City of Yachats

Drinking Water Protection Plan

September 2021

Prepared by:

GSI Water Solutions, Inc.

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

This page intentionally left blank.

Oregon
Kate Brown, Governor

Department of Environmental Quality
Western Region Eugene Office
165 East 7th Avenue, Suite 100
Eugene, OR 97401
(541) 686-7838
FAX (541) 686-7551
TTY 711

August 31, 2021

Rick McClung, Public Works Director
City of Yachats
P.O. Box 345
Yachats, Oregon 97498

Re: Approval of City of Yachats' Drinking Water Protection Plan (PWS #4100966)

Dear Rick,

Oregon Department of Environmental Quality (DEQ) and Oregon Health Authority (OHA) would like to congratulate the City of Yachats on the approval of your Drinking Water Protection Plan, which meets all requirements in accordance with Oregon Administrative Rule (OAR) 340-40-0170. This well-organized and thorough plan underscores Yachats' longstanding dedication to drinking water protection and watershed health for current and future residents.

The City's collaboration with a diverse group of planning team members including landowners, residents, watershed specialists, and government representatives ensured a balanced and thoughtful approach to identify and prioritize risks, and develop achievable strategies. Yachats' Plan will now serve as an outstanding example for other water systems interested in developing their own protection plans.

All drinking water protection plans are evaluated approximately every five years to ensure that responsible management authorities are participating in efforts to reduce the risk of contamination within drinking water source areas. The re-approval of your Plan will be based on an evaluation of the progress made towards risk reduction and an evaluation of any new elements or areas of the plan that may no longer be adequate or relevant. Specific requirements are provided in OAR 340-40-0190.

We appreciate the many hours of hard work invested to develop this plan, as well as the contributions from partners to ensure its completeness. If the City needs any assistance as you continue implementing the Plan's drinking water protection strategies, please don't hesitate to contact us at fern.jacqueline@deq.state.or.us or shawn.p.stevenson@dhsoha.state.or.us. Thank you for all of your efforts to protect this valuable resource.

Sincerely,

Jacqueline Fern

Jacqueline Fern, Drinking Water Protection Specialist
Oregon Department of Environmental Quality

cc: Shawn Stevenson, OHA Drinking Water Program
Suzanne De Szoeke, GSI Water Solutions, Inc.
Tom Pattee, OHA Drinking Water Program
Julie Harvey, DEQ Drinking Water Protection Program

Contents

Exhibits

Appendices

This page intentionally left blank.

Abbreviations and Acronyms

BLM	U.S. Bureau of Land Management
cfs	cubic feet per second
City	City of Yachats
DEQ	Oregon Department of Environmental Quality
DWPP	Drinking Water Protection Plan
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
ODF	Oregon Department of Forestry
ODA	Oregon Department of Agriculture
ODOT	Oregon Department of Transportation
OEM	Oregon Emergency Management
OHA	Oregon Health Authority
OWRD	Oregon Water Resources Department
POD	point of diversion
SWCD	Soil and Water Conservation District
USDA	U.S. Department of Agriculture
USFS	U.S. Forestry Service
WMCP	Water Management and Conservation Plan
WSMP	Water System Master Plan

This page intentionally left blank.

SECTION 1: **Introduction**

1.1 Background and Goals

Protecting the water quality of drinking water sources is important to safeguard public health and to reduce the need for complex and expensive treatment systems. The 1996 amendments to the federal Safe Drinking Water Act introduced new requirements and provided resources for communities seeking to protect their drinking water sources, including both groundwater and surface water. In Oregon, the development of local Drinking Water Protection Plans (DWPPs) is voluntary, and the State approval process for these plans is administered by the Oregon Department of Environmental Quality (DEQ) for surface water and the Oregon Health Authority (OHA) for groundwater sources. This DWPP provides the City of Yachats (City) with approaches for addressing risks to its drinking water source areas while meeting DEQ and OHA's requirements for State approval.

The major goals of this DWPP are to protect the City's current drinking water sources by identifying and assessing risks in the source water areas, developing effective strategies to address those risks, and providing a well-defined implementation plan to ensure that necessary drinking water protection activities are carried out. The DWPP also includes a contingency plan outlining actions to be taken in the event that a current water source becomes unavailable and considers risks and strategies for protecting potential future water sources. Overall, the DWPP represents a significant step forward in the City's long-term planning efforts for providing a clean, safe, and reliable public water supply.

1.2 City of Yachats Drinking Water Source Areas

Yachats is the southernmost city in Lincoln County, located along Highway 101 on the scenic Oregon coast. The City is popular as a vacation destination, featuring a lively arts and culture scene, charming resorts and restaurants, and picturesque beaches and hiking trails. Particularly in the summer, tourism and seasonal residents can substantially increase the water service population, which reached approximately 2,191 in 2020 during the peak tourism season. For comparison, the 2020 estimate of the population of permanent residents was 780. The Yachats River and estuary bisect the City, with the main business district located on the north side of the river. The surrounding watersheds are primarily forested (including portions of the Siuslaw National Forest, Bureau of Land Management land [BLM], and private industrial timberlands) and include some private agricultural lands.

1.2.1 Water Rights

The City of Yachats holds water rights for the use of water from four sources, two of which are currently in use to provide municipal drinking water supplies. Exhibit 1-1 presents the City's water rights and Exhibit 1-2 shows a map delineating the drinking water source areas.

The City's primary water source is Reedy Creek, a tributary of the Yachats River. Certificate 22933 authorizes the use of up to 2.0 cubic feet per second (cfs), equivalent to 897.7 gallons per minute (gpm), from Reedy Creek. Water from Salmon Creek, another tributary of the Yachats River, is used to supplement the supply from Reedy Creek. Permit S-29018 authorizes the use of up to 2.0 cfs (897.7 gpm) from Salmon Creek, with use limited to any deficiency in the available supply under the water right from Reedy Creek. Protecting the watersheds of Reedy Creek and Salmon Creek is vital to preserving high water quality.

The City also holds water rights for the use of water from North Cape Creek, typically referred to as Cape Creek, and the Yachats River, which are currently held in reserve as potential future water sources. Certificate 14104 authorizes the use of up to 0.49 cfs (219.9 gpm) from (North) Cape Creek. Permit

S-53471 authorizes the use of up to 2.0 cfs (897.7 gpm) from the Yachats River, subject to several restrictions as described in Exhibit 1-1.

Exhibit 1-1. Municipal Water Rights Held by the City of Yachats

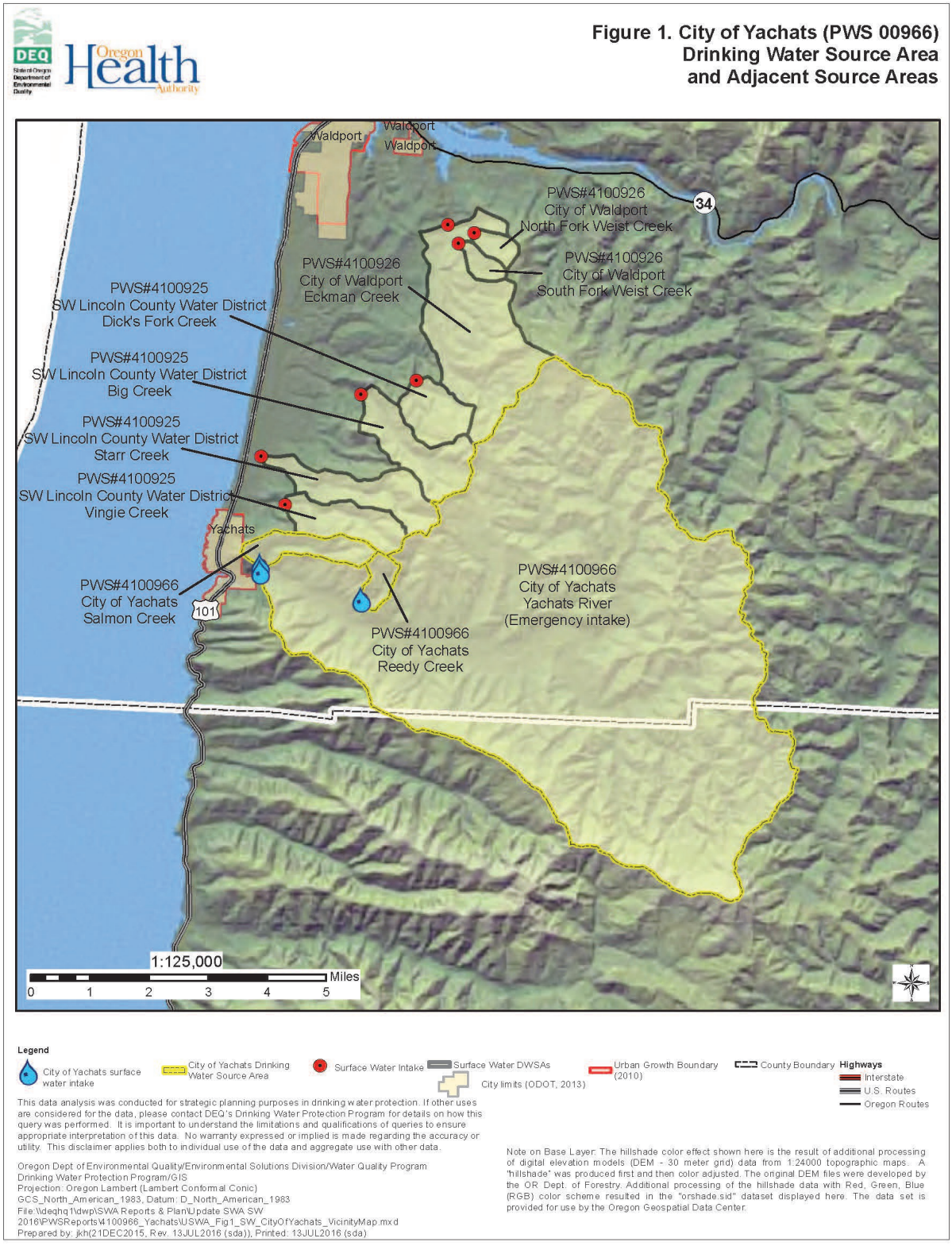
Source	Application	Permit	Permit Amendment	Certificate	Priority Date	Authorized Rate (cfs)	Comments
Reedy Creek	S-20951	S-17333	--	22933	7/9/1945	2.0	City's primary water source.
Salmon Creek	S-38383	S-29018	--	--	8/22/1963 for 1.0 cfs; 6/26/1963 for 1.0 cfs	2.0	City's secondary water source; Supplemental to Certificate 22933 (Reedy Creek water right)
(North) Cape Creek	S-15440	S-11586	--	14104	7/31/1934	0.49	Currently held in reserve as a water source.
Yachats River	S-69856	S-53471	T-7967	--	3/20/1989	2.0[1]	Permit Amendment T-7967 changed the point of diversion. Currently held in reserve as a water source. No water has been diverted under this water right to date.

