beaver Restoration Assessment Tool
cfs	cubic feet per second
DEQ	Department of Environmental Quality
District	Seal Rock Water District
DOGAMI	Department of Geology and Mineral Industries
DWPP	Drinking Water Protection Plan
DWSA	drinking water source area
EQIP	Environmental Quality Incentives Program
ERP	Emergency Response Plan
FERNS	Forest Activity Electronic Reporting and Notification System
GAC	granular activated carbon
HMP	Hazard Mitigation Plan
NRCS	Natural Resources Conservation Service
NWQI	National Water Quality Initiative
ODF	Oregon Department of Forestry
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
OHA	Oregon Health Authority
OPRD	Oregon Parks and Recreation Department
ORWARN	Oregon Water/Wastewater Agency Response Network
OWEB	Oregon Watershed Enhancement Board
SWA	Source Water Assessment
SWAT	Soil and Water Assessment Tool
SWCD	Soil and Water Conservation District
TMDL	Total Maximum Daily Load
USFS	United States Forest Service
WMCP	Water Management and Conservation Plan
WMP	Water Master Plan

SECTION 1: Introduction

This Drinking Water Protection Plan (DWPP) was developed by GSI Water Solutions, Inc (GSI) on behalf of Seal Rock Water District (District) with guidance from a team of technical advisors and community members, as well as public input. The DWPP provides a framework for the District to identify and address potential risks to the Beaver Creek watershed, its drinking water source, while meeting the criteria for state approval of a DWPP.

1.1 Background and Goal

In Oregon, a public water system can voluntarily develop a DWPP to protect its drinking water supply from potential contaminant sources. By focusing on protecting the source watershed, communities can start with high quality water from the source, reducing the need for complex and costly treatment systems while protecting public health. The 1996 amendments to the federal Safe Drinking Water Act established new requirements and provided resources to the Oregon Department of Environmental Quality (DEQ) and Oregon Health Authority (OHA) to provide communities with assistance with drinking water protection. DEQ and OHA both review DWPPs; however, DEQ administers the approval process for DWPPs for surface water sources and OHA administers the certification process for DWPPs for groundwater sources.

The goal of this DWPP is to provide a practical, collaboratively developed guide for protecting the District's Beaver Creek water supply. The DWPP identifies risks in the source water area, lays out strategies to eliminate or mitigate those risks, and presents a phased implementation plan for the strategies. The DWPP also includes a contingency plan describing actions to be taken if the Beaver Creek water source is unavailable and considers the District's future water supply needs.

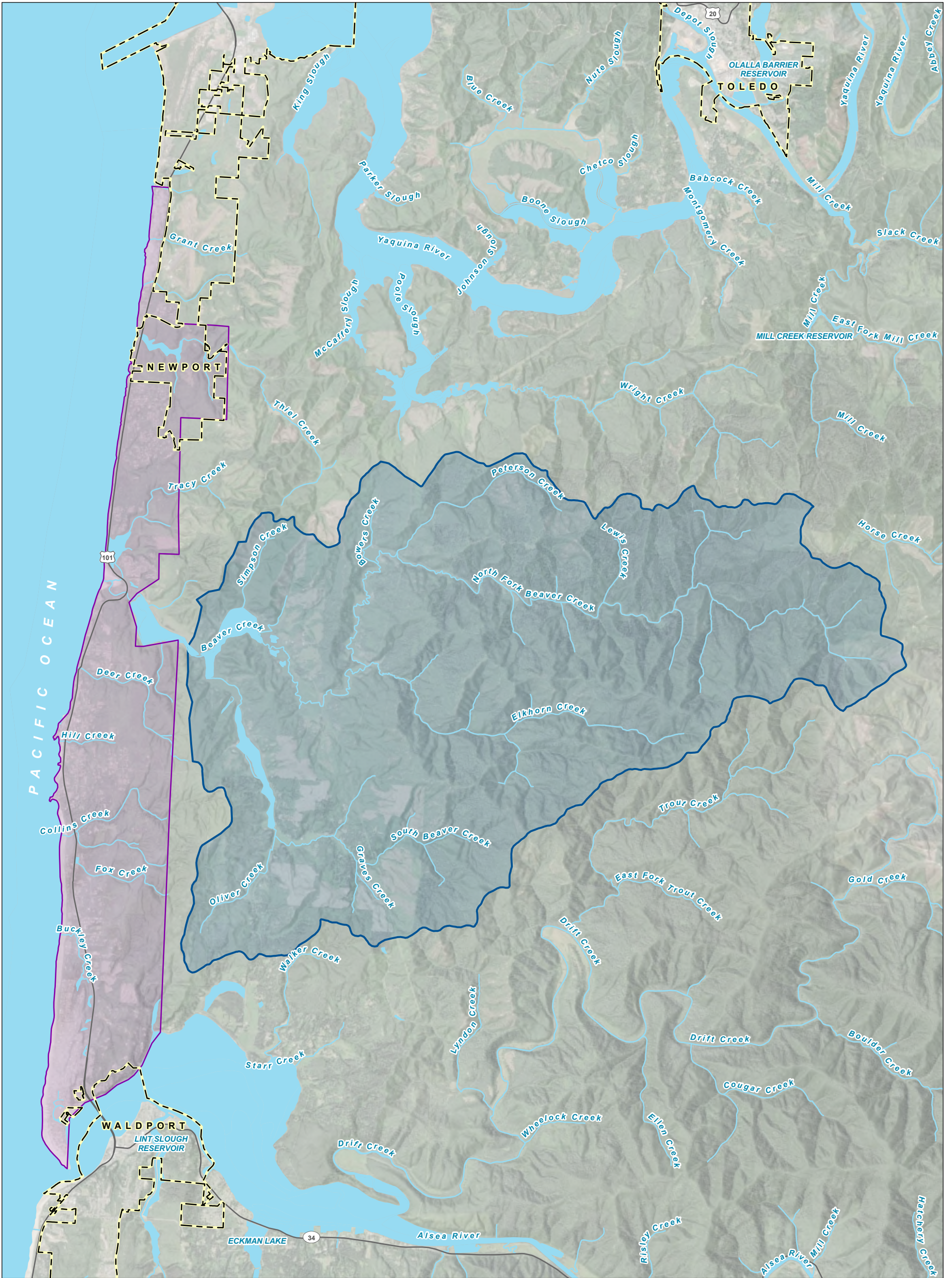
1.2 Seal Rock Water District Source Water Area

Seal Rock Water District serves an unincorporated area of Lincoln County in the Mid-Coast region of Oregon. The District's service area covers an 11.5-mile stretch of coastline from Henderson Creek south to the north side of Alsea Bay just north of Waldport. The District serves a population of approximately 5,983 through primarily residential connections (approximately 98 percent of accounts are single-family homes) with some commercial and institutional customers, such as the Seal Rock Fire Protection District and the Newport Municipal Airport. The Mid-Coast region is a popular tourist destination, and a portion of the residential service connections are understood to be vacation rentals or second homes that are not occupied year-round.

Prior to 2022, the District's primary water source was the Siletz River. Water was diverted under the District's water use permit at the City of Toledo intake, treated at a water treatment plant in the City of Toledo, and conveyed to the District's service area via a 7-mile transmission pipeline with an interconnection to the District's distribution system. The Oregon Water Resources Department (OWRD) issued the District a permit to divert water from Beaver Creek for municipal use in 2016. Following construction of the intake, water treatment plant, and associated infrastructure, the District transitioned to using Beaver Creek as its primary water source in 2022. The District maintains interconnections with the Cities of Toledo and Newport that can be used during water shortages. The Cities of Toledo and Newport both have approved DWPPs for their communities' drinking water source areas. Given that Beaver Creek is now the District's primary water source and DWPPs exist for the Siletz River drinking water source areas, this DWPP focuses on the Beaver Creek watershed.

The District's Drinking Water Source Area (DWSA) within the Beaver Creek watershed encompasses 30.49 square miles, with a little over half of the area (52.3 percent) falling within the Siuslaw National Forest

managed by the US Forest Service Central Coast Ranger District. Other major land ownership categories include private rural residential (23.4 percent), private industrial forest (17.6 percent), and agricultural (3.8 percent). About 2.6 percent of the DWSA is owned by the Oregon Parks and Recreation Department (OPRD) and managed as the Beaver Creek State Natural Area, part of Brian Booth State Park. About 0.2 percent of the DWSA is managed by the Bureau of Land Management. Exhibit 1-1 depicts the Beaver Creek DWSA and the District's service area. Exhibit 1-2 shows land ownership in and around the Beaver Creek DWSA as shown in the 2023 Source Water Assessment prepared by DEQ and OHA, which does not include OPRD lands acquired after 2017.



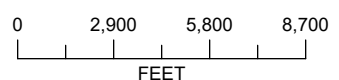
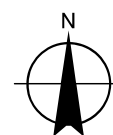
LEGEND

- Seal Rock Water District Service Area
- Beaver Creek Drinking Water Source Area
- All Other Features**
- City Boundary
- Major Road
- Watercourse
- Waterbody

EXHIBIT 1-1

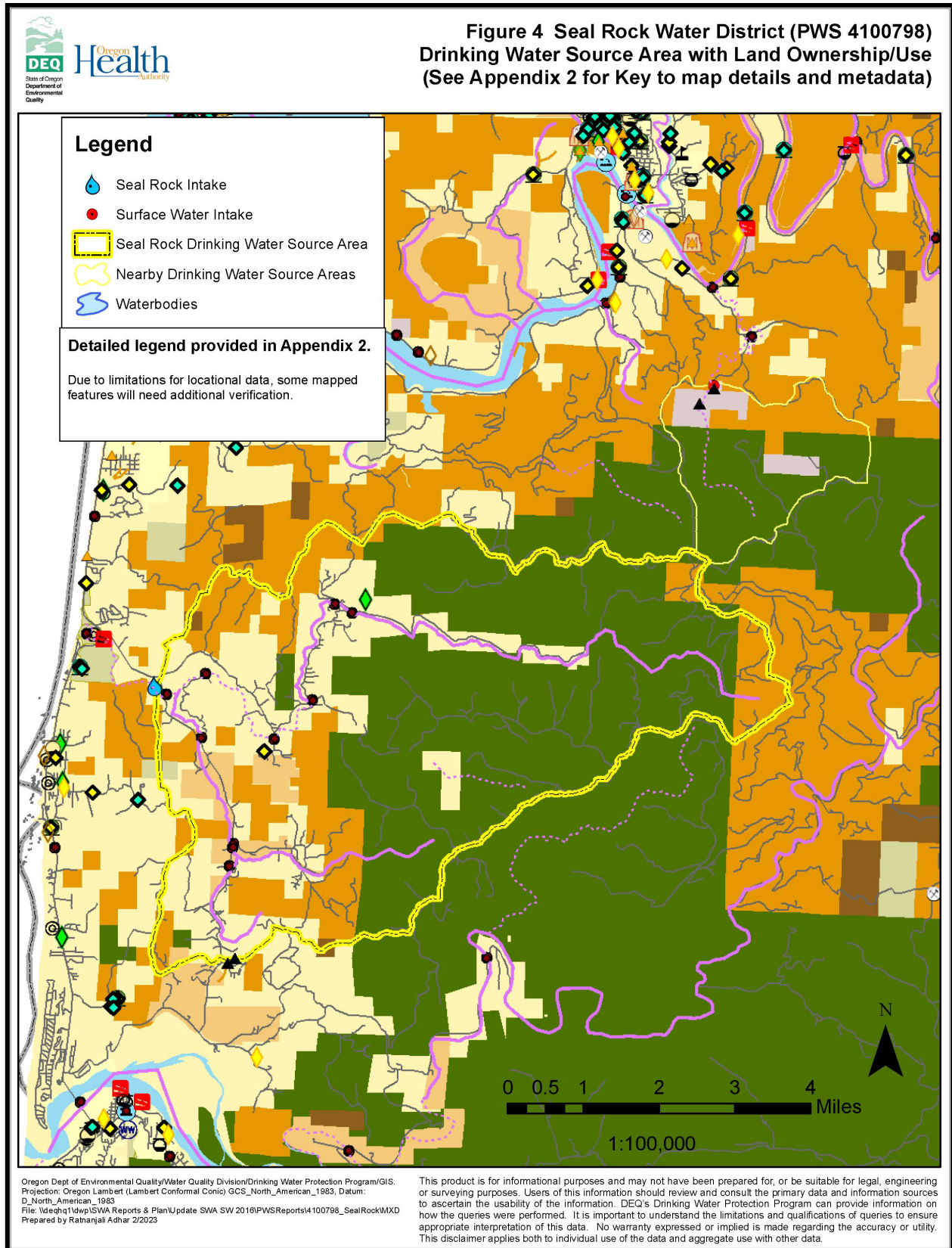
Beaver Creek Drinking Water Source Area Overview
Seal Rock Water District Drinking Water Protection Plan

Date: April 21, 2026
 Data Sources: BLM, ESRI, ODOT, USGS, Imagery (2024)



This page intentionally left blank.

Exhibit 1-2. Map of Landownership



1.2.1 Water Rights

The District's primary water supply from Beaver Creek is authorized by a water use permit (Permit S-55012) that allows the use of up to 2.0 cubic feet per second (cfs) of water for municipal use, equivalent to about 1.3 million gallons per day (mgd). As mentioned above, prior to 2022 the District used the Siletz River as its source of supply through an interconnection with the City of Toledo, and the District holds a permit (Permit S-40277) authorizing the use of up to 2.6 cfs from the Siletz River. The permit for Beaver Creek includes a condition prohibiting the District from withdrawing water from the Siletz River unless water is not reasonably available under its Beaver Creek permit and limiting the total use of water under both permits to 2.6 cfs.

The District also holds water right certificates for the use of water from Hill Creek (also known as Deer Creek) and Henderson Creek. These water rights are protected instream through a 99-year time-limited instream transfer, and the District will not request early termination of the transfer before 2118 unless water is not available under the District's Beaver Creek permit and the water under these certificates is needed for municipal use. Therefore, these water rights do not currently authorize use for municipal water supply, and the Hill Creek and Henderson Creek watersheds are not considered part of the District's DWSA or considered further in this DWPP.

Appendix A presents a table of the District's water rights. Additional information about the District's water rights can be found in the District's 2024 Water Management and Conservation Plan (WMCP).

1.3 Drinking Water Protection Plan Development

1.3.1 Source Water Assessment

DEQ prepared Source Water Assessments (SWA) for public water systems throughout Oregon in the early 2000s to fulfill one of the requirements of the Safe Drinking Water Act. Between 2016 and 2020, DEQ updated the SWAs with additional information. As noted above, the District obtained its water supply through an interconnection with Toledo prior to 2022, and the SWAs that DEQ prepared for Toledo covered the District's drinking water source area in the Siletz River watershed, so DEQ did not prepare a separate SWA for the District until 2023.

The SWA contains: a delineation of the drinking water source area within the Beaver Creek watershed supplying the District's water system; maps showing highly erodible soils near streams, landslide hazard areas, patterns of land use and ownership, and potential point sources of pollution from human activities; tables with information about potential contaminant sources; and resources for developing drinking water protection strategies. During development of the DWPP, DEQ also provided an updated erosion sensitivity map for the watershed. The DWPP Team used the 2023 SWA along with the updated erosion sensitivity map as a starting point for the risk assessment described in Section 2.

1.3.2 Plan Development Process

DEQ awarded funding to the District in 2025 through a Clean Water State Revolving Fund planning loan to develop a DWPP. The District convened a team of community members, government agencies, local organizations, and watershed landowners to provide input to guide development of the DWPP, facilitated by the District's selected consultant, GSI Water Solutions, Inc. Exhibit 1-3 lists the DWPP Team members and their affiliations. Development of the plan began with a kickoff meeting in August 2025 and included multiple opportunities for public engagement as described further in Section 1.3.3. The District's Board of Directors reviewed the Final Draft DWPP and on [placeholder Date] approved submitting it to DEQ and OHA for approval.

Exhibit 1-3. Drinking Water Protection Plan Team Members

Name	Affiliation
Adam Denlinger	Seal Rock Water District
Baxter Call	Oregon Health Authority (Drinking Water Services)
Bill Montgomery	MidCoast Watersheds Council
Dave Young	Watershed resident and water user
Emily-Bell Dinan	Oregon Department of Fish and Wildlife
Evan Hayduk	MidCoast Watersheds Council
Jeff DeRoss	Golden Pond Timberlands LLC (Manulife)
Jennifer Beathe	Starker Forests
Jon French	Protect Oregon Watersheds
Josh Seeds	Oregon Department of Environmental Quality
Laura Johnson	Oregon Department of Environmental Quality
Margaret Treadwell	McKenzie River Trust
Matt Thomas	Oregon Department of Forestry
Mitchell LaChapelle	US Forest Service
Olivia Jasper	Oregon Department of Agriculture
Preson Phillips	Oregon Department of Parks and Recreation
Ted Dewitt	MidCoast Watersheds Council
Tyler Clouse	Lincoln Soil and Water Conservation District

1.3.3 Public Outreach and Engagement

Public outreach and engagement strengthened the DWPP by providing opportunities for individuals to contribute local knowledge about watershed conditions, potential contaminant sources, and preferred risk reduction strategies. The District hosted two public meetings on January 14, 2026, and April 29, 2026, with in-person and virtual attendance options to gather community feedback. The meeting on January 14 provided an overview of the planning process and discussed the risk assessment. The public meeting on April 29 focused on the draft DWPP. Information about the planning process and draft documents were available for public review at the meetings and online. Meeting recordings were posted online, and the District accepted comments during the meetings and via phone and email. Meeting announcements were promoted through social media, the District’s website, a press release, and messages in water bills. In addition, DWPP Team members shared information about the meetings with their organizations and constituents. Appendix B provides examples of outreach materials about the public meetings.

1.4 Organization of the Plan

The remainder of this plan is organized into the following sections:

- **Section 2:** Risk Assessment
- **Section 3:** Strategies to Address Risks
- **Section 4:** Implementation Plan
- **Section 5:** Contingency Plan
- **Section 6:** Future Water Sources

This page intentionally left blank.

SECTION 2: Risk Assessment

2.1 Introduction to Risk Assessment

Section 1.3.1 describes the SWA that DEQ prepared in 2023 after the District began using the Beaver Creek water source. The SWA served as the starting point for the District and the DWPP Team to conduct a qualitative risk assessment for the drinking water source area. In addition to maps showing the source area, areas of high erosion potential and landslide potential, and land ownership, the SWA includes a table listing potential contaminant sources in the watershed derived from a search of regulatory databases, aerial photographs, topographic maps, and communications with District staff. Appendix C of this DWPP includes the 2023 SWA and the updated erosion sensitivity map provided during DWPP development in 2025. The DWPP Team considered the potential risks from identified sites and land uses presented in the SWA along with natural hazards, water system management concerns, and issues identified through local knowledge of watershed conditions.

Once the DWPP Team identified the range of potential risks, they prioritized the risks based on the likelihood of the identified risk affecting the water source and the severity of the potential impacts to the drinking water source (e.g., water quality and water quantity impacts) and infrastructure. Scores for likelihood and impact were assigned for each risk on a scale of 1-5, with 5 being the highest. The scores were based on a DEQ-provided guidance document on water quality impacts from specific contaminant sources and from the DWPP Team’s expertise and local knowledge. The scores were combined using the matrix in Exhibit 2-1 to classify each risk as high, medium, or low priority. The District held a public meeting in January 2026 to share information about development of the DWPP, present the results of the preliminary risk assessment, and provide opportunities for public input on the potential risks and the prioritization. Community feedback from the public meeting was integrated into the final risk assessment.

Exhibit 2-1. Risk Prioritization Matrix

Likelihood	Impact				
	Insignificant (1)	Minor (2)	Moderate (3)	Severe (4)	Catastrophic (5)
Rare/very unlikely (1)	Low	Low	Low	Low	Medium
Unlikely (2)	Low	Low	Medium	Medium	Medium
Possible (3)	Low	Medium	Medium	Medium	High
Likely (4)	Low	Medium	Medium	High	High
Almost certain (5)	Medium	Medium	High	High	High

The final risk assessment incorporating DWPP Team expertise and public feedback is shown below. Risks are divided into nine general categories with associated subcategories:

- Natural Hazards
 - Drought
 - Low streamflow
 - Highly erodible soils

- Landslides
- Earthquakes
- Tsunamis
- Saltwater intrusion
- Severe storms and flooding
- Wildfire
- Invasive species
- Municipal
 - Infrastructure
 - Vandalism and sabotage
 - Cybersecurity
- Forest Management
 - Clearcut harvest
 - Non-clearcut logging and thinning
 - Chemical applications
 - Access roads
 - Riparian impacts
- Rural Residential
 - Rural homes and landscaping
 - Domestic wells
 - Septic systems
- Transportation
 - Roads and stream crossings
- Recreation
 - Creek recreation
- Agriculture
 - Non-irrigated crops
 - Livestock
- Industrial
 - Electric power transmission lines
 - Rock quarry
- Off-grid Encampments
 - Encampments
 - Dumpsites

Sections 2.2 through 2.6 present the results of the risk assessment. Section 2.11 describes the process for identifying and responding to new risks that could arise in the Beaver Creek watershed due to changes in land uses and activities.

2.2 Natural Hazards

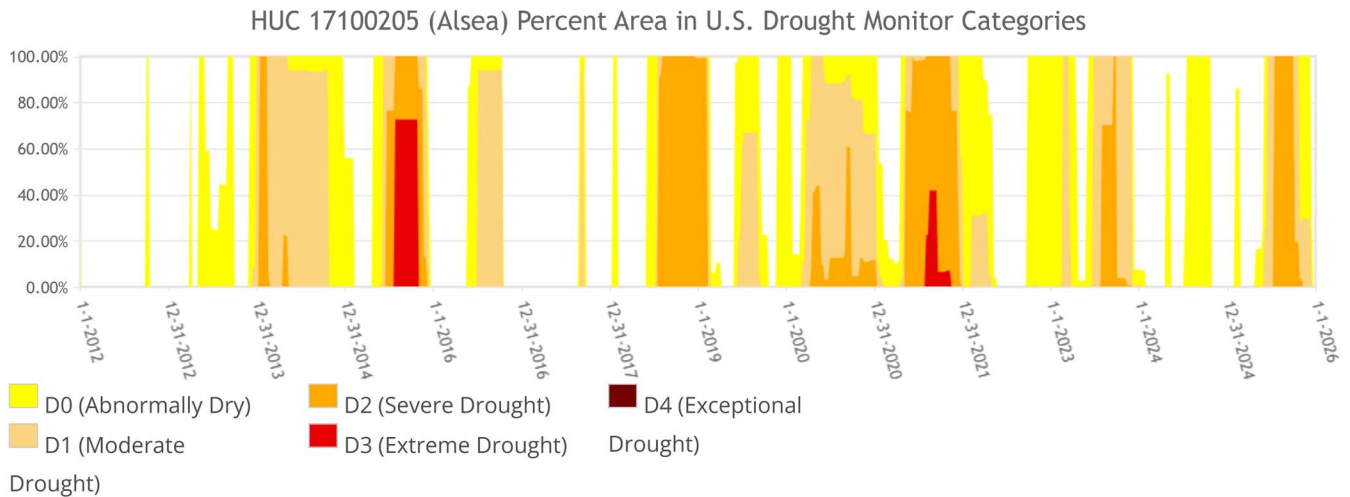
2.2.1 Drought

Likelihood	Impact	Overall Risk
4	4	High

Beaver Creek relies on rainfall and has limited natural storage. Drought conditions can reduce precipitation input to the creek while also reducing soil moisture and affecting vegetation conditions and evapotranspiration in the watershed, which may increase the risk of wildfire. Seasonal drought conditions are becoming increasingly frequent in the Mid-Coast region, and climate change projections show a higher

likelihood of prolonged, intense drought in the future. As shown in Exhibit 2-2, the Alsea basin containing Beaver Creek has experienced periods of moderate to extreme drought several times in recent years.

Exhibit 2-2. Drought Conditions 2012 to 2025



From the U.S. Drought Monitor website, <https://droughtmonitor.unl.edu/DmData/TimeSeries.aspx>, 3-3-2026



Prolonged dry conditions in the watershed can significantly reduce streamflow, impairing the District’s ability to meet peak demands. The District has emergency backup interconnections with the Cities of Newport and Toledo, and 3.5 million gallons of water storage capacity.

2.2.2 Low Streamflow

Likelihood	Impact	Overall Risk
4	4	High

Low streamflow may increase the likelihood of water shortages or result in the need for curtailment to ensure that the available water supply can meet demands. Low flows may be caused by drought or other factors and are likely to become more prevalent as climate change continues to affect the region. Other factors, such as canopy cover and road density, may also affect streamflow and water quality.

Low flows impact water quality by concentrating naturally occurring and human-influenced pollutants, such as nutrients and pathogens, because of decreased dilution capacity. Low flows are associated with increased stream temperatures, lower dissolved oxygen, and algae and bacterial growth, affecting the effectiveness of water treatment. Beaver Creek is listed under Section 303(d) of the Clean Water Act as impaired for dissolved oxygen, alkalinity, and temperature. DEQ has not yet prepared a Total Maximum Daily Load (TMDL) plan for addressing these limitations and does not anticipate having the resources to do so before the 2030s. The District’s Permit S-55012, which authorizes the use of water from Beaver Creek, requires streamflow and water temperature monitoring, with annual reporting to OWRD to demonstrate that municipal diversions are not negatively impacting the creek. The Oregon Department of Fish and Wildlife (ODFW) has not yet applied for an instream water right on Beaver Creek as it does not meet ODFW’s prioritization qualifications at this time. Because of the watershed’s relatively high rate of public land ownership, limited agricultural activity, and low irrigation use, it is considered less at risk of development compared to other waters statewide. ODFW may consider the need for an instream water right when other prioritized areas have been addressed.

2.2.3 Highly Erodible Soils

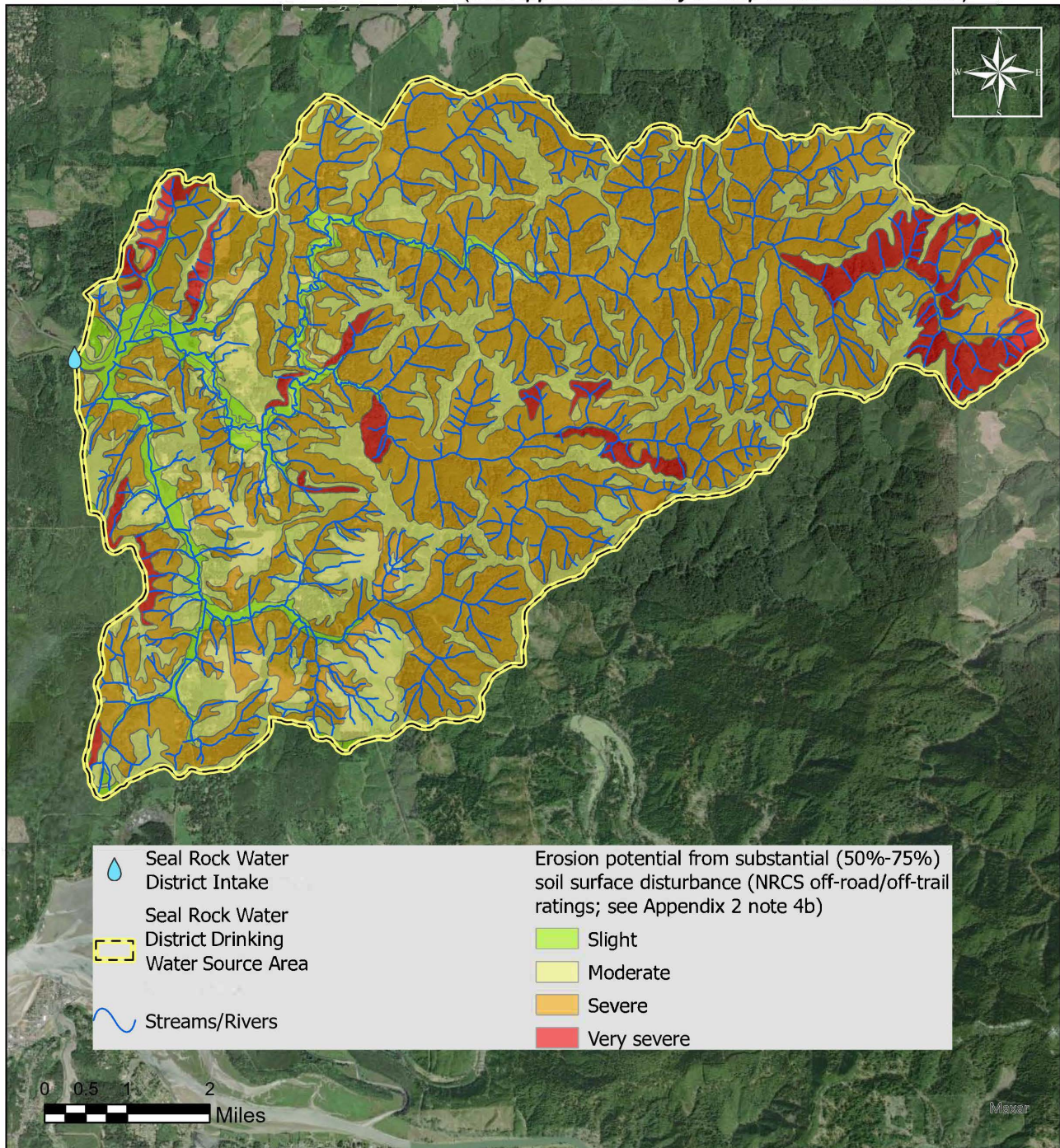
Likelihood	Impact	Overall Risk
3	3	Medium

The District's 2023 SWA notes that 88 percent of the stream miles in the Beaver Creek watershed have highly erodible soils present within 300 feet of waterways, and updated erosion potential mapping from DEQ in 2025, reprinted below as Exhibit 2-3, shows significant portions of the watershed have severe or very severe erosion potential if ground-disturbing activities occur in these areas. Erosion and transport of sediment to waterways increase turbidity in the drinking water source. Higher turbidity levels may be associated with higher levels of bacteria.