cfs = cubic feet per second

[1] Use of the Yachats River as a water source is affected by conditions in Permit S-53471 and the Yachats River Mutual Agreement Stipulated Final Order issued in 1998 (Stipulated Agreement). The Stipulated Agreement made it so the City can only use the full 2.0 cfs authorized by the permit when flows in the Yachats River (measured at OWRD Gage 14306872, Yachats River above Clear Creek near Yachats) are sufficient to meet the junior instream water right (Certificate 73161) and senior instream water rights (Certificates 59739 and 59608). When flows in the Yachats River drop below the flows identified in the junior and senior instream water rights, the Stipulated Agreement and Permit S-53471 limit the City to 1.0 cfs (limited to 0.5 cfs at the upper point of diversion [POD 1] and 0.5 cfs at the lower point of diversion [POD 2]) during "emergencies" or "when population growth exceeds other sources of supply." Other stipulations about use of this water right are described in the text of Permit S-53471 and the Stipulated Agreement.

Note: If the water right has not been certificated, the City has not shown that it has used the full authorized rate.

Exhibit 1-2. Map of Drinking Water Source Watersheds



1.3 Drinking Water Protection Plan Development

1.3.1 Source Water Assessment

To fulfill new requirements of the amended Safe Drinking Water Act, DEQ prepared a source water assessment (SWA) report for the City of Yachats Public Water System in 2001, and provided an updated SWA in 2016. In addition to the map of the drinking water source watersheds reprinted above, the SWA includes maps showing soil erosion potential, areas prone to landslides, local land uses and ownership, and potential anthropogenic sources of pollution. Creating a DWPP for the water system has provided an opportunity to build on and enhance the SWA's inventory of potential contaminant sources using local knowledge and public input, as described further in Section 2 of this document.

1.3.2 Plan Development Process

1.3.2.1 Timeline

The City of Yachats received a grant from the Oregon Health Authority to develop a Drinking Water Protection Plan in 2019. Development of the DWPP began in the spring of 2020 with the formation of a team of local stakeholders and experts, facilitated by the City's selected contractor, GSI Water Solutions, Inc. Public engagement in the planning process was critical in order to gain on-the-ground knowledge of potential contamination risks and to ensure that strategies to protect the drinking water source areas were customized to meet local needs and conditions. As the DWPP Team worked on developing the plan, public meetings were held virtually using an online meeting web application in September 2020 and April 2021 to provide a public forum for questions and feedback on risks and proposed strategies. Following DWPP revisions incorporating public comments, the City Council reviewed and approved the DWPP on June 3, 2021. The City then submitted the Final Draft DWPP to DEQ for approval later that month.

1.3.2.2 DWPP Team

The DWPP Team consisted of a group of stakeholders and a technical advisory group to guide the process of developing this Drinking Water Protection Plan. The Team had over 20 members representing local residents and organizations, government agencies (local, state, and federal), and conservation groups. Collectively, they provided invaluable local knowledge and technical expertise. Exhibit 1-3 shows the Team members and their affiliations.

Exhibit 1-3. Drinking Water Protection Plan Team Members

Name	Affiliation
John Purcell	View the Future
Joanne Kittel	View the Future
Craig Berdie	Yachats Water Committee
Jim Adler	Yachats Water Quality Monitoring Group
Rick McClung	City of Yachats, Public Works Department
Heather Hoen	City of Yachats, Community Services Coordinator
Onno Husing	Lincoln County Planning
Joe Moll	McKenzie River Trust
Mike Broili	MidCoast Watershed Council
Jen Hayduk	Lincoln Soil and Water Conservation District
Kacey Largent	US Forest Service
Douglass Fitting	Bureau of Land Management
Tony Spitzack	Bureau of Land Management
Maria Gibson	Oregon State University Hydrogeologist
Ariana Carlson	Yachats resident and business owner
Marc Courtenay	Yachats resident
Drew Tracy	Yachats resident
Sam Hillmann	RARE Associate with the City of Yachats
Technical Advisory Group	
Jacquie Fern	Oregon Department of Environmental Quality
Nikki Hendricks	Oregon Water Resources Department
Leo Williamson	Oregon Department of Forestry
Cheryl Hummon	Oregon Department of Agriculture
John Spangler	Oregon Department of Fish and Wildlife
Stan Van de Wetering	Confederated Tribes of the Siletz Indians
Amy Bleekman	Drinking Water Services/Oregon Health Authority

1.3.2.3 Public outreach and engagement

Throughout the planning process, the Team remained committed to the inclusion of local voices through opportunities for public outreach and engagement. A public meeting was held virtually in September 2020 to discuss the risks to the drinking water source areas identified by the SWA and the DWPP Team, to evaluate how those risks were prioritized, and to seek public input on additional potential risks to the water supply. A second public meeting was held in April 2021 to gather public feedback on the draft DWPP, including proposed strategies for protecting water quality in the source areas, the implementation plans for these strategies, and the contingency plan for the use of alternative water sources. The City advertised the public meetings through articles in the City newsletter, the City's website and local news websites, messages in water bills, and flyers posted around the community. Appendix A contains public outreach examples. The *Newport Times News* newspaper also ran articles about the public meetings. In addition to attending the

meetings, the public was able to view a recording of the meeting online for a week after the meetings and to provide comments during the meetings and via phone and email.

1.4 Organization of the Drinking Water Protection Plan

The 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

SECTION 2: **Risk Assessment**

2.1 Introduction to Risk Assessment

In 2016, DEQ completed an updated SWA for the City of Yachats Public Water System. This assessment delineated the City's current and potential future drinking water source areas and provided baseline data on known potential contaminant sources. DEQ provided an updated section of the SWA called Inventory of Potential Sources of Pollution in April 2020. Appendix B contains the 2016 SWA plus the section updated in 2020. The Inventory of Potential Sources of Pollution updated in 2020 identified erosion risks within the City's current drinking water source area (Salmon Creek and Reedy Creek watersheds). Erosion risks, along with other potential sources of pollution, were also identified in the future drinking water source area (Yachats River watershed, described as the emergency intake area). Sensitive areas within the City's drinking water source area include areas with high soil erosion potential and areas within 1,000 feet of the source water streams. The SWA shows that 100 percent of the stream miles within the Salmon Creek and Reedy Creek watersheds are located in areas of highly erodible soils. Potential contaminant sources, if located near these streams, would pose a greater threat to the water supply.

The Yachats DWPP Team used the SWA as a starting point to evaluate identified facilities and land uses that could be potential sources of contamination, focusing primarily on the current drinking water source areas. The Team then provided input on additional risks identified through their expertise and local knowledge. Once potential risks were identified, the Team assessed the risk levels using a DEQ-provided guidance document as a starting point. The document contained information on water quality impacts and general risk levels for each potential contaminant source. This was further refined with Team input on factors specific to local watersheds that could affect the risk level. During the risk prioritization process, the Team ranked the risks in each category and subcategory as high, medium, or low based on their knowledge of local conditions.

Next, the City held a virtual public meeting in September 2020 to present the risks identified and prioritized. Further potential risks were added based on public comments, and subcategories of risks were refined. Stakeholders also expressed interest in refining the risk prioritization by separating the probability and consequences of each risk. To do this, each potential risk category was given two ratings, each on a scale of 1-5, describing the likelihood of occurrence and the consequence or severity of impact if it does occur (See Appendix C).

This process considered risks to both current and future water sources. Based on combined DWPP Team expertise and public feedback, the final risk assessment for current water sources is presented below. Information about potential risks to the future source area is provided in Section 6. The risks to current water sources fall into three general categories with associated subcategories:

- **Natural Disasters**
  - Drought/low flows
  - Climate change
  - Wildfire
  - Earthquakes
  - Severe Weather Events
  - Tsunamis
  - Insect outbreak

- **Forestry Management**
  - Timber harvest
  - Forestry pesticides
  - Access roads
- **Municipal, Commercial, and Residential (Urban/Rural) Property Management**
  - Development
  - Property management
  - Aging municipal infrastructure
  - Landscape care
  - Sabotage/vandalism of municipal infrastructure

2.2 Risks to Current Drinking Water Sources

The risks identified below are presented in order from highest to lowest risks to the current drinking water sources, the watersheds of Salmon Creek and Reedy Creek. Each risk is presented with its ranked risk level (high, medium, low) followed by its probability (1-5) and consequence (1-5), with 1 being the lowest probability or consequence and 5 being the highest probability or consequence.