Exhibit 2-3. Drinking Water Source Area Erosion Potential Map



Figure 2b. Seal Rock Water District (PWS 00798) Drinking Water Source Area Erosion Potential for Management Activities with Soil Surface Disturbance (See Appendix 2 for key to map details and metadata)



Mosaic imagery basemap developed by ESRI, 0.6 meter resolution in the continental US.
 Oregon Dept of Environmental Quality/Water Quality Division/Drinking Water Protection Program /GIS .
 Projection: Oregon Lambert (Lambert Conformal Conic) GCS _ North _ American _ 1983
 File: \DEQH\Q1\DWPP\10_DWP_GISProjects\01SourceWaterAssessments\Erosion_Map_Updates_2025\Final_Deliverables\4100798_SealRockWD_USWAJuly2025
 Prepared by: EF 28July2025

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering or surveying purposes. Users of this information should review and consult the primary data and information sources to ascertain the usability of the information. DEQ's Drinking Water Protection Program can provide information on how the queries were performed. It is important to understand the limitations and qualifications of queries to ensure appropriate interpretation of this data. No warranty expressed or implied is made regarding the accuracy or utility. This disclaimer applies both to individual use of the data and aggregate use with other data.

2.2.4 Landslides

Likelihood	Impact	Overall Risk
3	4	Medium

Landslide deposits are mapped in the lower watershed. If a landslide occurred near the intake, it could potentially damage infrastructure, block stream channels, and increase turbidity beyond treatable levels. Landslide occurrence may be affected by land uses (e.g., road construction and timber harvest activities) and by other natural hazards (e.g., earthquakes and severe storms). Erosion from a landslide that occurred in the watershed in 2025 is still causing slightly elevated turbidity, but the District's water treatment plant is capable of treating water with currently observed turbidity levels.

2.2.5 Earthquakes

Likelihood	Impact	Overall Risk
3	4	Medium

Seal Rock is located in the Cascadia Subduction Zone, which has an approximately 37 percent chance of producing a major earthquake along the Oregon coast in the next 50 years. Information available from the Oregon Department of Geology and Mineral Industries (DOGAMI) shows that the soils in Lincoln City typically have low to moderate liquefaction potential (i.e., soils that lose their strength in response to ground shaking). The Lincoln County Natural Hazard Mitigation Plan (NHMP) notes that areas closer to the coastline are more vulnerable than areas farther inland and away from rivers.

A major earthquake could severely damage infrastructure, including the water intake, transmission and distribution pipelines, pump stations, storage tanks, and the water treatment plant, as well as roads and bridges needed to access water infrastructure. In addition, an earthquake could trigger landslides or affect stream courses. Subsidence and changes to the channel of Beaver Creek associated with a Cascadia Subduction Zone earthquake could cause the stream segment with the intake to become intertidal, increasing salinity and conductivity in the source water.

2.2.6 Tsunamis

Likelihood	Impact	Overall Risk
3	5	High

The District's water treatment plant is outside of the mapped tsunami hazard zone; however, the intake on Beaver Creek and nearby access roads and infrastructure are located within the evacuation zone for a local or distant tsunami. A local tsunami caused by an earthquake at the Oregon coast could reach the shore within 15 to 30 minutes after the earthquake, while a tsunami caused by a distant earthquake could take 4 hours or more to reach the shore. A tsunami could cause water to back up Beaver Creek, inundating the intake with seawater and conveying debris, sediment, and pollutants to the water source. Direct damage to infrastructure or pollution of the water source would likely lead to severe operational disruptions.

2.2.7 Saltwater Intrusion

Likelihood	Impact	Overall Risk
5	3	High

Beaver Creek has intermittently experienced elevated levels of conductivity and salinity at the intake location, although water quality is generally suitable for treatment to drinking water standards. The District regularly measures conductivity in the raw water source and in its treated water. The water treatment plant can treat water with a conductivity level of up to 600 μS , with a target of no more than 200 μS . High salinity increases chemical treatment costs and requires additional operator time to monitor and adjust treatment

processes. When needed, the District is able to switch to alternative backup water sources during high salinity events.

2.2.8 Severe Storms and Flooding

Likelihood	Impact	Overall Risk
4	4	High

Severe storms may produce rapid runoff, flooding, and debris flows that carry sediment, nutrients, and contaminants into waterways. This risk may interact with other risks, such as areas prone to landslides, recently burned areas, and recent timber harvest. The intake could potentially be damaged by large logs coming downriver. Projected increases in winter rainfall and severe, intense storms resulting from climate change could increase runoff, streamflow, and turbidity. In the past, minor but not severe flooding has occurred in the watershed.

Ice storms and high wind events may cause downed trees and powerlines, resulting in loss of electricity and hazardous conditions for personnel working on infrastructure in the watershed. The District has backup generators available for use at the intake and other infrastructure as long as fuel supplies are available.

2.2.9 Wildfire

Likelihood	Impact	Overall Risk
3	4	Medium

A wildfire in the Beaver Creek watershed would remove or damage vegetation, exposing soil and accelerating erosion. Soil can also be damaged by high intensity wildfire, leading to decreased infiltration and soil moisture retention. Post-fire runoff from wildfire may contain fine sediment, ash, heavy metals, and nutrients. If developed areas are burned, runoff may also include toxic substances released from buildings, vehicles, stored hazardous materials, and plastics. Fire suppression chemicals can impact water quality and affect aquatic life. PFAS is a component in some firefighting foams used for extinguishing flammable liquid fires, but it would not be used for suppression of wildfire in forested areas. Depending on the severity and location of the wildfire, water quality may be impaired for several years.

2.2.10 Invasive Species

Likelihood	Impact	Overall Risk
4	2	Medium

Aquatic invasive invertebrates, such as mussels and snails, can clog pumps, intake pipes, and other water infrastructure. Aquatic invasive plants can alter nutrient cycling and affect water quality characteristics, including temperature, pH, and dissolved oxygen. Invasive riparian plants, such as knotweed and yellow flag iris, can increase soil erosion and sedimentation, fouling intakes and increasing chemical needs for water treatment. Nutria and other rodents may contribute to bank erosion, reduction of riparian vegetation, and introduction of pathogens into the water source. Specific impacts depend on the species involved.

2.3 Municipal

2.3.1 Infrastructure

Likelihood	Impact	Overall Risk
3	3	Medium

Xylene and ethylbenzene have been detected during routine water quality monitoring. These volatile organic compounds were likely introduced into the water system from construction sealants used in new system

infrastructure. All detections were below the maximum contaminant level and have been decreasing over time.

The District’s addendum to the Lincoln County Multi-Jurisdictional Hazard Mitigation Plan included recommendations to develop a preventative maintenance program for water and communication infrastructure, to evaluate the relocation of utility infrastructure in identified erosion hazard and tsunami hazard zones, and to design underground and distribution systems with consideration of potential landslides. Preventive maintenance of infrastructure is a priority. Leaks in water infrastructure could unnecessarily increase the amount of water that needs to be diverted to meet system demands.

2.3.2 Vandalism and Sabotage

Likelihood	Impact	Overall Risk
2	4	Medium

Deliberate damage to water infrastructure may impact the ability to divert, treat, and deliver water. The Beaver Creek intake has limited aboveground exposure, reducing the risk of vandalism. A video surveillance system is in place to increase security at the water treatment plant.

2.3.3 Cybersecurity

Likelihood	Impact	Overall Risk
3	4	Medium

Cybersecurity threats can disrupt water system operations and communications technology. Remote access to supervisory control and data acquisition (SCADA) systems, insufficient firewall protections, or phishing attacks may lead to loss of monitoring control, false data reporting, or exposure of customer and water system information. The District is currently developing a systemwide cybersecurity plan.

2.4 Forest Management

2.4.1 Clearcut Harvest

Likelihood	Impact	Overall Risk
3	3	Medium

Clearcut harvest in the Beaver Creek watershed may alter flow patterns (e.g., near-term increased runoff in winter and decreased streamflow in summer) and increase erosion and delivery of sediment and organic matter to waterways. While treatment of water with high organic matter content can lead to higher levels of disinfection byproducts in finished water, the District considers the most likely cause of disinfection byproduct exceedances observed in recent years to be related to startup of the new water treatment plant, not to clearcuts in the DWSA, and these issues are not expected to continue. The types of treatment systems installed at the plant are capable of safely treating water with somewhat elevated organic matter.

The effects of clearcut harvest on soil moisture retention, sediment transport, stream temperature, and streamflow will depend on multiple factors, such as the location of the clearcut and other harvesting practices; slope steepness, elevation, and aspect; riparian buffer widths; and length of time since previous harvest. Shorter harvest rotations (e.g., 40 years) are more likely to impact water quality and quantity compared to longer rotations (e.g., 80 years). Slightly over half of the DWSA (52.3 percent) is owned and managed by the US Forest Service (USFS) as part of the Siuslaw National Forest, while about 17.9 percent of the DWSA is private industrial forestland. The lower percentage of private forestland is anticipated to reduce the potential risks to streamflow and water quality compared to other watersheds in the region with more intense and widespread private forest management.

The Oregon Forest Practices Act, recently revised by the Private Forest Accord, applies to private forestlands but not federally managed forests. Changes include increased protective buffers along waterways, new design standards for forest roads, and more retention of trees on steep slopes to improve slope stability, reduce erosion, and benefit habitat. As a large fish-bearing stream for most of its length (including the North Fork and South Fork tributaries), the required buffer around most of Beaver Creek is 110 feet. Implementation of the new requirements is expected to reduce risks from clearcut harvest practices over time.

2.4.2 Non-Clearcut Harvest

Likelihood	Impact	Overall Risk
3	2	Medium

Non-clearcut logging and thinning refer to a variety of timber harvest practices. These activities have the potential to increase erosion, resulting in increased runoff and creek turbidity, although generally not to the same extent as clearcutting. Implementation of the revised requirements under the Oregon Forest Practices Act are anticipated to result in lower impact to water quality compared with historical practices, as noted in Section 2.4.1.

2.4.3 Chemical Applications

Likelihood	Impact	Overall Risk
3	3	Medium

Herbicides may be applied following timber harvest to suppress competing vegetation in areas replanted with conifers. Chemical applications are regulated under the Forest Practices Act and pesticide label laws, applicators must be licensed, and waterways have required buffers where application is excluded. During a 40-year harvest rotation, stands would typically be treated 1-3 times depending on the forest manager’s practices.

Chemical applications may pose a risk to water quality if over-application or improper handling (e.g., spills) occur. The impact depends on the nature and location of the incident. Applications closer to waterways or prior to high wind or rainfall events increase this risk, and aerial applications pose a higher risk than manual applications.

Chemical applications may also be conducted outside of forestry practices, such as for control of riparian and aquatic invasive species by licensed applicators using approved pesticides following safety practices to protect water quality. The District is working to develop relationships with property owners to understand practices and potential concerns. For example, OPRD has notified the District prior to conducting targeted, ground-based spraying for noxious weeds like yellow flag iris downstream of the intake, and the District would like to continue receiving notifications of spraying, particularly if any activities upstream of the intake are planned.

2.4.4 Access Roads

Likelihood	Impact	Overall Risk
3	2	Medium

Road construction, maintenance, and usage may increase erosion and stream turbidity, particularly from large vehicles like logging trucks transporting heavy loads near waterways and stream crossings during wet weather. Vehicle usage increases the risk of leaks or spills of petroleum products or other hazardous materials. The revised Forest Practices Act requires improved standards for new roads and requires forest managers to inventory and upgrade existing roads over the next 20 years. Logging trucks are prohibited from

using forest roads that are deeply rutted or covered by a layer of mud during wet weather. Legacy impacts from access roads may be present in the watershed. Herbicides may be used for roadside vegetation management, but buffers are required near waterways. Public access can present opportunities for human-related fire ignition and for dumping of trash and other materials; however, good road networks can allow for rapid response to fires, decreasing fire size and impact.

2.4.5 Riparian Impacts

Likelihood	Impact	Overall Risk
3	2	Medium

Riparian vegetation provides shade, bank stabilization, and filtration of sediment and pollutants. Removal or damage to riparian vegetation can increase water temperature and turbidity. The revised Forest Practices Act standards have increased protective buffers based on the size of stream, fish populations, and use by salmonids. The revised regulations also include buffers for seeps and springs, wetlands, and other critical habitat for amphibians, many of which did not previously require buffers. Salmonids are present above the District’s intake. The new standards are expected to reduce impacts on riparian areas significantly, although legacy impacts from previous forestry activities are visible in the watershed.

2.5 Rural Residential

2.5.1 Rural Homes and Landscaping

Likelihood	Impact	Overall Risk
3	3	Medium

Construction of buildings and roads can lead to erosion and sediment delivery to nearby streams, especially on steeper slopes or if vegetation is removed in riparian areas. Removal or disturbance of riparian vegetation during property landscaping activities could increase turbidity and stream temperatures. Stormwater from roofs, driveways, and other impervious surfaces can carry contaminants to surface water. Excessive use or improper disposal of household and landscaping chemicals can also contaminate waterways.

2.5.2 Domestic Wells

Likelihood	Impact	Overall Risk
4	2	Medium

Improperly constructed, poorly maintained, or abandoned wells can create vertical pathways for contaminants to reach groundwater, which may be connected to stream baseflow. Wells lacking anti-backflow devices may allow contaminants to enter groundwater.

2.5.3 Septic Systems

Likelihood	Impact	Overall Risk
4	4	High

When functioning properly, septic systems pose minimal risk to surface water. Improper design, siting on shallow or saturated soils, and lack of maintenance can cause failure of septic systems, allowing waste to leach into groundwater. Surfacing effluent, clogged drainfields, and interconnections of groundwater and surface water can contribute pathogens (e.g., fecal coliforms and harmful bacteria), nitrates, organic material, and potentially other contaminants (e.g., PFAS) to the water source. There is a higher potential impact when septic systems are sited near surface water.

2.6 Transportation

2.6.1 Roads and Stream Crossings

Likelihood	Impact	Overall Risk
4	2	Medium

Road construction and maintenance may contribute to erosion and stream turbidity. Unpaved roads, undersized or failing culverts, and inadequately maintained roads may further increase turbidity. Vehicle usage presents the risk of spills or leaks of petroleum products or hazardous materials being transported, particularly at stream crossings near the intake. Vehicle accidents may lead to vehicles entering Beaver Creek, presenting similar risks. Tire wear releases chemicals that may include polycyclic aromatic hydrocarbons, heavy metals, and 6PPD-quinone. Herbicides may be used as part of roadside vegetation management, presenting a risk of potential contamination.

2.7 Recreation

2.7.1 Creek Recreation

Likelihood	Impact	Overall Risk
3	2	Medium

Beaver Creek is a popular recreational destination in the area for kayaking, paddleboarding, hiking, birdwatching, and other outdoor activities. Motorized boating is less common on Beaver Creek but does occur, which poses a risk from spills or leaks of fuel and other contaminants. Beaver Creek State Natural Area includes portions of the creek upstream from the District's intake. Some fishing occurs around the intake and from the intake platform. Recreational visits present opportunities for contamination through littering, leaks and runoff from vehicles, riparian impacts, streambank erosion, increased risk of human-caused fires, and spread of invasive species.

2.8 Agriculture

2.8.1 Non-Irrigated Crops

Likelihood	Impact	Overall Risk
2	2	Low

Total cropland is limited in the watershed, and it is generally not irrigated. Drip-irrigated or non-irrigated crops present a lower risk of transporting contaminants compared to other irrigation systems. Over-application, misuse, or spills of pesticides, herbicides, and fertilizers can contribute contaminants and nutrients to waterways. Applicants must be licensed (unless applying chemicals on private property) and must follow chemical labels and laws.

2.8.2 Livestock

Likelihood	Impact	Overall Risk
4	4	High

Horses and cattle are pastured in the South Beaver Creek watershed and wetland area for grazing. Livestock may damage riparian vegetation, contributing to erosion of streambanks and sedimentation of waterways. Improper storage and management of manure can release nutrients and pathogens.

2.9 Industrial

2.9.1 Electric Power Transmission Lines

Likelihood	Impact	Overall Risk
2	2	Low

Electric power transmission lines managed by Central Lincoln People’s Utility District cross the Beaver Creek watershed. Vegetation management under powerlines may involve herbicide application. Wood treatment chemicals used on poles can leach into nearby soils and water under certain conditions. Downed powerlines or equipment failures may increase the risk of wildfire.

2.9.2 Rock Quarry

One rock quarry with a stormwater discharge permit in the Beaver Creek watershed was identified in the 2023 SWA. More recent information shows that the quarry is no longer operating and does not appear to pose any active risks to the drinking water source. This risk will be re-evaluated during future updates of the DWPP if conditions change.

2.10 Encampments and Dumpsites

2.10.1 Off-Grid Encampments

Likelihood	Impact	Overall Risk
3	2	Medium

Informal off-grid encampments are established in the DWSA, presenting risks of improper disposal of garbage and other wastes. Lack of sanitation facilities could allow human waste to enter waterways directly or via stormwater, which could cause *E. coli* contamination. It is unknown whether adequate sanitation is available for individuals camping in recreational vehicles in the watershed.

2.10.2 Dumpsites

Likelihood	Impact	Overall Risk
3	3	Medium

There are some known dumpsites in the DWSA, including a wide spot along the road just south of the bridge on South Beaver Creek where tires and vehicles have been dumped, and an area where hunters have left unwanted portions of animal carcasses after field dressing. An elk carcass was dumped in Beaver Creek and the District preemptively shut down its intake temporarily, although the water treatment plant can treat these contaminants if the situation arises again and a shutdown is not feasible. Local residents and law enforcement have made efforts to clear dumpsites as they occur. Dumping or storage of abandoned cars, tires, and appliances may also occur on private property.

2.11 Identifying and Addressing New Risks

The District will review the risks identified in the DWPP on an annual basis to assess whether changes have occurred, new risks need to be addressed, or strategies to address risks have been effective. This review will include verifying whether the closed mining operation (or new operations) noted in Section 2.9.2 has become active again. DEQ reviews DWPPs every 5 years to evaluate source water protection and approve renewal of the plan. The District will review the DWPP more thoroughly during the fourth year of implementation to determine whether to pursue renewal of the plan with minor updates or whether more

substantial changes may be needed due to changing conditions in the watershed. Any updates to the SWA prepared by DEQ will also be incorporated into future plan updates and risk assessments.

This page intentionally left blank.

SECTION 3: Strategies to Address Risks

3.1 Introduction to Strategies

The DWPP Team developed strategies to mitigate each of the risks described in Section 2. Each risk may be addressed by multiple strategies, and each strategy may mitigate a variety of risks. To develop the strategies, the DWPP Team considered drinking water protection strategies implemented by other water providers, guidance documents created by DEQ and other agencies, and the technical expertise and local knowledge of the District and the Team members. The major categories of strategies are:

- District Activities
- Monitoring
- Landowner Coordination
- Outreach
- Pollution Prevention
- Critical Area Protection and Restoration
- Emergency Planning

Exhibit 3-1 shows how each of the strategies identified can be implemented to mitigate one or more risks in the Beaver Creek DWSA or the District's service area. The remainder of Section 3 describes the strategies.

This page intentionally left blank.

Exhibit 3-1. Overview of Risks Addressed by Strategy

Risk Category	Specific Risks	Risk Level	District Activities	Monitoring	Landowner Coordination	Outreach	Pollution Prevention	Critical Area Protection and Restoration	Emergency Planning
Natural Hazards	Drought	High	•	•	•	•		•	
	Low streamflow	High	•	•	•	•		•	
	Highly erodible soils	Medium		•	•			•	
	Landslides	Medium		•				•	•
	Earthquakes	Medium		•		•		•	•
	Tsunamis	High		•		•		•	•
	Saltwater intrusion	High	•	•					
	Severe storms and flooding	High		•	•			•	•
	Wildfire	Medium		•	•	•		•	•
	Invasive species	Medium		•				•	
Municipal	Infrastructure	Medium	•						
	Vandalism and sabotage	Medium	•						•
	Cybersecurity	Medium	•						•
Forest Management	Clearcut harvest	Medium			•			•	
	Non-clearcut harvest	Medium			•			•	
	Chemical applications	Medium		•	•		•		
	Access roads	Medium			•				
	Riparian impacts	Medium			•			•	
Rural Residential	Rural homes and landscaping	Medium			•		•		
	Domestic wells	Medium			•				
	Septic systems	High			•				
Transportation	Roads and stream crossings	Medium			•		•		•
Recreation	Creek recreation	Medium				•		•	
Agriculture	Non-irrigated crops	Low			•		•		
	Livestock	High			•				
Industrial	Electric power transmission lines	Low			•				
Encampments and dumpsites	Off-grid encampments	Medium		•			•	•	•
	Dumpsites	Medium		•			•	•	•

This page intentionally left blank.

3.2 District Activities

Water system infrastructure management, water supply planning, and District facility security and cybersecurity are key areas of responsibility through which the District can safeguard its drinking water supply.

The District anticipates updating its Water Master Plan (WMP) in the near future. As part of this process, the District will identify infrastructure projects that will reduce water loss, increase system reliability, and protect water quality. Examples could include leak detection, pipeline repair and replacement, and water treatment plant upgrades, along with scheduling regular condition assessments and maintenance. Activities like replacing pipelines that are older or in poor condition will help reduce system leakage and thereby reduce the amount of water that must be diverted from Beaver Creek to meet customer demand. The updated WMP will inform capital improvement planning efforts by prioritizing projects to be implemented as resources and staffing allow.

The WMP will include water supply planning information to ensure that the District can continue to meet customer needs under a range of future conditions. This includes proactive planning for backup water supply options, codifying operational strategies for adjusting diversions when water quality issues arise, and integrating natural hazard planning into water supply projections. The District's WMCP also considers water supply planning, and the District integrates available information from the most recent WMP when the WMCP updated.

Security and cybersecurity measures protect infrastructure, such as the intake and the water treatment plant, to prevent contamination or disruption of the water supply. The WMP update may include recommendations for security enhancements, such as installation of fencing or surveillance cameras in critical locations. The District is working to develop a cybersecurity plan in 2026. Regular reassessments are prudent to ensure the water system's security and cybersecurity measures stay up-to-date for addressing emerging threats.

3.3 Monitoring

Monitoring programs can help the District understand and track water quality and quantity trends, assess potential upstream sources of contamination, and determine whether additional actions are needed to protect source water or to fill in data gaps. The District already conducts streamflow monitoring and water quality testing to comply with state and federal requirements and the conditions of its water right. Additional monitoring activities can be implemented to ensure that the District is able to quickly detect and respond to potential contamination risks in the Beaver Creek watershed.

In addition to continuing routine water quality monitoring, the District will seek to develop an expanded water quality monitoring plan that may include expanded protocols for post-event monitoring, such as evaluating water quality after a wildfire, severe storm, or chemical application in the watershed. Priority locations for streamflow monitoring may also be identified to complement the existing measurements taken at the District's water intake. Compiling long-term datasets of water quality and quantity into a centralized database will be valuable for future water supply planning efforts, source water protection projects, and as an input for modeling tools.

Other types of monitoring may be beneficial for addressing risks from soil erosion and invasive species. Mapping areas with highly erodible soils or high risk of landslides will help the District understand potential sources of turbidity and keep emergency response plans updated. Monitoring the occurrence of invasive species that can affect the water system will allow for prioritization of treatments.

3.4 Landowner Coordination

The District strives to be a good neighbor and prioritizes building collaborative relationships with landowners and land managers in the Beaver Creek watershed. One of the first steps of building relationships is to ensure that landowners are aware that they are located in the DWSA and that their activities and choices can help protect the watershed and the District's water supply. Land use planning and landowner activities in the watershed are outside of the District's jurisdiction, so the District seeks to stay informed about upcoming plans and general management practices in the DWSA to better understand activities that may have impacts on the water source. Communicating with landowners and building partnerships with entities that conduct watershed restoration, outreach, or technical assistance activities is critical to fostering good relationships and supporting projects that will protect source water quality.

Landowner coordination strategies and sharing technical assistance resources will vary depending on the type of landowner involved. For example, conversations with forestry companies may center around timber harvest plans, riparian buffers, or herbicide applications, while communication with rural residents may focus on promoting technical assistance resources for septic system education, domestic well maintenance, or best practices for household and garden chemical management. For agricultural properties, the District may share information about chemical applications, off-channel watering of livestock, and irrigation modernization. The District will support road maintenance practices for forest roads, County-maintained roads, and private drives and roadways that help reduce erosion and transport of sediment and pollutants to waterways. Outreach within the watershed may also focus on addressing natural hazard risks, such as flood preparedness or fire-wise property management, for a broad range of landowner types.

3.5 Outreach

Along with landowners in the DWSA, outreach and public education are valuable for residents in the District's service area and for people visiting and recreating in the watershed. Outreach to customers will raise awareness about the District's source watershed and highlight water conservation efforts. Water conservation helps reduce pressure on water resources, especially during the summer months when demand is typically highest, streamflows are at their lowest, and water quality issues may occur. The District is a member of the Mid-Coast Water Conservation Consortium (Mid-Coast Water), a group of water providers in Lincoln County working to promote water conservation and improve regional supply resilience. Through the partnership with Mid-Coast Water, the District has access to water conservation outreach materials for residents, businesses, and visitors. The District has installed Advanced Metering Infrastructure (AMI), which enables rapid detection and communication with customers about potential leaks, along with enabling customers to track their water consumption through an online portal. Outreach can also help residents with natural disaster preparedness.

Beaver Creek and the surrounding watershed are popular recreational destinations. The District will support outreach that shares best practices for recreation to avoid potential contamination risks, such as staying on trails and picking up after pets. Signage may also be installed to raise awareness of the location of the DWSA and to promote best practices and fire safety.

3.6 Pollution Prevention

Pollution prevention activities focus on promoting proper usage and disposal of hazardous substances and chemicals to reduce the risk of misuse, spills, or dumping that could contaminate source water. Collection events for items not accepted in typical household waste offer opportunities for residents and businesses to safely dispose of potentially hazardous items and chemicals that they no longer need. Lincoln County Solid Waste District holds household hazardous waste collection events twice per year. Examples of materials that

may be accepted include paint, motor oil, batteries, antifreeze, expired medications, and chemicals used in landscaping, agriculture, and forestry. In addition, Lincoln County Solid Waste District holds occasional tire collection events in partnership with local waste haulers. The District will promote these events to its customers and to landowners in the DWSA.

Trash, debris, and abandoned vehicles have been observed along roads or at encampments in the watershed. The District will coordinate with the Lincoln County Sheriff's Department and other partners on removal of abandoned vehicles, cleanup of dumpsites, and outreach about unauthorized camping, supporting these efforts where feasible to protect the drinking water source. District staff will monitor for new encampments and dumpsites to help determine when additional actions for deterrence or cleanup should be taken.

3.7 Critical Area Protection and Restoration

“Critical areas” in the DWSA are locations that are particularly sensitive to the presence of a potential contaminant source, making it more likely to impact water quality or water supply. These critical areas include land with highly erodible soil types, steep slopes, areas prone to landslides, riparian zones around Beaver Creek and its tributaries, and stream crossings along roads. The DWSA erosion potential map prepared by DEQ in 2025 provides an update of a similar figure in the 2023 SWA, and the Oregon Department of Forestry's (ODF's) Forest Practices Act Streams and Steep Slopes Viewer online mapping tool shows areas where soil-disturbing activities on steep slopes are more likely to cause erosion or debris flows. These maps can help prioritize areas with the most severe erosion potential where prevention of ground-disturbing activities is most critical to protect the drinking water source. Similarly, maps of riparian areas highlighting stream crossings show the locations with the highest potential for contaminants to reach the water source, whether through erosion and sediment transport, chemical use, or accidental releases. The Soil and Water Assessment Tool (SWAT)¹ can be used to model the effects of different land uses and land management practices on water quality and quantity at the watershed to basin scale. SWAT modeling can be used to identify opportunities to reduce risks related to soil erosion and non-point source pollution.

While some water providers own substantial portions of their source watersheds, the District is not a major landowner, and land use planning authority is under the jurisdiction of Lincoln County. In addition, over half of the DWSA is federally owned and managed by the US Forest Service. The District's Board of Directors has determined that it does not have the resources to acquire and manage private lands in the watershed through purchases or easements. Instead, the District focuses on building strong, collaborative relationships with public and private land managers as described in Section 3.4. However, the District also remains open to supporting entities that may be interested in acquiring land in the DWSA from willing sellers or holding conservation easements to ensure that land is managed for watershed protection. Through these partnerships, critical area protection and restoration strategies can be implemented to limit or carefully manage activities that could negatively impact the water source.

Existing groups in Lincoln County, such as the MidCoast Watersheds Council and Lincoln Soil and Water Conservation District (SWCD), are engaged in regional habitat restoration and enhancement projects that would protect water quality and quantity, and the District will coordinate with these groups to identify high-priority critical areas and support restoration projects as feasible. Examples of ecosystem restoration activities with co-benefits for drinking water supply include riparian planting, floodplain reconnection, invasive species removal, culvert maintenance and upsizing, and erosion control, among others. Natural

¹ More information is available at <https://swat.tamu.edu/>.

process restoration, such as installation of beaver dam analogs, may be implemented with due consideration for flood hazard and road access.