2.2.1 Natural Disasters

Natural disasters encompass a wide range of potential events that could impact drinking water source areas. Although these events generally cannot be prevented, evaluating their potential consequences in order to be prepared and identifying steps to increase the resilience of the drinking water system are critical.

2.2.1.1 Drought and low flows (high: 5, 5)

Low streamflows in the summer may limit the water system's ability to meet demand. Low flows also contribute to elevated stream temperatures, low dissolved oxygen, growth of algae and bacteria, and concentration of pollution. These conditions could impair water quality in drinking water sources. Extended droughts could intensify these effects and prolong impacts throughout the year.

2.2.1.2 Climate change (high: 5, 5)

In the Pacific Northwest, climate change is projected to increase climate variability and extremes, leading to patterns such as reduced summer rainfall and intensified winter storms. This could exacerbate issues associated with droughts and low flows described above in the summer, as well as increasing winter runoff and flooding, leading to increased erosion and turbidity in drinking water sources. Climate change may also increase the risks of wildfire and insect outbreaks.

2.2.1.3 Wildfire (high: 4, 5)

Although significant wildfires have not been common in the City's drinking water source areas and adjacent forest lands, fires in the forested watersheds of the drinking water sources could remove vegetation and damage soils. This could increase runoff and erosion while decreasing soil water infiltration and retention. This risk is amplified by potential understaffing of firefighting efforts, fuel loading in the Salmon Creek watershed, and timber harvest practices, such as leaving slash piles on-site to burn in the fall. Firefighting chemicals also have the potential to contaminate drinking water quality.

2.2.1.4 Earthquakes (high: 4, 5)

Earthquakes have the potential to cause significant damage depending on their magnitude, location, and timing. Coastal elevation drop could drain water more quickly from water sources. An earthquake could damage infrastructure for water intakes, treatment, and distribution.

2.2.1.5 Severe weather events (high: 5, 4)

Heavy precipitation and rapid runoff of snowmelt could cause erosion of the landscape, leading to sedimentation and increased stream turbidity. This risk may be higher in combination with other risks, such as timber harvest and burned areas. Although no landslide deposits have been mapped within the Salmon and Reedy Creek watersheds, 100% of the stream miles within these watersheds are located in areas of high soil erosion potential.

Ice storms, snow storms, and high winds can cause trees to fall and damage water infrastructure. Depending on the location of trees knocked down, this could also diminish riparian (i.e., streamside) vegetation, which is associated with increases in streambank erosion and drinking water source turbidity.

2.2.1.6 Tsunamis (high: 2, 5)

The Oregon coast is at risk from both local and distant tsunamis. A local tsunami, caused by a nearshore earthquake, could reach the coast within minutes and cause extensive damage to property, public lands, and water infrastructure. This risk may be combined with direct earthquake damage as described above. A distant tsunami produced by an undersea earthquake farther away could take several hours to travel across the Pacific Ocean, but could still be capable of causing substantial damage to infrastructure when it reaches the coast. Water could be pushed upstream along the Yachats River and its tributaries, potentially introducing seawater, mud, debris, and other contaminants to the drinking water source if it reaches the intake areas.

2.2.1.7 Insect outbreak (medium: 2, 4)

Insect outbreaks are not currently common in the area, but climate change could impact the likelihood and severity of outbreaks of insects, such as bark beetles. An outbreak affecting a large area of forested land in the watershed could lead to widespread loss of trees, increasing the risk of erosion and runoff, as well as making the landscape more susceptible to wildfires.

2.2.2 Forestry Management

The forested watersheds comprising Yachats' current drinking water source areas are predominantly owned by USFS and are part of the Siuslaw National Forest. However, a significant portion of the Salmon Creek watershed, directly upstream from the drinking water intake, is private industrial timberland. Oregon's Forest Practices Act sets standards for forestry operations, access roads, reforestation, and water protection, among other issues. Nonetheless, forestry practices may still have the potential for drinking water quality impacts due to lack of compliance or gaps in regulations.

2.2.2.1 Timber harvest (high: 4, 4)

Timber harvest practices, particularly clearcutting, may increase erosion in the watershed. This results in higher stream turbidity from sedimentation. At the same time, increased rapid runoff of precipitation reduces groundwater infiltration, contributing to lower streamflows during parts of the year. Irregular tree densities occurring under natural reforestation conditions, such as in the Salmon Creek watershed, can exacerbate those issues. Timber harvest can reduce or remove riparian vegetation, leading to the issues discussed above. Oregon's Forest Practices Act does not require forested riparian buffers for small non-fish-bearing

streams, so water quality in headwater tributaries could become degraded by forestry activities unless the streams are otherwise protected. Timber harvest near riparian areas may also reduce beaver habitat. Beaver habitat includes floodplains supporting the beavers' food sources, such as willows and young alders. Beavers create dams and ponds that store water and slowly release it through the year, supporting greater streamflows into the summer season. Further studies of beaver habitat in the Yachats area, including the basin size and the number and size of beaver ponds, could help clarify potential local impacts and the degree of increase in summer flows.

2.2.2.2 Forestry pesticides (high: 4, 4)

Over-application or improper handling of pesticides (i.e., insecticides, fungicides, and herbicides) used in forestry management, or aerial spraying, could contaminate drinking water sources. Timing of applications can potentially contribute to water quality impacts, such as applying pesticides before precipitation events or during periods during the year when breakdown by soil microorganisms is slower, by increasing the likelihood of the pesticides making it into drinking water sources. Environmental conditions can also contribute to water quality impacts, such as steep slopes, little to no vegetation, and windy or stormy weather conditions.

2.2.2.3 Access roads (high: 4, 4)

Road construction, maintenance, and usage for forestry operations removes vegetation and disturbs the soil, potentially leading to the same erosion and stream turbidity issues discussed above. This risk is increased if the road density exceeds two miles of road per square mile of watershed, and where there are inappropriately maintained roads and undersized culverts. In addition, vehicle usage along roads in the watershed presents the possibility of leaks or spills of petroleum products or other hazardous materials, such as pesticides, depending on what is being transported. Fuel leakage from abandoned forestry machinery in the Salmon Creek watershed could pose potential contamination issues.

2.2.3 Municipal, Commercial, and Residential (Urban and Rural) Property Management

Good property management practices can maintain healthy ecosystems, protect streams, and prevent the unintentional release of hazardous substances. Both urban and rural parts of the watershed can benefit from attention to wise property management. For example, the City has an ordinance prohibiting pesticide use on their properties.

2.2.3.1 Development (high: 4, 4)

New construction may be associated with vegetation removal and soil disturbance, increasing erosion and stream turbidity. New development also increases the proportion of impervious surfaces in the watershed, increasing runoff. Development increases the potential for runoff to carry contaminants from domestic animals or pesticides (i.e., insecticides, fungicides, and herbicides) and fertilizers used in landscaping. Currently, few homes could be developed in the drinking water source areas. Land in the Salmon Creek area was recently reclassified as Residential Tract, and annexation or rezoning could pose more of a threat, although annexation could also allow the City to protect critical drinking water areas. The Urban Growth Boundary for Yachats currently follows city limits.

2.2.3.2 Property management (high: 4, 4)

Land management activities on residential, commercial, or municipal properties could include removal of riparian vegetation and reduction of beaver habitat. As mentioned previously, this could increase the risk of streambank erosion, turbidity, high stream temperatures, low dissolved oxygen, algae growth, and high

bacteria counts. Beaver habitat includes broad floodplains with willow and alder, and the beaver themselves create dams and ponds that store water and slowly release it to bolster streamflows during the summer. The degree of increased summer flows depends on basin size and the number of beaver ponds, as described above. In addition to these impacts, land management can result in the use and release of fertilizers, pesticides, or other hazardous chemicals. Although few landowners are presently located in the current source water areas, additional land could be developed in the future.

2.2.3.3 Aging municipal infrastructure (high: 4, 4)

Some of Yachats' municipal water supply infrastructure has been serving the community for many years and is approaching the end of its anticipated lifespan. Failures in water system infrastructure could reduce the water supply or limit the ability to filter out contaminants.

2.2.3.4 Landscape care (medium: 3, 4)

Over-application or improper handling of pesticides (i.e., insecticides, fungicides, and herbicides) and fertilizers in landscape care around residences, businesses, and municipal facilities could lead to unintentional releases into drinking water sources. In addition, excessive irrigation of landscaping could transport these contaminants to surface water even if applied in recommended amounts. Although few landowners are presently located in the current source water areas, additional land could be developed in the future.

2.2.3.5 Saltwater intrusion (low: 1, 2)

A combination of sea level rise and storm surge could potentially push seawater upstream toward the Salmon Creek water supply intake.

2.2.3.6 Sabotage/vandalism of municipal infrastructure (low: 1, 1)

Water system infrastructure could be damaged by deliberate acts of sabotage or vandalism.

2.3 Identifying and Addressing New Risks

DEQ evaluates approved Drinking Water Protection Plans on an approximately 5-year cycle for renewed approval. At this time, the City will review the risks presented in the DWPP and consider any new information available about emerging risks to the source area. In the interim, the City will consider new information on risks as part of its annual evaluation of the DWPP and adjust implementation of strategies accordingly. Any updates to the Source Water Assessment provided by DEQ or OHA will be incorporated into DWPP implementation as needed. If the City determines the need to begin usage of a new water source, Section 6 of this DWPP provides an assessment of potential risks to water quality, as well as suggested strategies to protect the new drinking water source.

This page intentionally left blank.