3.8 Emergency Planning

Emergency planning strategies help integrate source water protection into existing District and regional plans and help the District make its water system more resilient to natural hazards. Following the identification of risks during development of this DWPP, the District will ensure that its internal emergency response plans and procedures are updated as necessary to protect the water source and infrastructure. Expanding upon the relationship-building described in Sections 3.4 and 3.7, the District will coordinate with its neighbors and landowners in the watershed on emergency planning, such as wildfire or spill response plans. The District will also participate in regional efforts, including the Lincoln County Natural Hazards Mitigation Plan update and the Lincoln County Community Wildfire Protection Plan. Several other water providers in Lincoln County have established strategies in their DWPPs that call for communicating with the County about integrating emergency planning related to water supply into the County's Emergency Operations Plan, and the District would also benefit from this type of coordination. For example, the County's current plan describes procedures for contacting local fire departments and notifying the National Response Center in the event of an oil or chemical spill, but not directly notifying local water suppliers. Closer coordination would enable the District to assess and respond to potential threats more rapidly, such as determining whether it needs to temporarily suspend operation of the Beaver Creek intake and rely on stored water or interconnections with other water suppliers. The District will explore funding opportunities for emergency preparedness activities, such as spill response training, cybersecurity plan testing, and emergency scenario exercises.

SECTION 4: Implementation Plan

The implementation plan section of this DWPP describes the activities to be implemented under each of the strategies outlined in Section 3 to reduce, avoid, or mitigate the risks identified in Section 2 of the plan. Implementation of specific activities is dependent on the availability of funding and staff resources, and Section 4.5 provides a non-exhaustive list of potential funding sources related to source water protection projects. The DWPP Team guided the development of the implementation plan, and public input also informed the implementation plan. The District will continue pursuing and strengthening partnerships with landowners, technical experts, and other interested entities during implementation. The District will review the implementation plan annually to track progress, assess effectiveness, and determine if new actions are needed to address any changes in the Beaver Creek watershed.

4.1 Overview of Timeline and Partnerships

The implementation plan is organized in three phases based on the priority of risks addressed, complexity of the activities and the District's readiness to proceed, and needs for additional funding or resources. Activities included in Phase 1 address high-priority risks and/or can be implemented relatively quickly, such as data collection to fill information gaps and inform future activities. Phase 1 activities are expected to be implemented within Years 1-2 following approval of the DWPP. Phase 2 includes activities that require additional preparation, such as building partnerships and obtaining funding. These activities are expected to occur during Years 2-4 after plan approval, depending on resources available. Activities requiring more substantial planning timeframes or funding, and actions addressing lower-priority risks, are included in Phase 3 and are anticipated to take place during Year 5 onward. Actions that would be triggered by a specific event rather than a planned timeframe, such as monitoring activities after a natural disaster, are listed in Phase 3 to occur "as needed."

The District is the responsible management authority for implementation of the DWPP. Many implementation actions will benefit from partnerships with landowners in the Beaver Creek watershed and local and regional organizations. Exhibit 4-1 presents an overview of the implementation plan by phase, including potential partner organizations, and the following sections describe each activity in more detail.

This page intentionally left blank.

Exhibit 4-1. Implementation Plan Overview by Phase

Strategy Category	Phase 1	Phase 2	Phase 3	Potential Partners (lead/supporting)
District Activities				
Infrastructure Management	<ul style="list-style-type: none"> ▪ Maintain existing inspection and maintenance schedules and update as needed; build a comprehensive master schedule ▪ Continue leak detection and line repair and replacement efforts, including continuing to use AMI to identify potential leaks ▪ Implement upgrades to treatment infrastructure, such as granular activated carbon system 	<ul style="list-style-type: none"> ▪ Implement additional priority infrastructure repairs and upgrades as funding becomes available 	<ul style="list-style-type: none"> ▪ Explore long-term, remote leak detection tools and options ▪ Seek additional training and workforce development opportunities to support specific infrastructure 	Local community colleges, OHA, OAWU
Water Supply Planning	<ul style="list-style-type: none"> ▪ Continue to consider natural hazards and drought response in water supply planning ▪ Maintain inerties and continue backup supply planning ▪ Monitor regional water supply planning efforts ▪ Continue streamflow monitoring ▪ Conduct planning to address saltwater intrusion ▪ Maintain operational strategies for pausing diversions and relying on stored water during high turbidity and chemical application events 	<ul style="list-style-type: none"> ▪ Refine drought and heat response procedures as conditions evolve ▪ Update WMP to include source water protection strategies and projects 	<ul style="list-style-type: none"> ▪ Maintain long-term water supply planning using updated hydrologic conditions ▪ Include source water protection goals in future iterations of District’s WMP and other planning documents ▪ Evaluate whether existing infrastructure and storage have met demand during drought conditions over last decade 	OHA, OWRD, Lincoln County
District Facility Security and Cybersecurity	<ul style="list-style-type: none"> ▪ Continue and expand use of existing cameras and remote monitoring systems already installed at facilities ▪ Continue to periodically review monitoring coverage at all facilities and any need for cybersecurity protection updates ▪ Continue to consider maintenance and updating needs of property security systems and cybersecurity systems as part of routine capital planning and 2026 cybersecurity plan 	<ul style="list-style-type: none"> ▪ Expand camera coverage and monitoring capability where gaps are identified ▪ Seek training for security and cybersecurity 	<ul style="list-style-type: none"> ▪ Reassess facility vulnerability following major hazard events 	District IT staff, OHA, AWWA

Strategy Category	Phase 1	Phase 2	Phase 3	Potential Partners (lead/supporting)
Monitoring				
Water Quality Monitoring	<ul style="list-style-type: none"> Continue routine water quality monitoring, including turbidity and salinity Continue plans to conduct post-event monitoring after wildfire, storms, landslides, and chemical applications Develop a water quality monitoring plan for current and potentially more extensive monitoring Develop centralized database, including metadata and QA/QC, for water quality and hazard data 	<ul style="list-style-type: none"> Implement water quality monitoring as determined in plan Develop water quality monitoring protocols specific to various events (e.g. logging, fire, etc.) Train staff and partners in event-based monitoring methods 	<ul style="list-style-type: none"> Maintain long-term water quality datasets to inform future DWPP and other plan updates Consider modeling tools to understand impacts on water quality from changes in streamflow and disturbances As needed, implement water quality testing before and after chemical applications As needed, implement post-disaster or post-disturbance water quality monitoring 	DEQ, ODF, USFS, landowners, Surfrider, Lincoln SWCD, MidCoast Watersheds Council
Water Quantity Monitoring	<ul style="list-style-type: none"> Continue streamflow monitoring at the intake and identify priority locations for additional streamflow monitoring upstream Explore monitoring funding options 	<ul style="list-style-type: none"> Install additional streamflow monitoring stations as funding allows 	<ul style="list-style-type: none"> Maintain long-term datasets and use results to refine source water protection priorities Consider modeling tools to understand impacts on water quantity from changes in precipitation, air temperature, and disturbances 	OWRD, DEQ, USFS, MidCoast Watersheds Council, OSU
Other Monitoring	<ul style="list-style-type: none"> Train District staff on identification of invasive riparian plant species Map areas at high risk for landslides Map areas of highly erodible soils, including consideration of the ODF FPA Streams and Steep Slopes Viewer 	<ul style="list-style-type: none"> Continue monitoring for and treating invasive riparian plant species Discuss nutria monitoring, effects, and management options with ODFW 	<ul style="list-style-type: none"> Monitor for landslides if an earthquake occurs in the region Integrate monitoring results into emergency response planning as needed Support efforts of the Mid-Coast Cooperative Weed Management Area 	ODFW, Lincoln SWCD, MidCoast Watersheds Council

Strategy Category	Phase 1	Phase 2	Phase 3	Potential Partners (lead/supporting)
Landowner Coordination				
Landowner Coordination and Technical Assistance	<ul style="list-style-type: none"> ▪ Maintain subscription to FERNS notifications for forestry activities ▪ Build collaborative relationships and communicate with forestry landowners about plans and practices, partnerships and funding opportunities, and source water protection ▪ Conduct rural residential and agricultural landowner outreach about source water protection projects and coordination with partners ▪ Develop relationships with ODF, OPRD, and USFS, and maintain contact information ▪ Communicate with watershed restoration/source water protection partners about streamside evaluations and potential source water protection projects; discuss chemical applications with Lincoln SWCD 	<ul style="list-style-type: none"> ▪ Identify source water protection projects with landowners and partners, and pursue or support funding applications ▪ Share educational materials about household chemical management to reduce contamination and promote technical assistance programs ▪ Promote septic system education and technical assistance programs ▪ Promote domestic well education and technical assistance programs ▪ Communicate with powerline owners about management plans and practices 	<ul style="list-style-type: none"> ▪ Maintain communications and relationships with landowners in the watershed ▪ Maintain communications and relationships with conservation organizations ▪ Implement source water protection projects as funding allows ▪ Continue to identify source water protection projects and seek funding ▪ Support livestock fencing and off-channel watering projects ▪ Support road maintenance practices that prevent pollution and sediment transport ▪ Check for updates about mining operations annually 	Landowners, ODF, USFS, OPRD, Lincoln SWCD, Lincoln County, MidCoast Watersheds Council, OSU Extension, OWRD, Lincoln County Emergency Management, OHA, DEQ, ODFW
Outreach				
Residential	<ul style="list-style-type: none"> ▪ Conduct outreach about the District's drinking water source and water conservation, including raising public awareness of the District's water conservation efforts and targeting some outreach towards tourists ▪ Continue to participate in the Mid-Coast Water Conservation Consortium ▪ Conduct outreach about natural disaster preparedness ▪ Promote water customers sign up for water consumption monitoring 	<ul style="list-style-type: none"> ▪ Post emergency preparedness information or links on the District's website 	<ul style="list-style-type: none"> ▪ Continue conducting water conservation outreach ▪ Maintain membership in the Mid-Coast Water Conservation Consortium 	Mid-Coast Water Conservation Consortium, community college
Recreation	<ul style="list-style-type: none"> ▪ Conduct outreach about recreation best practices and the drinking water source watershed 	<ul style="list-style-type: none"> ▪ Install signage about the source watershed and recreation best practices ▪ Promote fire safety at public entry points to the Beaver Creek watershed 	<ul style="list-style-type: none"> ▪ Continue conducting outreach on recreation best practices 	OPRD

Strategy Category	Phase 1	Phase 2	Phase 3	Potential Partners (lead/supporting)
Pollution Prevention				
Hazardous Waste and Vehicles	<ul style="list-style-type: none"> Promote existing County hazardous waste and tire cleanup events Monitor for abandoned vehicles and roadside spill risks 	<ul style="list-style-type: none"> Explore MOUs for roadside vegetation management above intake Partner with solid waste district regarding best management practices for hazardous waste Promote hazardous waste collection events (pesticides and household chemicals) Coordinate with Sheriff's Department on removal of abandoned vehicles and RVs 	<ul style="list-style-type: none"> Maintain long-term pollution prevention contact list for technical assistance, outreach materials, and resources Promote Pesticide Stewardship Partnership collection events Continue to monitor for abandoned vehicles 	Lincoln County Solid Waste District, Lincoln County Public Works, Lincoln County Sheriff's Department
Encampments and Dumpsites	<ul style="list-style-type: none"> Monitor for new encampments and dumpsites Learn more about County ordinances and enforcement Conduct outreach regarding illegal campsites/dumpsites Coordinate with partners regarding response and funding Support installation of gates where feasible 	<ul style="list-style-type: none"> Support cleanup efforts in coordination with partners where feasible Develop a plan for minimizing the likelihood of unauthorized camping 	<ul style="list-style-type: none"> Maintain deterrence, monitoring, and cleanup efforts long-term 	Lincoln SWCD, MidCoast Watersheds Council, landowners, Lincoln County Sheriff's Department, Lincoln County Public Works
Critical Area Protection and Restoration				
Critical Area Protection	<ul style="list-style-type: none"> Identify and prioritize critical areas for protection, such as areas that could affect water retention and turbidity Conduct outreach to public entities about critical area protection activities in the watershed 	<ul style="list-style-type: none"> Build relationships with entities that may be interested in acquiring and managing land for watershed protection 	<ul style="list-style-type: none"> Support source water protection projects in critical areas Collaborate on management plans if land is acquired for watershed protection 	Landowners, McKenzie River Trust, ODF, USFS, BLM, OPRD, Lincoln SWCD, Wetlands Conservancy, Sustainable Northwest, OSU researchers and OSU Extension
Watershed Restoration and Enhancement	<ul style="list-style-type: none"> Learn about existing restoration efforts Coordinate with Lincoln SWCD and MidCoast Watersheds Council to identify priority locations for riparian planting, floodplain reconnection, invasive species removal, erosion control projects, culvert maintenance or upsizing, road maintenance, cold water refugia enhancement, and other potentially beneficial projects Explore funding opportunities, and pursue funding Assess feasibility of natural-process restoration, such as beaver dam analogs or other projects supporting beavers with consideration of flood hazard and road access 	<ul style="list-style-type: none"> Implement riparian planting, erosion control projects, beaver projects, and other potentially beneficial restoration activities 	<ul style="list-style-type: none"> Maintain, monitor, and adaptively manage restoration sites Continue to identify source water protection projects in coordination with partners Support source water protection projects following a natural hazard event (e.g., wildfire) 	Landowners, MidCoast Watersheds Council, Lincoln SWCD, USFS, BLM, OPRD

Strategy Category	Phase 1	Phase 2	Phase 3	Potential Partners (lead/supporting)
Emergency Planning				
Emergency Plans	<ul style="list-style-type: none"> Update the District’s emergency response plan for identified risks as appropriate, with particular attention to how emergencies may affect infrastructure and access roads Secure generators for backup electricity Coordinate with partners about emergency response planning Discuss current wildfire plans with timber owners and ODF and USFS Identify and pursue funding opportunities for emergency planning/preparedness, such as grants for spill response and training Continue participating in quarterly meetings of the Natural Hazard Mitigation Plan group 	<ul style="list-style-type: none"> Conduct tabletop or field exercises for emergency scenarios Develop regional coordination with other small water systems and County agencies 	<ul style="list-style-type: none"> Maintain ongoing training and update emergency plans after hazard events Participate in the next Lincoln County Natural Hazards Mitigation Plan update and the Lincoln County Community Wildfire Protection Plan Support restoration efforts after emergency events in the watershed as needed 	Lincoln County Emergency Management, ODOT, MidCoast Watersheds Council, Lincoln SWCD

AMI = advanced metering infrastructure
 AWWA = American Water Works Association
 BLM = Bureau of Land Management
 DEQ = Oregon Department of Environmental Quality
 DWPP = Drinking Water Protection Plan
 FERNs = Forest Activity Electronic Reporting and Notification System
 FPA = Forest Practices Act
 IT = information technology
 MOU = memorandum of understanding
 OAWU = Oregon Association of Water Utilities
 ODF = Oregon Department of Forestry
 ODFW = Oregon Department of Fish and Wildlife
 ODOT = Oregon Department of Transportation
 OHA = Oregon Health Authority
 OPRD = Oregon Parks and Recreation Department
 OSU = Oregon State University
 OWRD = Oregon Water Resources Department
 QA/QC = quality assurance/quality control
 RV = recreational vehicle
 SWCD = Soil and Water Conservation District
 USFS = United States Forest Service
 WMCP = Water Management and Conservation Plan
 WMP = Water Master Plan

This page intentionally left blank.

4.2 Phase 1

4.2.1 District Activities

4.2.1.1 Infrastructure Management

The District conducts regular infrastructure maintenance and promptly repairs any leaks or other issues identified. These existing maintenance activities will continue, and the District will create a comprehensive master schedule for inspections and maintenance. The District will continue its leak detection and pipeline repair and replacement efforts, as described in its WMP and WMCP, to help reduce water loss. Customer meters in the service area have been upgraded to Advanced Metering Infrastructure (AMI) models, which are more accurate and allow for rapid identification of potential leaks, enabling the District to alert customers about sudden significant increases in their water use. The District has made plans to implement certain upgrades to its water treatment infrastructure, such as installing a granular activated carbon (GAC) system that can remove a wide range of potential contaminants.

4.2.1.2 Water Supply Planning

The District will continue to consider natural hazards and drought response in its water supply planning efforts. This may include updates of the WMP, water system operation plans, emergency operation plans, and the WMCP, which includes a curtailment plan for addressing water shortages. The District will continue to maintain its interties with the Cities of Newport and Toledo and will maintain up-to-date plans for backup water supply needs. This may include monitoring regional water supply planning efforts to improve coordination.

Currently, the District monitors streamflow and temperature at the Beaver Creek intake. This data collection will continue and will be used to inform water supply planning and to meet the requirements of the District's water use permit. The District will also continue planning to address the potential for saltwater intrusion. During high turbidity, high salinity, or chemical application events, the District will monitor water quality and pause diversions if needed. While diversions are paused, the District may rely on stored water or water obtained through its system interties.

4.2.1.3 District Facility Security and Cybersecurity

Cameras and remote monitoring systems are currently in place at some District facilities. The District will continue maintaining these systems, review monitoring coverage and any need for enhancements of security systems, and include plans to address needs and upgrade systems as part of its routine capital planning processes. Development of a focused cybersecurity plan is underway, and any gaps identified during system reviews will be integrated into the new plan.

4.2.2 Monitoring

4.2.2.1 Water Quality Monitoring

The District will continue its current water quality monitoring activities, including routine monitoring required by the Safe Drinking Water Act and additional requirements under its water rights. The District monitors conductivity and water temperature at the intake to track potential saltwater intrusion and stream conditions. During Phase 1, the District will develop a water quality monitoring plan to consider expanding the current monitoring program with additional parameters and monitoring locations, along with plans to conduct post-event monitoring as needed after wildfire, storms, landslides, and chemical applications in the watershed. The plan will include details on development of a centralized database for tracking water quality

information, including metadata and QA/QC procedures. Chemicals to monitor will be selected, appropriate monitoring locations will be identified, and protocols and schedules will be developed as part of the plan.

4.2.2.2 Water Quantity Monitoring

The District currently monitors streamflow at the intake. During Phase 1, the District will identify priority locations for additional streamflow monitoring upstream in the watershed and will explore funding options for additional stream gaging. Streamflow data will be used to inform water supply planning and identify trends that may be related to climate change or land use activities in the watershed.

4.2.2.3 Other Monitoring

During Phase 1, District staff will be trained on identification of invasive riparian plant species to facilitate monitoring of their presence at the intake and on District property. The District will prepare maps of the Beaver Creek watershed showing areas with highly erodible soils and high landslide risk. These maps will be used to determine where additional monitoring of sediment sources may be needed.

4.2.3 Landowner Coordination

Coordinating with landowners in the DWSA and understanding their land management plans is a key strategy for the District. ODF's Forest Activity Electronic Reporting and Notification System (FERNS) notification service provides information about planned forestry activities, such as timber harvesting, chemical applications, and forest road construction. The District will maintain its annual subscription to FERNS (<https://ferns.odf.oregon.gov/E-Notification/>), which will provide alerts about planned activities in the DWSA and the ability to view the associated notifications, maps, and written plans. In addition, the District will register for email and text notifications for helicopter pesticide applications within 1 mile of the surface water intake using the same website. While FERNS notifications offer an opportunity for comment, they are not required to specify exactly when an activity will take place within the window of the notification.

To better understand forest management plans and how they may affect the DWSA, the District will prioritize building collaborative relationships and regularly communicating with forestry landowners. Topics of discussion may include timber harvest plans and practices, riparian area management and buffers, forest road management, chemical applications, critical area protection and restoration, and potential partnerships and funding to support source water protection projects. The District will also develop relationships and maintain contact information for local and regional ODF, OPRD, and US Forest Service (USFS) staff.

Source water protection will also rely on rural residential and agricultural landowners in the Beaver Creek watershed, and the District will conduct outreach about source water protection projects in coordination with partners. Examples of projects may include activities to support water retention (e.g., riparian planting and beaver habitat restoration), invasive species identification, turbidity reduction measures, streamflow restoration through water rights management, irrigation modernization, flooding preparedness, and fire-wise property management. The District will communicate with watershed restoration and source water protection partners about potential projects, particularly those related to technical assistance for reducing inputs of sediment and chemicals reaching waterways. Partners may also be able to offer streamside evaluations and project recommendations to rural landowners. Lincoln SWCD conducts some chemical applications as part of its habitat restoration activities, and the District will discuss these practices to learn more and promote source water protection.

4.2.4 Outreach

4.2.4.1 Residential

During Phase 1, the District will begin conducting outreach about the DWSA, source water protection, natural disaster preparedness, and water conservation. These efforts will raise awareness of the District's existing water conservation efforts and will extend beyond the DWSA to include residents in the District's service area who rely on Beaver Creek for their drinking water supply. The District will continue to participate in the Mid-Coast Water Conservation Consortium. As a member, the District has access to customizable outreach materials to encourage water conservation, such as handouts, newsletter articles, website content, and billing inserts and messages. Some of the Mid-Coast Water Conservation Consortium's water conservation outreach efforts target tourists through outreach to the hospitality industry to promote water conservation upgrades at lodging and dining facilities and to encourage them to provide outreach materials to visitors to the Seal Rock area. The Mid-Coast Water Conservation Consortium also collaborates with organizations in the region to support student education about water conservation and promotes water conservation at events.

The District will continue to promote its My Water Usage customer portal through the "Be in the Know, Monitor Your H₂O" campaign. The portal enables customers to monitor their water usage and set daily usage alerts if a target volume is exceeded. Alerts help customers understand their usage to conserve water and also help catch leaks quickly.

4.2.4.2 Recreation

The District will coordinate with OPRD to discuss conducting outreach about recreation best practices to protect water quality and raise awareness of the drinking water source watershed. This may include information available at the Beaver Creek State Natural Area Welcome Center or at popular trailheads in the State Natural Area.

4.2.5 Pollution Prevention

4.2.5.1 Hazardous Waste and Vehicles

During Phase 1, the District will promote the annual household hazardous waste collection events already being held by Lincoln County Solid Waste District and the drop-off sites for household hazardous waste at the Dahl Disposal Service transfer stations in Toledo and Waldport. The District will also promote special events sponsored by the Solid Waste District and local haulers, such as tire disposal events.

Vehicles are occasionally abandoned along roadways in the DWSA, and District staff will monitor for abandoned vehicles and roadside spill risks when they are working out in the watershed.

4.2.5.2 Encampments and Dumpsites

District staff working in the watershed will track the establishment of new encampments and dumpsites. When District staff encounter individuals who have established encampments, if it is safe to do so, staff will strive to connect them with resources, such as the Lincoln County Community Shelter and Resource Center, Coastal Support Services, Community Services Consortium, and Food Share of Lincoln County using existing outreach materials and contact information provided by these organizations.

The District will learn more about County ordinances and enforcement processes, and it will conduct outreach regarding illegal campsites or dumpsites as appropriate. The District will coordinate with partners and landowners regarding cleanups and the need for securing funding. Where feasible, the District will

support installation of gates to prevent trespassing and reduce the potential for trash and contaminants to enter waterways.

4.2.6 Critical Area Protection and Restoration

4.2.6.1 Critical Area Protection

Identifying and prioritizing critical areas in the Beaver Creek watershed is the first step in protecting and enhancing these areas. During Phase 1, the District will use the SWA, soil erosion maps, steep slope mapping tools, and maps of riparian buffers and stream crossings described in Section 3.7, and tools related to any additional criteria selected, to identify critical areas for protection. This may be done using the SWAT modeling tool to model the potential impacts of various land management practices on water quality or through other types of GIS analysis.

With more than half of the DWSA falling within the Siuslaw National Forest, the USFS is a critical partner in source water protection. Following the mapping analysis described above, the District will communicate with the USFS and other public entities about management practices that can protect water quality in critical areas identified on public lands.

4.2.6.2 Watershed Restoration and Enhancement

During Phase 1, the District will learn about existing restoration and habitat enhancement efforts in the watershed that may have co-benefits for drinking water source protection. Building on these efforts, the District will coordinate with Lincoln SWCD and the MidCoast Watersheds Council to identify the highest priority locations for new projects, such as riparian planting, floodplain reconnection, invasive species removal, culvert maintenance or upsizing, road maintenance, cold water refugia enhancement, beaver habitat restoration, and other potentially beneficial projects.

The District will encourage restoration partners to assess the feasibility of natural-process restoration through beaver habitat restoration, including exploring use of analytical tools. Projects to support enhancement of beaver habitat or installation of beaver dam analogs can help restore natural processes but must be carefully sited to avoid increasing flood risk and affecting road access. The Beaver Restoration Assessment Tool (BRAT) is a spatial modelling tool that can show the capacity of stream systems to support dam-building by beavers. The BRAT model may be used by land managers to determine where beaver habitat can best be supported and enhanced to promote watershed health and limit impacts from unsuitable dam building sites. Where suitable habitat can be protected and enhanced, beaver-based restoration projects can increase the watershed's resilience to drought, fire, and climate change.

The District will explore funding opportunities and pursue or support funding applications for watershed restoration and enhancement efforts, such as through letters of support.

4.2.7 Emergency Planning

When the District next updates its Emergency Response Plan, WMP, and any other emergency planning documents, it will incorporate the discussion of risks and response strategies identified in this DWPP as appropriate. This will help ensure that source water protection is considered during emergency planning processes and that plans give particular attention to how various types of emergencies may affect water system infrastructure and road access for District staff who may need to make emergency repairs or assess conditions in the watershed. OHA has a webpage dedicated to emergency preparedness:

<https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/PREPAREDNESS/Pages/emergency.aspx>. The webpage includes a document called "Local Water Supply Emergency Planning Guidance

for Emergency Managers,” which provides a list of resources for community water system operators. Recommendations in emergency plans may include securing additional generators or fuel storage to ensure that a backup electricity source is available when needed. Fuel storage facilities will be carefully designed and monitored to avoid potential contamination risks from leaks or spills.

In addition to updating its own plans, the District will coordinate with other local agencies and landowners about incorporating source water protection into their emergency response plans and wildfire protection plans, as applicable. Potential partners include forestry landowners, ODF, USFS, Lincoln County, USFS, BLM, ODOT, and potentially others that the District identifies. The District will provide a map of the DWSA and water infrastructure to be protected during an emergency. The Lincoln County Natural Hazard Mitigation Plan group meets quarterly, and the District will continue to participate in meetings and will track recommendations for future implementation. The District will identify and pursue funding opportunities for emergency planning and preparedness programs, such as grants for spill response training. These training programs may be specific to District staff or may include other partners in the watershed.

4.3 Phase 2

4.3.1 District Activities

4.3.1.1 Infrastructure Management

Following the update of the District’s WMP, the District will seek funding to implement recommended high priority infrastructure projects and will continue conducting system repairs as needed.

4.3.1.2 Water Supply Planning

As conditions evolve, the District will refine the drought and heat response procedures in its water supply planning efforts. During the planned update of the WMP, the District will consider including source water protection strategies and projects as applicable.

4.3.1.3 District Facility Security and Cybersecurity

Where gaps are identified during Phase 1, the District will seek to expand camera coverage and monitoring capabilities during Phase 2, along with seeking funding to address any identified security or cybersecurity vulnerabilities. This could include fencing, software upgrades, and staff training for cybersecurity threats.

The American Water Works Association (AWWA) offers seminars, workshops, and online training resources for water systems (<http://www.awwa.org/Events-Education>). The Oregon Water Utility Council is a committee of the Pacific Northwest Section of AWWA that monitors legislation and regulations that affect water utilities in Oregon. Members receive discounted training, industry publications, and opportunities to network and learn from shared experiences with other water providers (<http://www.pnws-awwa.org/member-groups/committees/oregon-water-utility-council/>). The US Environmental Protection Agency also offers training for water utility resilience and cybersecurity (<https://www.epa.gov/waterresilience>).

4.3.2 Monitoring

4.3.2.1 Water Quality Monitoring

During Phase 2, the District will implement the water quality sampling plan developed during Phase 1. Additional water quality monitoring protocols may need to be developed specific to particular events, such as

after extensive logging operations or after an event like a wildfire. District staff and partners would then be trained in event-specific monitoring methods.

4.3.2.2 Water Quantity Monitoring

The District will install additional streamflow monitoring stations in the priority locations identified during Phase 1 as funding allows.

4.3.2.3 Other Monitoring

The District will continue monitoring for and treating occurrences of invasive riparian plant species as they are detected near the intake or on District property. During Phase 2, the District will discuss the potential effects of nutria in the riparian zone with the Oregon Department of Fish and Wildlife (ODFW) and determine whether monitoring is needed. If nutria are present and are likely to be negatively affecting the drinking water source, the District will discuss management options with ODFW.

4.3.3 Landowner Coordination

The District will continue to build and strengthen relationships with landowners in the Beaver Creek watershed and with watershed restoration partners. During Phase 2, specific source water protection projects will be identified in coordination with landowners and partners, and the District will support pursuing funding as feasible to support implementation. For example, the District can provide letters of support for partner organizations' grant applications.

The District will help connect rural landowners and watershed residents with existing technical assistance programs and educational programs. This will include sharing educational materials and promoting technical assistance programs focused on household and garden chemical management to reduce the risk of contamination from overuse, spills, or improper disposal. Additional technical assistance topics to be addressed include proper use and maintenance of septic systems and domestic wells. During Phase 2, the District will also communicate with Central Lincoln People's Utility District regarding powerline management plans and maintenance practices in the Beaver Creek watershed.

4.3.4 Outreach

4.3.4.1 Residential

The District will post emergency preparedness information or links on its website. This information will help customers understand how much drinking water to store per person in case of emergencies and how to make it safe to drink.