SECTION 3: **Strategies to Address Risks**

3.1 Introduction to Strategies

The Team identified strategies for each of the risks to the City's current drinking water sources described in Section 2. To identify strategies, the Team reviewed DEQ's Source Water Assessment document and drinking water protection plans developed by other water providers and utilized Team member expertise and local knowledge. The Team typically identified multiple strategies for each risk and the strategies often fit under similar themes. For example, a strategy for many of the risks was public education about the particular risk. The Team decided to group strategies under major themes, or programs, to provide a manageable structure for implementing the strategies. The eight major programs, listed in no particular order, are:

- Communications and Advocacy
- Public Education
- Critical Area Protection
- Municipal Policies and Infrastructure Management
- Plan and Program Development and Enhancement
- Monitoring
- Contamination Prevention Programs
- Watershed Restoration Support

Exhibit 3-1 presents each of the programs that an identified strategy fits under for each risk. The remainder of Section 3 describes the strategies under each program.

This page intentionally left blank.

Exhibit 3-1. Strategies Addressed by Program

Category	Risk Addressed	Risk Level[1]	Public Education and Technical Assistance	Communications and Advocacy	Critical Area Protection Programs (acquisitions, easements)	City Policies: Regulations, Infrastructure	Contamination Prevention Programs	Monitoring	Watershed Restoration Support	Plan/Program Development and Enhancement
Natural Disasters	Drought/low flows	High (5,5)	•	•		•			•	•
	Climate change	High (5,5)	•	•	•	•		•	•	•
	Wildfire	High (4,5)	•	•					•	•
	Earthquakes	High (4,5)	•	•						•
	Severe weather events	High (5,4)	•	•	•			•	•	
	Tsunamis	High (2,5)	•			•				
	Insect outbreak	Medium (2,4)						•		
Forestry Management	Timber harvest	High (4,4)	•	•	•			•		
	Forestry pesticides	High (4,4)	•	•			•	•		
	Access roads	High (4,4)		•					•	•
Municipal, Commercial, and Residential (Urban and Rural) Property Management	Development	High (4,4)	•	•	•	•				
	Property management	High (4,4)	•						•	
	Aging municipal infrastructure	High (4,4)				•				•
	Landscape care	Medium (3,4)	•				•			
	Saltwater intrusion	Low (1,2)				•				
	Sabotage or vandalism of municipal infrastructure	Low (1,1)				•				

Note

[1] Numbers in parentheses refer to the probability and consequence of each risk, with 1 being the lowest probability or consequence and 5 being the highest probability or consequence

This page intentionally left blank.

3.2 Communications and Advocacy

These strategies focus on increasing understanding about the City's drinking water protection concerns among government entities, regional water providers, stakeholders, and landowners or land managers; learning about activities or events that may affect the City's drinking water sources; and participating in government processes that may have an outcome that impacts the City's drinking water sources.

3.2.1 General Communication and Advocacy Strategies

3.2.1.1 Communications protocols

The City will establish protocols and schedules for communicating with governmental entities, regional water providers, Oregon legislators, and other stakeholders about a variety of concerns related to drinking water protection. These topics include, but may not be limited to, the following:

- **Natural disasters:** drought, climate change, severe weather events, tsunamis, wildfire
- **Forestry management:** timber harvest and pesticides
- **Municipal, commercial, and residential property management:** development

By establishing communication protocols, the City will be able to establish and strengthen relationships with entities whose activities could impact drinking water source areas and whose cooperation could help address risks. Collaborative water supply planning with neighboring and regional water providers could lead to strategies to mitigate risks. Communications with landowners and land managers in the drinking water source areas could foster relationships and partnerships. Regular communication is particularly important given that the source areas are outside city limits, constraining the City's options for direct action.

3.2.1.2 Participation in government processes

A robust communication protocol will ensure that the City is aware of and able to participate in any relevant processes that could impact drinking water supplies. This may include broad climate change planning efforts as well as more focused activities, such as reviewing and commenting on state and federal agency annual operations plans for timber harvesting during public comment periods. The City would also ensure its drinking water interests are represented in public processes related to addressing the effects of severe weather events, forestry pesticide applications, and land use changes and development.

3.2.1.3 Master outreach document

The City will compile a master document of information on topics related to drinking water source protection for use in outreach. Information from the relevant sections of the document can then be used to create consistent messaging in communications. Types of information to incorporate may include:

- **Natural disasters:** Potential impacts on water resources due to drought, climate change, wildfires, tsunamis, and severe weather events
- **Forestry management:** managing nonpoint source pollution from forestry activities, importance of stream buffers, and potential impacts of pesticide applications on drinking water sources
- **Municipal, commercial, and residential property management:** impacts of development on drinking water sources and sensitive areas, benefits of riparian vegetation and beaver habitat, and impacts of the misuse of pesticides and fertilizers on water quality

Additional topics may be developed as needed.

3.2.2 Communications Strategies to Address Specific Risks

In addition to the general strategies described above, the Team identified additional strategies to address risks related to wildfire, severe weather events, and forestry issues.

3.2.2.1 Natural disasters: wildfire

Fire preparedness planning

The City will communicate with forest landowners and managers to inform them of the location of drinking water intakes and the drinking water source area boundaries, to promote measures that reduce fire risk and intensity, and to promote measures that improve post-fire resiliency.

On State-owned or regulated forest lands, the City will learn about Oregon Department of Forestry's (ODF's) work related to fires and work with ODF to address potential impacts to drinking water from fires and firefighting efforts (e.g., potential chemical use and pumping water from creeks).

Post-fire activities

After any wildfire in the drinking water source area, the City will work with landowners and managers to assess potential water quality impacts from the fire and firefighting efforts. The City will also work with landowners, managers, and relevant agencies to implement erosion control measures as needed to reduce the risk of excessive runoff in the source area. The City will contact OHA and DEQ's Laboratory to request water quality monitoring at the drinking water intake, and if water quality is impaired, the City will contact OHA to inquire about a post-fire emergency drinking water source protection grant to help reduce water quality impacts.

3.2.2.2 Natural disasters: severe weather events

In the event of severe storms that result in downed trees or loss of riparian vegetation, the City will work with landowners and managers to assess potential water quality impacts from soil erosion and runoff. The City will communicate with affected entities about the importance of implementing erosion control measures and restoration efforts as needed.

3.2.2.3 Forestry management: timber harvest

The City will notify forest landowners and managers of their location in the City's drinking water source area, provide outreach information about preventing water quality impacts from timber harvest activities, and express interest in partnering on drinking water source protection projects if opportunities exist.

3.2.2.4 Forestry management: pesticides

In conjunction with its communication around timber harvest impacts on water sources discussed in 3.2.2.3, the City will also address forest management concerns related to the use of pesticides on private and public land. When the City learns of plans for pesticide applications within the drinking water source areas, it will request consultation with the forest landowner and/or appropriate regulatory agency to discuss a preferred Integrated Pest Management approach and the use of additional buffers, where feasible, to protect water bodies. The City will develop a process to notify nearby residents of aerial spraying and other pesticide applications planned within the source areas.

3.2.2.5 Forestry management: access roads

Since spills of potential contaminants are more likely along roads, the City will become familiar with the Oregon Emergency Response System within the State Office of Emergency Management, the agency that coordinates and manages State resources in response to spills. The City will verify that the State emergency response programs have the City's correct contact information. In addition, the City will share contact information with entities who manage roadways in the drinking water source areas (e.g., Oregon Department of Transportation, Lincoln County, or private landowner). In order to facilitate more rapid spill responses, the City will notify the property owner and local first responders of the location of the drinking water source area and need for protection in the event of a spill of petroleum products or other hazardous materials.

3.3 Public Education and Technical Assistance

These strategies focus on: promoting conservation of the City's water resources to ensure wise use and to address drought and climate change; preparing for the impacts of natural disasters, such as wildfire, earthquakes, and tsunamis on water sources; ensuring safe management of chemicals, including those used in forestry, development, and landscape care; and promoting land management practices that are protective of the City's drinking water sources.

3.3.1 Water Conservation

As part of a larger water conservation program described in more detail later in this plan, the City will provide public education related to the impacts of droughts and low flows, as well as projected impacts of climate change on water resources. The objective of this education is to encourage conservation of water to avoid waste and to protect against future shortages, as well as to advance preparedness for changing conditions.

3.3.2 Natural Disaster Preparedness

Education in this area will focus on assisting the public to prepare for wildfires, earthquakes, and tsunamis, particularly in the context of potential impacts to drinking water sources. This includes providing information on receiving disaster alerts, how to find out if there is a boil water order, updates on the City's fire, earthquake, and tsunami preparedness planning, and similar measures. Messaging will be coordinated with the City's Emergency Preparedness Committee.

3.3.3 Safe Management of Potential Contaminants

Safe handling, application, and disposal of chemicals is essential to protecting drinking water sources.

3.3.3.1 Forestry management: pesticides

Education of private forestry landowners and managers will focus on ensuring that pesticides are handled and applied in a manner that does not present risks to drinking water. The City will notify forest landowners and managers of their location in the City's drinking water source area and will provide information about preventing pollution.

3.3.3.2 Property management: development

Education and technical assistance will be provided around safe management of potential contaminants during municipal, commercial, or residential development. This may be combined with other education programs conducted by the City.

3.3.3.3 Property management: landscape care

The City will provide public education about safe management of chemicals typically used in landscape care that could pose a risk to drinking water sources. Educational materials will help property managers understand the connection between landscape care and water quality. The City will also share more technical information on water quality and pesticide use with interested parties, including referrals to DEQ resources and technical assistance. In addition, the City will support efforts to offer OSU Extension and Lincoln Soil and Water Conservation District (SWCD) "Living on the Land" workshops or similar trainings.

3.3.4 Land Management Education

The City will provide public education on the connection between residential and commercial land management activities and water quality. This may include education about riparian area management and protection, beaver habitat, floodplain protection, and invasive plant species control. These activities benefit water quality and fish and wildlife habitat in the source watersheds. The City will also assist interested parties in accessing technical and financial assistance resources and connecting with relevant entities, such as the MidCoast Watersheds Council, The Beaver Coalition, and SWCD.

3.4 Critical Area Protection Programs

Critical area protection programs are designed to safeguard the City's drinking water supply by preventing activities that could pose a risk to water quality. These strategies focus on land acquisition or conservation easements by the City or a land trust from a willing seller to protect drinking water source areas. Areas of greatest concern include:

- **Natural disasters:** areas projected to be critical under future climate change conditions; areas potentially subject to substantial erosion or landslides due to heavy precipitation and other severe weather events
- **Forestry management:** areas where timber harvest would not be compatible with the City's drinking water protection goals
- **Municipal, commercial, and residential property management:** areas that might otherwise undergo development

Land acquisition and conservation easements would provide the City with more influence over activities outside city limits that could affect the drinking water supply. One potential conservation easement location has already been identified below Salmon Creek, east of the water treatment plant.

3.5 Municipal Policies and Infrastructure Management

These strategies focus on promoting water conservation to manage the City's water supply sustainably and protecting municipal water infrastructure.

3.5.1 Water Conservation Policies

Water conservation measures decrease demand on water resources, protecting limited supplies and reducing the need to seek alternative supply sources.

3.5.1.1 Natural disasters: drought/low flows and climate change

Reducing demand helps ensure a sufficient water supply during low flows during the summer months, as well as during prolonged droughts. The City will analyze water rates and water rate structures for its customers in order to adjust rates as needed to address anticipated costs of water conservation and

management efforts, as well as to encourage water conservation. These efforts will be part of the broader water conservation program outlined under Section 3.6.1.

3.5.1.2 Property management: development

Inside city limits, the DWPP Team recommends that the City pass development ordinances that maximize the water efficiency of new homes and businesses and their associated landscaping. Ordinances should require indoor water fixtures that are more water-efficient than current plumbing standards and require water-wise landscaping and water-efficient irrigation technologies. The Team also recommends that the City adopt an ordinance tying the issuance of building permits to water supply sufficiency to ensure that water sources are not overtaxed. Additional zoning ordinance updates that restrict development or change siting and permitting requirements may be considered.

3.5.2 Municipal Infrastructure Management

Infrastructure management activities are designed to protect, maintain, and improve municipal water infrastructure to ensure its long-term ability to meet the needs of all users.

3.5.2.1 Property management: aging municipal infrastructure

Rapid leak detection and repair are essential to maintaining the water system's capacity to meet demand now and in the future under a changing climate. The City will identify leaks through proactive leak detection surveys and will take steps to address problems promptly. Through the Water System Master Plan development process, the City will identify the percentage of water loss in the system and will then address potential sources of water loss, such as system leakage, accounting issues, and unmetered authorized uses. As part of the planning process, the City will also develop and implement a Capital Improvement Plan to upgrade aging infrastructure that may be vulnerable to leaks and to optimize water system efficiency. The City will identify and pursue funding opportunities for identified capital improvement projects. Annual water audits will keep information on water loss up-to-date so that new issues can be addressed as they occur. In addition, the City's water treatment plant is currently in the tsunami zone. When a new water treatment plan is needed at some point in the future, the Team recommends locating the new water treatment plant outside of the tsunami zone if possible.

3.5.2.2 Property management: saltwater intrusion

The current water supply intake on Salmon Creek is not considered to be at risk for saltwater intrusion. The City will document the risks to this and other potential surface water intakes in order to maintain institutional knowledge for future water managers.

3.5.2.3 Property management: sabotage and vandalism

To prevent intentional damage to water system infrastructure from sabotage or vandalism, the City will adopt policies ensuring that security systems are in place around key water infrastructure. The City will also share information and security-preparedness measures with nearby water systems.

3.6 Plan and Program Development and Enhancement

These strategies focus on promoting water conservation and sustainable management, municipal supply planning, water quality protection, and disaster preparedness.

3.6.1 Water Conservation Program

The City's water conservation program will be designed to ease stress on water supplies and reduce excessive demand and water waste. The program will benefit water supplies under conditions of drought, low flows, and climate change. Major components of the program will include:

- Public education about the need for conservation and ways to save water for water customers and students
  - Public education could include: newsletter articles, billing messages, curriculum for students (K-12, community college), brochures, workshops, and a booth at events
- Tiered water rates to encourage awareness of water use and discourage waste
- Technical and financial assistance for water conservation
- Incentive programs to encourage water fixture efficiency upgrades and purchases
- Landscape and water fixture ordinances described above
- Customer leak detection and notification

The water conservation program will be aligned with the City's Water Management and Conservation Plan objectives and implementation actions.

3.6.2 Supply Planning

In conjunction with the Water System Master Plan and other planning processes, the City will evaluate and plan for a sustainable water supply that can continue to meet demands from future growth, droughts, and climate change. The City will consider alternative water sources, connections to other water systems, and storage options. Infrastructure needs identified during supply planning will be included in the City's Capital Improvement Plan.

3.6.3 Water Quality Protection Programs

In addition to variability in quantity, water supply can be constrained by water quality concerns, and the City will take steps to protect water quality and prevent the need for additional treatment measures.

3.6.3.1 Natural disasters: drought/low flows and climate change

Low streamflows tend to concentrate pollution and exacerbate turbidity, as well as potentially presenting logistical problems at the water supply intake. When low flows pose a risk to the drinking water supply and/or watershed health in the source areas, the City will seek to promote and coordinate temporary instream leases of water rights in order to boost flows and protect water quality and aquatic habitat.

3.6.3.2 Forestry management: access roads

The City will encourage the development of and request to review spill response plans developed by entities responsible for management of the forested drinking water source watersheds, including access roads used for forestry activities. These plans should include provisions for protecting water quality in the event of leaks or spills of petroleum products, pesticides, and other potential contaminants being transported along access roads.

3.6.4 Disaster Preparedness Programs

The City will integrate protection of drinking water source areas into existing emergency planning and preparedness programs for disasters, such as wildfire, earthquake, and tsunami response. This will include

coordination with the Emergency Preparedness Committee to promote awareness of the potential effects of disasters on drinking water supplies. In conjunction with the Water System Master Plan process, the City will determine any upgrades to infrastructure needed for earthquake resiliency. The City will then address any upgrades needed through the Capital Improvement Plan process, including identifying and pursuing funding opportunities as they become available.

3.7 Monitoring

These strategies focus on monitoring water quality to detect and address degradation, and monitoring for potential insect outbreaks.

3.7.1 Water Quality Monitoring

As discussed above, water quality is as important to water supply as quantity. The City's water treatment plant is designed for the typically high quality raw water that is usually available in the source creeks. Degraded water quality would create challenges to the treatment process and potentially increase costs.

3.7.1.1 Natural disasters: climate change

Long-term water quality monitoring will ensure that water quality is not degraded over time by erosion, runoff, or pollution. Maintaining long-term records of streamflows will help the City identify trends that could potentially impact its water supply and prepare for its future water needs.

3.7.1.2 Natural disasters: severe weather events

Water quality monitoring will be conducted after extreme storms in areas prone to excessive erosion and sedimentation.

3.7.1.3 Forestry management: timber harvest

As needed, monitoring downstream of identified problem areas after timber harvest will be conducted to ensure that water quality is not being degraded by erosion and runoff. If water quality problems are detected, the City will communicate with the landowners or managers regarding steps that can be taken to protect the City's drinking water sources.

3.7.2 Insect Outbreak Monitoring

The City will stay aware of and participate in monitoring programs for regional insect outbreaks that could lead to widespread tree mortality in the drinking water source areas. In the event of an outbreak, the City will conduct public education on detecting pests and will institute or participate in a reporting system to monitor the spread of insect pests to new areas.

3.8 Contamination Prevention Programs

These strategies focus on prevention of contamination of drinking water sources by chemicals used in forestry activities and landscape management, and safe disposal of hazardous wastes.

3.8.1 General Contamination Prevention

Safe handling of chemicals is fundamental to protecting source water areas as well as the health of individuals using these chemicals.

3.8.1.1 Forestry management: pesticides

If private industrial forest land is scheduled for harvest or chemical application within a drinking water source area, the City will work with the landowner or manager to set up direct communication, share maps of the affected area, and provide notification of any chemical applications. Building a good relationship with landowners and the Oregon Department of Forestry Stewardship Forester will be beneficial in developing site-specific plans that address the use of chemicals in the drinking water source areas. This could include voluntary actions that may be more stringent than Forest Practices Act requirements, such as avoiding mixing, handling, or storage of pesticides and fertilizers in areas that could affect the water supply. The City could also encourage elimination or minimization of pesticide application in sensitive areas and other locations that could contaminate drinking water sources.

3.8.1.2 Property management: landscape care

Similar to forestry management, the City can request elimination or minimization of pesticide application in sensitive locations, such as beside waterways, to prevent contamination of drinking water sources.

3.8.2 Hazardous Waste Collection

In order to ensure safe disposal of potentially hazardous chemicals, the City will sponsor hazardous waste collection events. These may include collection of unused pesticides from private forestlands, as well as collection days for pesticides, and fertilizers used in landscaping for residential and commercial areas. Collection events will be combined with public education about the need for proper disposal of potential contaminants. The City will communicate with Lincoln County, Lane County, and DEQ about a hazardous waste collection event. Lincoln County holds annual household hazardous waste collection events and Lane County accepts waste from outside its political boundaries.