4.3.4.2 Recreation

During Phase 2, the District will work with OPRD on potential installation of signage about Beaver Creek's connection to the District, the importance of protecting water quality in the DWSA, and recreation best practices. Examples include staying on trails, packing out trash, and picking up after pets. Signage may also focus on promoting fire safety at public entry points to the Beaver Creek watershed.

4.3.5 Pollution Prevention

4.3.5.1 Hazardous Waste and Vehicles

During Phase 2, the District will communicate with Lincoln County Public Works about vegetation management in County rights-of-way upstream of the District's water intake. The goal of these discussions will be to explore the potential for developing a memorandum of understanding that requires vegetation management practices through mechanical methods (e.g., mowing) rather than herbicide chemical applications.

The District will continue to partner with the Lincoln County Solid Waste District regarding best management practices for hazardous waste disposal and will promote any drop-off events through the Pesticide Stewardship Partnership or similar one-day events, including those for agricultural and forestry chemicals.

The District will coordinate with the Lincoln County Sheriff's Department on the removal of any abandoned vehicles observed in the DWSA.

4.3.5.2 Encampments and Dumpsites

District staff will continue monitoring for and coordinating cleanup of dumpsites and encampments as feasible, connecting unsheltered individuals with resources as appropriate. During Phase 2, the District will work with partner organizations and the County to develop a plan to minimize the likelihood of unauthorized camping in the DWSA.

4.3.6 Critical Area Protection and Restoration

4.3.6.1 Critical Area Protection

While the District itself does not have capacity to acquire and manage land in the DWSA, other entities may be interested in acquiring and managing land for watershed protection and habitat enhancement. Projects focused on supporting cold, clean water and thriving native habitat for fish and wildlife would have significant co-benefits for drinking water supply and water quality, and the District would be interested in building relationships with entities interested in acquiring land or conservation easements for such purposes, especially in identified critical areas. The District will also continue to strengthen relationships with managers of public lands in the watershed regarding protective management plans for critical areas.

4.3.6.2 Watershed Restoration and Enhancement

During Phase 2, the District will support implementation of the watershed restoration and enhancement projects identified during Phase 1. This may include riparian planting, erosion control projects, beaver habitat restoration, and other potentially beneficial restoration activities.

4.3.7 Emergency Planning

During Phase 2, the District will plan and conduct tabletop or field exercises for emergency scenarios outlined in its Emergency Response Plan. These scenario exercises will offer training opportunities for District staff and a test of the effectiveness of the plan. Lessons learned or deficiencies identified will be addressed as soon as possible and incorporated into future plan updates.

The District will communicate with Lincoln County about integrating emergency planning related to its water source into the County's Emergency Operations Plan, such as requesting that the County notify the District of an oil or chemical spill in the DWSA when the County notifies the fire department and the National Response

Center. Rapid notification will help the District determine when emergency response actions are needed, such as temporarily ceasing diversion from Beaver Creek, or whether the situation should be monitored for future actions. The District is a member of the Oregon Water/Wastewater Agency Response Network (ORWARN) and will maintain this membership. ORWARN helps water suppliers organize emergency response actions and provide or receive mutual aid during localized emergencies. Water suppliers that are members of ORWARN may be able to rapidly provide very specialized equipment, water system parts, or loaned personnel, while state and federal assistance following a disaster may take time to obtain.

4.4 Phase 3

4.4.1 District Activities

4.4.1.1 Infrastructure Management

As funding allows, the District will continue implementing the recommended leak detection and infrastructure projects in its WMP. This may include exploring remote leak detection tools, such as satellite leak detection systems. The District may seek out additional workforce development and training opportunities to support specific infrastructure projects through partnerships with local community colleges and other training programs.

4.4.1.2 Water Supply Planning

Long-term water supply planning will incorporate data collected about hydrologic conditions and past drought impacts. The District will include source water protection goals and strategies, such as streamflow monitoring, in future iterations of its WMP, WMCP, and other planning documents. As these documents are updated, the District will evaluate whether existing infrastructure and storage facilities have been sufficient to meet demand during drought conditions over the last decade.

4.4.1.3 District Facility Security and Cybersecurity

The District will reassess facility vulnerability and cybersecurity needs following any major hazard events that occur during the implementation period.

4.4.2 Monitoring

4.4.2.1 Water Quality Monitoring

Water quality monitoring will continue during Phase 3 and beyond. The District will maintain long-term water quality datasets to inform future DWPP and other plan update processes. The District will consider the use of modeling tools, such as the SWAT model, to understand impacts on water quality related to changes in land use, climate, streamflow, and disturbances in the watershed. As needed, the District will implement water quality testing before and after chemical applications in the watershed and after natural disasters or other major disturbances.

4.4.2.2 Water Quantity Monitoring

The District will continue streamflow monitoring and maintain long-term datasets to use in refining source water protection priorities. The SWAT model and other tools may also be considered for gaining a better understanding of impacts on water quantity related to changes in climate (e.g., precipitation, air temperature), land use, and disturbances.

4.4.2.3 Other Monitoring

Monitoring for erosion and landslides will be integrated into emergency response planning as needed. The District will support the efforts of the Mid-Coast Cooperative Weed Management Area in controlling invasive plant species that negatively impact ecosystems and the drinking water source.

4.4.3 Landowner Coordination

The District will maintain communications and relationships with landowners in the DWSA for the long-term, along with maintaining relationships with restoration partners and conservation organizations. During Phase 3 and beyond, source water protection projects will be implemented as funding allows, and the District and its partners will continue to identify new projects and seek funding for implementation.

In agricultural areas, the District will support livestock fencing and off-channel watering projects to benefit riparian areas in the watershed. The District will continue supporting road maintenance practices, erosion control, and culvert replacement projects that prevent pollution and sediment transport from forest access roads, private roads, and County-maintained roads. When large forest landowners complete their required Forest Road Inventory & Assessments (due in 2029 with some data due to ODF sooner), the District will coordinate with ODF and the landowners to discuss road conditions that may contribute sediment and develop collaborations for new projects.

On an annual basis, the District will verify with DOGAMI whether any new mining operations or rock quarries are operating within the DWSA.

4.4.4 Outreach

The District will continue supporting residential water conservation outreach and recreation best practices outreach during Phase 3 and beyond. The District will maintain membership in the Mid-Coast Water Conservation Consortium and continue its outreach about water conservation for customers.

4.4.5 Pollution Prevention

4.4.5.1 Hazardous Waste and Vehicles

During Phase 3, the District will maintain its list of contacts and outreach materials for technical assistance providers and pollution prevention resources and events. If any Pesticide Stewardship Partnership chemical collection events are held in the area, the District will promote these events to provide safe disposal. The District will continue monitoring for abandoned vehicles in the DWSA.

4.4.5.2 Encampments and Dumpsites

The District will continue monitoring for new encampments and dumpsites in the DWSA. Any deterrence efforts developed in the plan in Phase 2 will be implemented, and cleanup efforts will proceed as needed in coordination with partner organizations and the County.

4.4.6 Critical Area Protection and Restoration

4.4.6.1 Critical Area Protection

The District will continue to support source water protection projects in critical areas during Phase 3 and beyond. If properties in the watershed are acquired by other entities for watershed protection, the District

will seek to collaborate during development of management plans and identification of restoration projects to ensure they include consideration of source water quality and quantity benefits.

4.4.6.2 Watershed Restoration and Enhancement

During Phase 3, the District will continue to support partner organizations in maintaining, monitoring, and adaptively managing habitat restoration and enhancement sites in the DWSA, along with identifying new source water protection projects to be implemented. The District will also support source water protection projects following a natural hazard event (e.g., landslide or wildfire), as applicable.

4.4.7 Emergency Planning

The District will continue to provide ongoing training to its staff as resources allow. After any natural disasters or human-related emergency incidents occur, the District will keep its Emergency Response Plan updated. When other local entities, such as Lincoln County, update their emergency plans, the District will coordinate with them and advocate for consideration of source water protection in emergency plans. For example, the District may request inclusion of a map of the Beaver Creek DWSA and contact information for its water treatment plant in the event of emergencies that may affect its water supply. The District will participate in the next update of the Lincoln County Natural Hazards Mitigation Plan and development of the Lincoln County Community Wildfire Protection Plan. Following any emergency events affecting the Beaver Creek watershed, the District will communicate with landowners and restoration partners, such as the MidCoast Watersheds Council and Lincoln SWCD, about the need for watershed restoration, revegetation, and erosion control projects.

4.5 Potential Funding Sources

The following is a list of potential funding sources for supporting implementation of this DWPP. Funding sources are subject to change and should be revisited regularly. The District's SWA also contains a list of funding sources, as does DEQ's webpage on funding for water systems:

<https://www.oregon.gov/deq/wq/programs/Pages/DWP-Funding.aspx>. The funding opportunities below are well-aligned with the District's priorities for DWPP implementation. The District may consider applying for specific opportunities or sharing information about these funding sources with partner organizations.

Drinking Water Source Protection Fund, Oregon Health Authority

- Provides grants of up to \$70,000; grants can be received in two consecutive years, then there must be at least one year before another grant is awarded
- Provides loans up to \$100,000 per project
- Funding must be used within two years
- Emergency grants may be available to address threats to drinking water supplies outside of the standard Letter of Interest submission timeline
- Letters of Interest due from January through March
- Example projects: land acquisition, incentive-based protection measures, community outreach, riparian restoration, waste collection, and watershed planning
- <http://www.oregon.gov/oha/ph/healthyenvironments/drinkingwater/srf/pages/spf.aspx>

Clean Water State Revolving Fund, Oregon DEQ and US EPA

- Provides below-market rate loans for planning, design, and construction projects that protect public health, restore natural areas, and promote economic development
- Applications reviewed twice a year

- Example projects: establishing monitoring programs and outreach programs, watershed restoration, loans for septic system upgrades/replacements, land purchase and conservation easements, and nonpoint source control activities
- <https://www.oregon.gov/deq/wq/cwsrf/pages/default.aspx>

Oregon 319 Nonpoint Source Implementation Grants, Oregon DEQ

- Requires a 40% non-Federal match (i.e., 40% of the total project cost must be covered by non-federal funds and/or in-kind services)
- Application period typically in spring
- Supported activities include technical assistance, financial assistance, education, training, technology transfer, demonstration projects, and monitoring
- Projects that involve collaborative stakeholder partnerships are encouraged
- Projects that protect or replace failing infrastructure on USFS or BLM roads or lands are not eligible
- <https://www.oregon.gov/deq/wq/programs/pages/nonpoint-319-grants.aspx>

Oregon Watershed Enhancement Board Grants

- Monitoring grants: Eligible monitoring projects include status and trend, project effectiveness, landscape effectiveness, and Rapid Bio-Assessment; 5 percent match required; apply in the fall
- Restoration: Priorities include altered watershed function affecting water quality, water flow, and fish production capacity; 25 percent match required; apply in the summer or winter
- Engagement: Eligible projects increase awareness and understanding in watersheds to support implementation of specific restoration, monitoring, and conservation activities; 5 percent match required; apply in spring or fall
- Technical Assistance: Technical design and planning assistance to implement restoration projects; 5 percent match required; apply in summer or winter
- Land Acquisition Grants: Eligible projects involve purchase of interests in land from willing sellers for maintenance and restoration of watersheds and fish and wildlife habitat; 25 percent match required; apply in fall
- Water Acquisition Grants: Eligible projects involve purchase of an interest in water from a willing seller to increase in streamflow for habitat and species conservation benefits and to improve water quality; 25 percent match required; apply in fall
- Small Grants: Provides up to \$20,000 for less complex, on-the-ground restoration projects with 20 percent match; continuous open solicitation
- <https://www.oregon.gov/oeb/grants/Pages/grant-programs.aspx>

Feasibility Study Grants and Water Project Grants and Loans, Oregon Water Resources Department

- Water Project Grants and Loans: Applications are reviewed twice a year; supports projects that address instream and out-of-stream water supply needs now and into the future
- Feasibility Study Grants: Reimburse up to 50 percent of the costs of studies to evaluate the feasibility of developing water conservation, reuse, and storage projects; Applications are usually due in fall
- <https://www.oregon.gov/owrd/programs/FundingOpportunities/Pages/default.aspx>

Various Financial Assistance Programs, USDA Natural Resources Conservation Service (NRCS)

- Environmental Quality Incentives Program (EQIP): Financial and technical assistance to agricultural and forestry producers to address natural resources concerns and provide environmental benefits, such as water quality improvements, reduce soil erosion and sedimentation, and improved wildlife habitat
 - <https://www.nrcs.usda.gov/programs-initiatives/eqip-environmental-quality-incentives>

- **Conservation Stewardship Program:** Encourages farmers, ranchers, and woodland owners to implement additional conservation activities and enhancements
- **National Water Quality Initiative (NWQI):** Provides funding for a detailed watershed assessment and an outreach strategy to address agricultural-related impacts, and following completion, funding to implement projects becomes available through EQIP
 - <https://www.nrcs.usda.gov/wps/portal/nrcs/main/or/programs/>
- **Watershed Protection and Flood Prevention Operations Program:** Provides financial and technical assistance for erosion and sediment control, watershed protection, flood prevention, water quality improvements, water management, fish and wildlife habitat enhancement, hydropower sources, and rural, municipal, and industrial water supply; the project must have agricultural benefits
 - <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/wfpo/>
- **Emergency Watershed Protection Program:** Provides technical and financial assistance for communities following natural disasters that impair a watershed. Examples of activities that could be funded include removal of debris from stream channels and culverts, restoration of streambanks, establishing vegetative cover on critically eroding lands, repairing levees, and purchase of floodplain easements
 - <https://www.nrcs.usda.gov/programs-initiatives/ewp-emergency-watershed-protection>
- **Wetland Reserve Enhancement Partnership:** Voluntary agreements with NRCS to enroll farmed or converted wetland habitat in an NRCS Wetland Reserve Easement. This allows leveraging of resources for wetland protection, restoration, and enhancement projects using a variety of conservation practices.
 - <https://www.nrcs.usda.gov/programs-initiatives/wetland-reserve-enhancement-partnership>
- **Conservation Reserve Enhancement Program:** Provides incentive payments to agricultural landowners to establish riparian buffers and implement conservation measures like planting trees and shrubs, installing fencing, or installing livestock watering facilities. The program is jointly administered by NRCS and OWEB.
 - <https://www.oregon.gov/oweb/grants/pages/crep.aspx>

Environmental Education Grants Program, US EPA

- Supports projects that promote environmental awareness and stewardship and help provide people with skills to protect the environment
- Applicants must represent at least one of the following types of organizations: local education agency, state education or environmental agency, college or university, non-profit organization, tribal education agency, or noncommercial educational broadcasting entity; the District could partner with one or more of these organizations
- Applications are reviewed once a year
- <https://www.epa.gov/education/grants>

Various Grants, Oregon Office of Emergency Management

- **Emergency Management Performance Grant:** Makes grants from the federal government available to state, local, and tribal governments to assist in preparing for all hazards
- **Hazard Mitigation Assistance Grant:** Provides funds from the federal government to assist in hazard mitigation planning, projects, and other activities to reduce vulnerability to hazards
- **Homeland Security Grant Program:** Provides funds from the federal government for planning, organizing, equipment purchasing, training, and exercises for emergencies
- **State and Local Cybersecurity Grant Program:** Funds projects that prevent, prepare for, protect against, and build capacity to respond to cybersecurity incidents
- <https://www.oregon.gov/oem/emresources/Grants/Pages/default.aspx>

Various Grants, Oregon Department of Fish and Wildlife

- **Private Forest Accord Grant Program:** Supports projects that benefit fish and aquatic wildlife species and habitats anticipated to be covered by the pending ODF Habitat Conservation Plan. Examples of supported project types include (but are not limited to) fish passage, riparian restoration, conservation easements or flow/land acquisition, and invasive species removal. Applications accepted once per year; most projects expected to request at least \$50,000.
 - https://www.dfw.state.or.us/habitat/PFA/grant_program.html#GrantProgram
- **Oregon Conservation and Recreation Fund:** Supports projects that protect and enhance the species and habitats identified in the Oregon Conservation Strategy and address statewide conservation and/or recreation needs.
 - <https://www.dfw.state.or.us/conservationstrategy/OCRF/>
- **Riparian Lands Tax Incentive Program:** Property tax incentive for improving or maintaining riparian lands up to 100 feet from a waterway.
 - https://www.dfw.state.or.us/lands/tax_overview.asp
- **ODFW Fish Screening and Passage Grant Program:** Cost share funding and/or tax credits for installing fish screens, bypass devices, and fishways.
 - <https://www.dfw.state.or.us/fish/passage/grants.asp>

This page intentionally left blank.