3.9 Watershed Restoration Support

These strategies focus on restoring watersheds following natural disasters; forested watershed restoration; and general restoration efforts on municipal, commercial, and residential lands.

3.9.1 Watershed Restoration Addressing Natural Disasters

In addition to ongoing efforts to protect and restore natural areas, specific activities may be needed to address natural disasters in relation to drinking water source protection:

- **Drought and low flows:** restoring floodplains and beaver habitat to aid streamflows
- **Climate change:** maintaining healthy riparian buffers, beaver habitat, and drinking water source areas
- **Wildfire:** post-fire restoration to stabilize soils, accelerate revegetation, and reduce erosion risk
- **Severe weather events:** restoration of riparian zones, floodplains, uplands, and beaver habitat to reduce stream turbidity; post-windstorm restoration to stabilize soils, accelerate revegetation, and reduce erosion risk

Riparian areas, floodplains, and beaver habitat are particularly critical to protecting water quality and streamflows in the source watersheds.

3.9.2 Restoration on Forestlands

The City supports voluntary participation in watershed restoration efforts on private and public forestlands in its drinking water source areas. This includes maintaining healthy riparian buffers to protect streams from

erosion and sedimentation, as well as assessing decommissioned forest access roads to identify locations where soil improvement and revegetation could help improve water quality.

3.9.3 Restoration on Municipal, Commercial, and Residential Properties

Healthy watersheds produce clean water for communities, businesses, and the environment. As feasible, the City will support and collaborate with local entities engaging in watershed restoration and environmental enhancement activities that benefit watershed health, water supply, and water quality. This includes support for voluntary participation in the ecological restoration of drinking water source areas and beaver habitat.

This page intentionally left blank.

SECTION 4: **Implementation Plan**

The City's implementation plan describes the activities that the City intends to implement as part of its strategies to address risks to its drinking water supply source areas. The implementation plan focuses on activities over the next five fiscal years (with an emphasis on the first two fiscal years), but many of the activities likely involve longer-term implementation. The implementation plan also provides descriptions of funding sources and opportunities. Implementation of these identified drinking water protection activities will be contingent on funding and staff availability. The City plans to engage the DWPP Team for guidance and input as it implements activities. The City intends to revisit its implementation plan annually as part of its review of the DWPP to assess any needed updates as a result of protective actions taken, lessons learned, and potential changes in risks.

4.1 Fiscal Year 2021-2022

4.1.1 Communications and Advocacy

During the first fiscal year of DWPP implementation, the focus will be on initiating development of communications materials, protocols, and schedules, as well as beginning communications and advocacy around reducing the use of pesticides in the drinking water source areas.

4.1.1.1 Develop communications materials about risks

The City will develop communications protocols and schedules as described in Section 3.2.1 to address serious potential risks to the drinking water supply. This includes development of communications materials to explain concerns to a variety of audiences. The City will begin implementing its communications and advocacy strategy to the extent feasible during this fiscal year.

For government entities, such as Lincoln County, ODF, U.S. Forest Service (USFS), and BLM, the City will focus its communication efforts on land use and development, forestry, and climate change concerns, as applicable to the entity and its jurisdiction. Land use and development concerns include the effects of heavy precipitation and other severe weather events in areas of new development and areas with sensitive soils and high landslide potential, and the need for riparian buffers. Forestry management concerns include timber harvest on public and private lands, and the usage of pesticides in forestry operations.

The City will communicate with regional water providers about natural disasters, forestry management, and property management concerns.

The City will communicate with other stakeholders (e.g., MidCoast Watersheds Council, regional nonprofits, Oregon legislators, League of Oregon Cities, commercial timber companies, and landowners) about forestry management concerns on public and private land, as well as climate change concerns.

Components of the communications protocols to be developed will likely include identifying the staff that will be communicating, identifying the concerns to be discussed during each communication, identifying the questions that should regularly be asked during communications, and creating and updating materials explaining the concerns and how various management practices could affect the City's drinking water sources. To facilitate ongoing communications, the City will develop schedules that will likely include the following:

- Meetings with government entities, regional water providers, and other stakeholders at least annually

- Reviewing protocols at least annually and updating them as needed based on new information and partnerships
- Reviewing materials explaining concerns at least annually, and updating them as needed
- Schedules for dissemination of communications materials

4.1.1.2 Request elimination or minimization of pesticide application

This activity will focus on communication and advocacy to reduce the potential for contamination of drinking water sources. The City will first identify locations where water quality impacts could occur from planned or potential pesticide application. The City will then conduct outreach to landowners to describe water quality concerns and to make the request to eliminate or minimize the use of these chemicals. Communications materials will describe alternatives to the use of chemicals to control pests and weeds. The City will also conduct outreach to landscaping companies serving customers in Yachats and its drinking water source areas to promote landscape management practices that exclude and/or minimize pesticide application. Finally, the City will conduct outreach to realtors to encourage them to promote elimination or minimization of pesticide application when interacting with clients and landscaping contractors.

4.1.2 Public Education

Public education efforts will primarily focus on residents of the City and its drinking water source areas, including adults and youth (through the school system). Educational materials to be developed (or adapted from shared resources) and disseminated during this fiscal year may include handouts and website content. Topics to be addressed include:

- The value of water for people in the City and region and for fish and wildlife (i.e., water is a community asset),
- The City's drinking water supply source area
- Specific risks to the drinking water supply
  - Natural disasters, such as earthquakes, tsunamis, and wildfires
  - Forestry concerns, such as timber harvest and pesticide use
  - Development and property management concerns
  - Landscape care

Outreach materials will describe the City's strategies to address the risks and will focus on what the public can do to assist these efforts, as well as provide information about additional resources.

4.1.3 Critical Area Protection

During this fiscal year, the City will identify land acquisition and conservation easement opportunities in the drinking water source areas, begin outreach to landowners, and develop plans to pursue funding for viable opportunities.

4.1.4 Municipal Policies and Infrastructure Management

To address aging infrastructure concerns, the City will begin addressing infrastructure issues identified in the Water System Master Plan and associated capital improvement plans. Pursuing long-term funding for infrastructure projects and rate studies will be critical to this effort. The Public Works Department will be encouraged to communicate regularly with City Council about infrastructure needs and the status of projects in the 5-year and 20-year capital improvement plans.

4.1.5 Plan and Program Development

The revised Water System Master Plan and Water Management and Conservation Plan will provide a foundation for the City's drinking water protection efforts and long-term water supply strategy.

4.1.5.1 Complete Water System Master Plan

The City is currently in the process of completing an updated Water System Master Plan (WSMP). This effort will allow the City to develop capital improvement plans for addressing infrastructure issues and identify strategies for meeting future water demand.

4.1.5.2 Complete Water Management and Conservation Plan

An updated Water Management and Conservation Plan (WMCP) is being developed concurrently with the WSMP. This plan will assist the City in identifying water conservation measures (required by the State of Oregon, as well as additional actions) to implement within the next five years and will help the City define a strategy for meeting future water demand.

4.1.5.3 Develop long-term water supply strategy

Based on information from the WSMP and WMCP, the City will be equipped to choose a long-term water supply strategy and begin implementation of any steps deemed necessary to secure the water supply. The DWPP Team recommends the formation of a citizens committee with City staff participation to provide City Council with long-term water supply recommendations, utilizing information from the WSMP and WMCP, and to encourage City Council to pursue responsible growth plans and policies, including the recognition of water supply concerns in preparing for future growth.

4.1.5.4 Implement a water conservation program

During this fiscal year, the City will begin implementing a water conservation program that incorporates the WMCP requirements for water conservation. Program components may include:

- Public education on water conservation practices
  - Website content
  - Newsletter articles
  - Billing messages
  - Outreach to schools, such as development of curriculum
  - Outreach to landscaping companies to promote water-efficient landscaping
  - Outreach to realtors encouraging them to promote water conservation when interacting with clients and contractors
  - Development of brochures and flyers
  - Presentations or hosting a booth at community events (these may be in person or online as circumstances change)
- Ordinances related to water conservation
  - Require that indoor water fixtures meet or exceed State standards, focusing on rentals and older homes and businesses
  - Require water-efficient landscaping. Efficiency standards could address turf ratios, plant selection, and irrigation system design and technologies. The ordinance could require certification of landscape professionals.
- Offer free water-efficient fixtures to residents, such as faucet aerators and showerheads

- Install water-efficient fixtures in municipal buildings and implement water-efficient landscaping practices on City properties, potentially with educational signage
- Develop a tiered water rate tied to water curtailment phases and potentially to water source

4.1.6 Watershed Restoration

As opportunities arise, the City will contribute resources to watershed restoration projects that will help protect its drinking water sources. The City will maintain a list identifying projects that would contribute to drinking water source area protection and will maintain communications with partner organizations regarding these projects. The City will also assist with pursuing funding for these projects and provide in-kind or monetary support for project implementation to the extent possible.

4.2 Fiscal Year 2022-2023

4.2.1 Communications and Advocacy

Regular communications will continue around protecting the drinking water source areas, and additional stakeholders may be engaged this year as feasible. The City will also advocate for any changes deemed beneficial.

4.2.1.1 Continue communications to address serious risks

During this fiscal year, the City will continue implementing its communication protocols and schedules to address threats to the drinking water supply. Protocols, schedules, and materials will be reviewed and updated to reflect any changing concerns and lessons learned from communications over the past year.

4.2.1.2 Advocate for support for drinking water supply protection

The DWPP Team has recommended that the City communicate with Oregon legislators about risks to its drinking water supply and potential strategies to address those risks, and has recommended that the City Council conduct the communications as part of its activities. In addition, the DWPP Team has recommended that the City Council communications include advocating for more funding for land acquisition and conservation easements in the drinking water source area to protect drinking water supplies.

4.2.2 Public Education

The City will continue developing and disseminating public education materials about water supply risks and what can be done to protect drinking water source areas.

4.2.3 Critical Area Protection

Throughout the fiscal year, the City will continue identifying land acquisition and conservation easement opportunities in the drinking water source areas, conducting outreach to landowners, and pursuing funding for viable opportunities.

4.2.4 Municipal Policies and Infrastructure Management

The City will continue implementing capital improvement plan activities identified in the WSMP. The focus this fiscal year will broaden to include potential changes to water-related City policies.

4.2.4.1 Continue addressing infrastructure issues

Using the WSMP and capital improvement plans, the City will continue taking action to protect and upgrade critical municipal water infrastructure.

4.2.4.2 Assess and adjust water-related City policies

During this fiscal year, the City will assess and consider adjusting policies related to development zoning in order to take water supply and water quality issues into account. The City will also assess and potentially adjust its water rates to promote conservation.

4.2.5 Plan and Program Development

Plans developed in the previous fiscal year will continue to be implemented and expanded as feasible.

4.2.5.1 Continue long-term water supply strategy implementation

Specific activities during this fiscal year will depend on the water supply strategy chosen with input from the WSMP, WMCP, residents, City staff, and City Council.

4.2.5.2 Continue implementing a water conservation program

The water conservation program will continue to incorporate WMCP requirements for water conservation. Additional components of the program may be implemented in this and subsequent fiscal years to build on earlier efforts. These may include:

- Expanded public education activities (See 4.1.5.4 for a list of potential activities)
- Rebate programs for water-efficient fixtures
  - Indoor fixtures, such as toilets and clothes washers
  - Outdoor fixtures, such as rain sensors, soil moisture sensors, sprinkler nozzles, drip irrigation equipment, and weather-based irrigation controllers
- Outreach to short-term rentals
  - Outreach materials for renters
  - "Blue certification" of rentals for water efficiency, which owners of rentals can use for marketing
  - Financial incentives for water conservation in rental properties
  - Technical assistance to property owners on water-efficient upgrades

As part of the water conservation program, the City may also study the feasibility of non-potable water uses, including capture of runoff during the rainy season, greywater, and industrial wastewater.

4.2.6 Monitoring

The City's monitoring efforts will focus on the water quality of drinking water sources and insect outbreaks that could negatively impact trees in the drinking water source areas.

4.2.6.1 Implement water quality monitoring

Water quality monitoring will enable the City to detect and address potential issues in a timely manner. The City will determine which water quality parameters to monitor, select appropriate monitoring locations, develop protocols and schedules for monitoring, and identify responsible parties to conduct the monitoring. The City will pursue funding to develop a water quality monitoring plan and to implement monitoring. The

results of water quality monitoring will be used by the Public Works Department to ensure that any risks to the drinking water supply can be addressed rapidly.

4.2.6.2 Implement insect outbreak monitoring

The City will communicate with regional experts about the status of any insect outbreaks that could affect the drinking water source area through widespread tree mortality. All communications should be documented along with the status of any emerging or ongoing outbreaks. Based on best practices and recommendations from regional experts, the City will develop response actions as needed.

4.2.7 Contamination Prevention Programs

During this fiscal year, the City will develop and implement a collection program for potential water contaminants, such as pesticides, contingent on adequate funding. The City will communicate with Lincoln County, Lane County, and DEQ regarding the program and development of protocols for collecting and properly disposing of pesticides. Outreach materials will be developed to promote the program and facilitate safe handling on collection days.

4.2.8 Watershed Restoration

Restoration activities will focus on promoting healthy conditions and water quality in the drinking water source areas.

4.2.8.1 Continue contributing to watershed restoration projects

The City will continue contributing resources to watershed restoration projects as opportunities arise.

4.2.8.2 Pursue restoration of decommissioned access roads

During this fiscal year, the City will partner with stakeholders (e.g., USFS, ODF, and private landowners) to identify decommissioned access roads that may pose a risk to drinking water sources through erosion potential and transport of contaminated sediments. Where watershed restoration projects are deemed appropriate to protect the water resource, the City will seek funding and develop partnerships to implement identified projects.

4.3 Implementation Plan Summaries: Fiscal Years 2021–2022 and 2022–2023

Exhibits 4-1 and 4-2 summarize the implementation plans for Fiscal year 2021-2022 and Fiscal Year 2022-2023, respectively. The exhibits list the implementation plan activities plus identify the following associated with the activity: the strategy (see Section 3 for additional details), risks addressed (see Section 2 for additional details), responsible parties, potential partner organizations, and potential funding sources (see Section 4.5 for additional details). Appendix D contains a template for tracking activities in the implementation plan.

4.4 Fiscal Years 2023–2026

Activities outlined under Fiscal Year 2022–2023 will be continued through at least Fiscal Year 2025–2026.

4.5 Implementation Plan Timeline

Exhibit 4-3 presents the timing of when implementation plan activities will be implemented and the duration of those activities.

Exhibit 4-1. Implementation Plan Summary: Fiscal Year 2021–2022

Activity	Strategy Category	Risk addressed	Responsible Party	Partnerships to Pursue	Funding Sources and Opportunities
▪ Complete Water System Master Plan (WSMP) ▪ Capital improvement plan for infrastructure ▪ Strategy for meeting future water demand	Plan/Program Development and Enhancement	▪ Aging infrastructure ▪ Drought/low flows ▪ Climate change ▪ Development	City Manager, Public Works Director		Secured
▪ Complete Water Management and Conservation Plan (WMCP) ▪ Water conservation measures ▪ Strategy for meeting future water demand	Plan/Program Development and Enhancement	▪ Aging infrastructure ▪ Drought/low flows ▪ Climate change ▪ Development	City Manager, Public Works Director		Secured

▪ Long-term water supply strategy
▪ Form a citizens committee with city staff participation to:
  ▪ provide City Council with long-term water supply recommendations, utilizing information from the WSMP and WMCP
  ▪ encourage City Council to pursue responsible growth plans/policies
	Plan/Program Development and Enhancement	▪ Aging infrastructure
		▪ Drought/low flows
		▪ Climate change
		▪ Development
			City Manager, Public Works Director		Annual budget

▪ Begin addressing infrastructure issues identified in the WSMP ▪ Pursue long-term funding for infrastructure projects and rate studies ▪ Regularly communicate with City Council about infrastructure needs and capital improvement plans	Plan/Program Development and Enhancement	▪ Aging infrastructure ▪ Drought/low flows ▪ Climate change ▪ Development	City Manager, Public Works Director		Annual budget Infrastructure loans
▪ Develop communications protocols and schedules to address serious risks, including developing materials to explain concerns, and begin communications to the extent possible ▪ For government entities: land use/development concerns and heavy precipitation, forestry management, climate change ▪ For regional water providers: natural disasters, forestry management, and property management ▪ For other stakeholders (e.g., MidCoast Watersheds Council, regional nonprofits, Oregon legislators, Oregon League of Cities, and landowners): forestry management, climate change	Communications and Advocacy	▪ Drought/low flows ▪ Climate change ▪ Wildfire ▪ Earthquakes ▪ Severe weather events ▪ Tsunamis ▪ Timber harvest ▪ Forestry pesticides ▪ Access roads ▪ Development	City Manager, Public Works Director	Lincoln County, ODF, USFS, BLM, DEQ, MidCoast Watersheds Council, commercial timber companies, regional nonprofits, landowners	Annual budget State and Federal agencies,

▪ Develop public education materials and begin disseminating them to the extent possible. Materials will include:
  ▪ The value of water
  ▪ City's drinking water supply source area
  ▪ Risks to the water supply (natural disasters, development and property management, forestry management)
  ▪ Strategies to address risks and what the public can do
	Public Education	▪ Drought/low flows
		▪ Climate change
		▪ Wildfire
		▪ Earthquakes
		▪ Severe weather events
		▪ Tsunamis
		▪ Timber harvest
		▪ Forestry pesticides
		▪ Development
		▪ Property management
		▪ Landscape Care
			City Manager, Public Works Director	City of Yachats Emergency Preparedness Committee, Lincoln County, ODF, USFS, BLM, DEQ, commercial timber companies, FEMA, ODOT, EPA, Oregon Emergency Management (OEM), State Fire Marshal's Office, DEQ, OHA, MidCoast Watersheds Council, The Beaver Coalition, Lincoln SWCD	Annual budget
					In-kind from volunteer time
					State and Federal agencies

Activity	Strategy Category	Risk addressed	Responsible Party	Partnerships to Pursue	Funding Sources and Opportunities

▪ Begin implementing a water conservation program
▪ Water conservation program components may include:
  ▪ Public education for water customers and students
  ▪ Ordinances on indoor and outdoor water efficiency
  ▪ Offer free water-efficient fixtures
  ▪ Examples: Faucet aerators and showerheads
  ▪ Install water-efficient fixtures in municipal buildings and implement water-efficient landscaping practices
  ▪ Develop a tiered water rate tied to water curtailment phases and potentially to water source
  ▪ Conduct outreach to landscaping companies to promote water-efficient landscaping (e.g., plants with low water needs and water-efficient irrigation systems and practices)
  ▪ Conduct outreach to realtors to encourage them to promote water conservation when interacting with clients and contractors
	Plan/Program Development and Enhancement	▪ Drought/low flows
		▪ Climate change
			Public Works Director	Regional water providers, EPA, OWRD,	Annual budget
					State and Federal agencies