SECTION 5: Contingency Plan

A contingency plan for responding to the loss or substantial reduction of a drinking water source is a required element of a state-approved Drinking Water Protection Plan. [Oregon Administrative Rule OAR 333-061-0057\(5\)](#) specifies that a contingency plan must include the following elements:

1. Inventory/prioritize all threats to the drinking water supply
2. Prioritize water usage
3. Anticipate responses to potential incidents
4. Identify key personnel and develop a notification roster
5. Identify short-term and long-term replacement potable water supplies
6. Identify short-term and long-term conservation measures
7. Provide for plan testing, review, and update
8. Provide for new and ongoing training of appropriate individuals
9. Provide for education of the public
10. Identify logistical and financial resources

These elements are addressed below.

This contingency plan has been developed in coordination with the Seal Rock Water District's Emergency Response Plan (2021), the Seal Rock Water District Addendum to the Lincoln County Multi-Jurisdictional Hazard Mitigation Plan (2021), and Seal Rock Water District Water Management and Conservation Plan (2024), which includes a curtailment plan describing measures to be implemented in the event of a water shortage.

5.1 Threats to the Drinking Water Supply

The District identified several risks to its drinking water source area in Section 2 of this Plan. Of the identified risks, the following could cause the potential temporary or permanent loss or reduction of supply available from the drinking water source:

- Drought
- Low streamflow
- Landslides
- Earthquakes
- Tsunamis
- Saltwater intrusion
- Severe storms and flooding
- Wildfire
- Infrastructure (Major break or facility failure)
- Vandalism and sabotage
- Cybersecurity
- Chemical applications
- Septic systems
- Roads and stream crossings
- Encampments
- Dumpsites

5.2 Prioritization of Water Usage

If an emergency results in an insufficient water supply to meet all needs, the District may need to prioritize water use. The prioritization may be as follows:

- Fire protection and Residential
- Commercial
- Irrigation

5.3 Responses to Potential Incidents

Seal Rock Water District's Emergency Response Plan (ERP) inventories and outlines the District's safety measures and emergency response procedures for water system operations. The ERP is based on the Environmental Protection Agency's template emergency response plan for drinking water utilities.

Section 2 in the ERP describes emergency plans and procedures. Core response procedures are detailed for the following categories: access, physical security, cybersecurity, power loss, emergency alternate drinking water supplies, sampling and analysis, local laboratory, and family and utility personnel well-being. Section 3 in the ERP describes mitigation actions that can lessen the impact of an emergency, such as alternative source water options, interconnected utilities, water intake relocation, emergency valves, and earthquake valves.

In addition to the District's ERP, emergency response is also addressed in the Seal Rock Water District Addendum to the Lincoln County Multi-Jurisdictional Hazard Mitigation Plan (HMP). The mitigation strategy component of the HMP includes priority action items, such as strengthening local redundancy in municipal source water supply systems (See HMP Table SWRD-1).

The District operates a Level 2 water treatment plant that requires a certified operator. The District has a water treatment plant operations and maintenance manual that provides instructions for operations and maintenance of the facility, including emergency procedures to respond to potential incidents. One manual is stored at the water treatment plant and another copy is stored at the District office. The manual is intended for use by individuals trained to operate water treatment plants.

5.4 Key Personnel and Notification Roster

5.4.1 Key Personnel

The District's staff are listed in the ERP under section ii. Personnel Information, including job duties, contact information, and emergency information. The District currently has a General Manager, an operations lead, three distribution system operators, and one water treatment plant operator, as well as office staff. The ERP also identifies the utility emergency response team members under section 1.3.1 Internal Communication, which includes the General Manager, Finance Manager, Operations Lead, bookkeeper, billing clerk, distribution operators, and water treatment plant operator. The General Manager has the authority to respond to the emergency and then reports on conditions to the District's Board of Commissioners. Emergency response team members can be contacted at 541-563-3529, and this contact number is available on the District's website. The District's on-call emergency phone number for emergencies after regular business hours during the week or on weekends is 541-265-1935.

5.4.1.1 Emergency Response Partners

Section 1.1 Emergency Response Roles of the ERP describes external response partner roles. The ERP states that the Lincoln County Emergency Manager is responsible for coordinating regional incident response activities, including developing strategies and tactics for emergency response and recovery. Other external response partners include:

- **Public Safety Answering Point (9-1-1 Dispatch)**
- **Lincoln County Emergency Management (541) 265-4199**
- **Seal Rock Rural Fire Protection District (541) 563-4441**
- **Lincoln County Sheriff's Office (541) 265-4277**
- **Pacific Communities Hospital (541) 265-2244**
- **Lincoln County Health Department (541) 994-0227**
- **Central Lincoln PUD (541) 265-3211**
- **City of Toledo (541) 336-2247**
- **OHA – Drinking Water Services (971) 673-0405**
 - OHA-Drinking Water Services is the regulatory agency for public water systems operations, primarily related to water quality. It should be notified of water-related emergencies (e.g., shortages, line-breaks, loss of pressure, and water treatment failure) and it would directly respond and require notification of incidents.
- **DEQ – Drinking Water Program (503) 229-5954**

In addition, the District can contact the City of Newport at 541-574-0611 about backup supply and may reach out to the Oregon Water/Wastewater Agency Response Network (ORWARN) for aid (www.orwarn.org). The District is a member of ORWARN. The District maintains an emergency contact list that includes contact information for 18 water providers on the Oregon coast.

5.5 Short-term and Long-term Replacement Potable Water Supplies

5.5.1 Short-term Actions

The District may rely on interconnections or system storage, or it may implement the water curtailment plan in its WMCP in the event of a short-term loss of water supply.

The District has interconnections with the Cities of Newport and Toledo to enable the District to use their water during events only affecting the District, such as a water treatment plant failure or during the period of high salinity in Beaver Creek. If an event affects surface waters and/or water infrastructure in the region, such as drought or an earthquake, the Cities of Newport and Toledo may not be able to provide water to the District. In this case, the District may rely on its storage capacity in the short-term assuming its water infrastructure is intact. If the storage reservoirs are full (storing 3 million gallons) and demand is near its historical average day demand of 0.3 mgd, that supply could last for approximately 10 days. Implementing curtailment measures would reduce demand, extending the length of time the District could rely on stored water.

The District's 2024 WMCP includes a Water Curtailment element (i.e., plan) that describes the District's four stages of curtailment based on the severity of the incident requiring demand reductions, the conditions or events that would trigger each stage of curtailment, and the planned measures that the District can take to reduce demand in response to the reduction or loss of water supply under each curtailment stage. Stages could be implemented in progressive steps, or a later stage could be implemented directly.

Stage 1 focuses on encouraging water customers to voluntarily conserve water indoors and outdoors. Stage 2 involves imposing initial levels of mandatory water conservation measures, including suspending some District activities and requiring high-volume water customers and commercial/industrial customers to take

some water conservation actions. Stage 3 involves implementing greater levels of mandatory water conservation, including prohibiting certain water uses. Stage 4 involves prohibiting non-essential water consumption, rationing District water if available and deliverable, arranging delivery and emergency distribution if District water is not available, and seeking state and/or federal assistance.

5.5.2 Long-term Actions

In the event of a long-term water supply emergency, the District may need to rely on its interconnections with other water providers for longer periods of time, to construct or repair water system infrastructure, and/or to continue implementing an appropriate stage in its Water Curtailment Plan until its drinking water supply is restored. As noted in Section 1.2.1 of this DWPP, while Beaver Creek is the current source of supply, the District holds water rights for other sources in reserve. If a catastrophic event caused long-term loss of supply from Beaver Creek, the District could potentially return to using water from the Siletz River under Permit S-40277.

5.6 Short-term and Long-term Conservation Measures

The District's water curtailment plan detailed in Section 4 of its 2024 WMCP describes the following water conservation measures required under the four levels of curtailment.

Stage 1 (Voluntary)

The District will issue a general request for voluntary reductions in water use by all users using the following curtailment measures:

1. Inform community of the curtailment stage, such as through billing inserts, social media, signage, and the District website.
2. Strongly encourage effective water conservation practices, such as repairing indoor leaks and installing more water-efficient water fixtures, like showerheads and faucet aerators. Offer water conservation items (e.g., conservation kits, showerheads, and faucet aerators) to customers.
3. Request voluntary reduction in water consumption, such as:
 - Restrict irrigation of lawns, gardens, and landscaping to the hours from 9:00 PM to 7:00 AM).
 - Cease outdoor washing of equipment, vehicles, pavement, or other facilities.
 - Cease draining or filling pools and ponds.
 - Cease operation of public-display fountains and waterfalls and irrigation of public lands.
 - Cease scheduled flushing of water lines and fire-fighting drills.

Stage 2 (Mandatory)

In Stage 2, voluntary measures from Stage 1 become mandatory and the District adds the following:

1. Require high-volume consumers (e.g., restaurants, hotels/motels, recreation centers) to post notices about mandatory conservation measures; and require restaurants to only serve drinking water served upon request.
2. Suspend any planned expansions of water system, including the addition of new connections.
3. Cease flushing of water lines.
4. Work with commercial and industrial customers to reduce non-essential water use.

Stage 3 (Mandatory)

In Stage 3, mandatory measures are carried over from Stage 2 unless modified below and new measures are added.

1. Prohibit use of non-recirculating hot tubs, whirlpools, or spas.
2. Prohibit water usage for all outdoor purposes (unless gray water is utilized).
- ~~3.1.~~ Prohibit use of water from a fire hydrant except for fire fighting.
- ~~4.2.~~ Cease non-essential commercial and industrial water use; impose usage limits for commercial and industrial customers.
- ~~5.3.~~ Post notices of the curtailment stage in commercial facilities and rental units.

Stage 4 (Mandatory)

In Stage 4, mandatory measures are carried over from Stage 3 unless modified below and new measures are added.

1. Prohibit all non-essential consumption of water until further notice.
2. Cease water use in commercial and industrial establishments except for critical functions, such as fire protection.
3. If available and deliverable, treated water may be rationed to consumers by periodic operation of the distribution system during designated hours on specified days.
4. Otherwise, another supply of treated water would be arranged, most likely requiring water to be shipped to the community by vehicles and made available at emergency distribution centers.
5. Seek immediate state and/or federal assistance for a rapid restoration of the normal water supply and delivery system for the community.

5.7 Plan Testing, Review, and Update

This Contingency Plan will be reviewed at a minimum of every five years to comply with State requirements and updated more frequently as needed when changes to emergency operations occur or following evaluation of lessons learned from exercises or events.

5.8 Personnel Training

The District's training program includes conducting emergency response exercises with District staff annually, participating in emergency preparedness/response exercises held by other organizations, and participating in cybersecurity training as needed. District staff attend Oregon Association of Water Utilities emergency preparedness/response and safety trainings 2 to 3 times per year. District staff also attend local emergency preparedness/response and safety trainings provided by the Special Districts Association of Oregon, Special Districts Insurance Services, and ORWARN.

5.9 Public Education

Communicating with the public about a water supply issue or emergency is a high priority for the District. The District's ERP describes its media outlet contact list under Section 1.4 Media Outreach to help the District share emergency information with water customers. The District can contact water customers by phone and through mailings. In addition, the District can utilize the Lincoln County Everbridge system for emergency notifications to notify the public of a water situation (e.g., emergency shutdown or boil water notice) by phone. The District also has a Water Curtailment webpage, Water Outages/Low Water Pressure webpage, Boil Water Advisory webpage, and a Water Conservation webpage on its website to keep water customers

informed about water supply issues and to help them learn more about actions they can take to conserve water.

5.10 Logistical and Financial Resources

The District will continue to maintain its ERP, to sustain partnerships that can assist in an emergency, and to explore funding to support water supply emergency preparedness.

The District can seek emergency assistance from the Lincoln County Emergency Manager, which may be able to help the District obtain state or federal funding. The Federal Emergency Management Agency provides resources to local jurisdictions in Oregon when requested by the Governor.

In the case of fire emergencies, the Seal Rock Rural Fire Protection District can notify the State Fire Marshall to request fire resources.

The authority to adjust budgets to prepare for and address emergencies is held by the District's Board of Commissioners. The District has a Water Master Plan and associated Capital Improvement Plan and budgets for implementation of the Capital Improvement Plan, which supports the functioning and resiliency of the water supply system.

SECTION 6: Future Water Sources

If a water provider anticipates the need to develop additional sources of water supply within the 20-year planning period of its DWPP, the DWPP provides an opportunity to proactively identify risks in the new source watershed and propose strategies that could protect the future source. During this planning period, the District's Beaver Creek water right is currently expected to be sufficient to meet projected demands. The District does not anticipate seeking new water rights, using water rights on Henderson Creek and Hill Creek held in reserve, or relying on its Siletz River water right beyond temporary situations as previously described. In the event that another water source is needed temporarily, the District will communicate with the Cities of Newport or Toledo about using the system interconnections. The District expects that its well-rounded water conservation program will help reduce peak day demand, and any infrastructure improvements recommended in the forthcoming updated WMP will help the District manage water supply challenges that arise during the 20-year planning period and potentially beyond. Therefore, this DWPP does not identify risks and strategies related to a future water source.

This page intentionally left blank.