▪ Identify land acquisition and conservation easement opportunities in the City's drinking water source areas, begin outreach to landowners, and pursue funding for viable opportunities	Critical Areas Protection Programs	▪ Drought/low flows Climate change ▪ Severe weather events ▪ Timber harvest ▪ Development	City Manager	MidCoast Watersheds Council	Annual budget State and Federal agencies
▪ Request elimination or minimization of pesticide application in certain locations	Communications and Advocacy	▪ Forestry pesticides	City Manager	DEQ, OHA, OSU Extension, regional water providers	Annual budget
▪ Contribute resources to watershed restoration projects as opportunities arise	Watershed Restoration Support	▪ Drought/low flows ▪ Climate change ▪ Wildfires ▪ Severe weather events ▪ Access roads ▪ Property management	City Manager	MidCoast Watersheds Council, USFS, BLM, ODF	Annual budget State and Federal agencies

Notes

BLM	U.S. Bureau of Land Management
DEQ	Oregon Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
ODF	Oregon Department of Forestry
ODOT	Oregon Department of Transportation
OEM	Oregon Emergency Management
OHA	Oregon Health Authority
SWCD	Soil and Water Conservation District
USFS	U.S. Forestry Service
WMCP	Water Management and Conservation Plan
WSMP	Water System Master Plan

Exhibit 4-2. Implementation Plan Summary: Fiscal Year 2022-2023

Activity	Strategy Category	Risk addressed	Responsible Party	Partnerships to Pursue	Funding Sources and Opportunities
▪ Continue long-term water supply strategy implementation	Plan/Program Development and Enhancement	▪ Aging infrastructure ▪ Drought/low flows ▪ Climate change ▪ Development	City Manager, Public Works Director		Annual budget
▪ Continue addressing infrastructure issues	Plan/Program Development and Enhancement	▪ Aging infrastructure ▪ Drought/low flows ▪ Climate change ▪ Development	City Manager, Public Works Director		Annual budget Infrastructure loans
▪ Continue communications to address serious risks	Communications and Advocacy	▪ Drought/low flows ▪ Climate change ▪ Wildfire ▪ Earthquakes ▪ Severe weather events ▪ Tsunamis ▪ Timber harvest ▪ Forestry pesticides ▪ Access roads ▪ Development	City Manager, Public Works Director	Lincoln County, ODF, USFS, BLM, DEQ, MidCoast Watersheds Council, commercial timber companies, landowners	Annual budget
▪ Continue developing and disseminating public education materials about water supply risks	Public Education	▪ Drought/low flows ▪ Climate change ▪ Wildfire ▪ Earthquakes ▪ Severe weather events ▪ Tsunamis ▪ Timber harvest ▪ Forestry pesticides ▪ Development ▪ Property management ▪ Landscape Care	City Manager, Public Works Director	Lincoln County, ODF, USFS, BLM, commercial timber companies, FEMA, ODOT, EPA, Oregon Emergency Management (OEM), State Fire Marshal's Office, DEQ, OHA	Annual budget In-kind from volunteer time State and Federal agencies

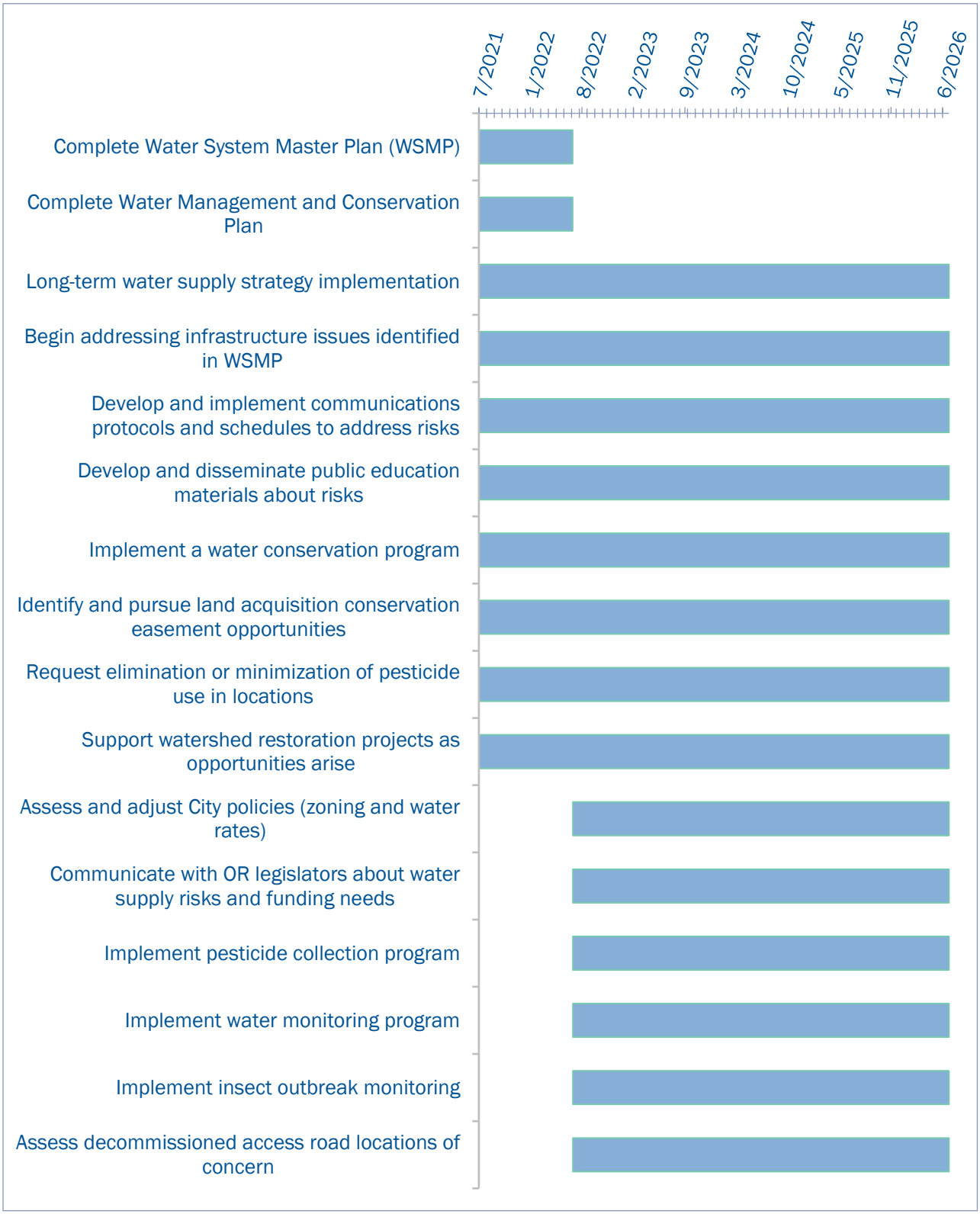
▪ Continue implementing a water conservation program that incorporates WMCP requirements for water conservation
▪ Additional water conservation program components may include:
  ▪ Public education
  ▪ Rebate program for water-efficient indoor and outdoor fixtures
  ▪ Short-term rental outreach program
	Plan/Program Development and Enhancement	▪ Drought/low flows
		▪ Climate change
			Public Works Director	Regional water providers, EPA, OWRD,	Annual budget
					State and Federal agencies

Activity	Strategy Category	Risk addressed	Responsible Party	Partnerships to Pursue	Funding Sources and Opportunities
▪ Study non-potable water uses, including capture of runoff during the rainy season, greywater, and industrial wastewater					
▪ Continue identifying land acquisition and conservation easement opportunities in the City's drinking water source areas, conducting outreach to landowners, and pursuing funding for viable opportunities	Critical Areas Protection Programs	▪ Drought/low flows ▪ Climate change ▪ Severe weather events ▪ Timber harvest ▪ Development	City Manager	MidCoast Watersheds Council	Annual budget State and Federal agencies
▪ Continue contributing resources to watershed restoration projects as opportunities arise	Watershed Restoration Support	▪ Drought/low flows ▪ Climate change ▪ Wildfires ▪ Severe weather events ▪ Access roads ▪ Property management	City Manager	MidCoast Watersheds Council, USFS, BLM, ODF	Annual budget State and Federal agencies
▪ Assess and adjust City policies related to development zoning and water rates	City policies: regulation and infrastructure	▪ Drought/low flows ▪ Climate change ▪ Development	City Manager		Annual budget
▪ Communicate with Oregon legislators about risks to the City's drinking water supply and potential strategies to address those risks, as well as funding needs to protect the drinking water supply	Communications and advocacy	▪ Forestry pesticides ▪ Timber harvest ▪ Development	City Manager	MidCoast Watersheds Council, ODF, USFS, BLM, local volunteers	Annual budget In-kind: volunteer time
▪ Implement pesticide collection program	Contamination Prevention Program	▪ Forestry pesticides	City Manager	DEQ, OHA	Annual budget State and Federal agencies
▪ Implement water monitoring program	Monitoring	▪ Climate change ▪ Severe weather events ▪ Timber harvest ▪ Forestry pesticides ▪ Access roads	Public Works Director	DEQ, OHA, MidCoast Watersheds Council	Annual budget
▪ Implement insect outbreak monitoring	Monitoring	▪ Insect outbreak	City Manager	ODA, Lincoln SWCD, OSU Extension, ODF, USFS, BLM	Annual budget
▪ Identify and assess decommissioned access road locations near drinking water sources	Watershed Restoration Support	▪ Access roads	Public Works Director	MidCoast Watersheds Council, USFS, BLM, ODF	Annual budget Oregon Watershed Enhancement Board

Notes

BLM	U.S. Bureau of Land Management	EPA	U.S. Environmental Protection Agency	ODF	Oregon Department of Forestry	OEM	Oregon Emergency Management	SWCD	Soil and Water Conservation District
DEQ	Oregon Department of Environmental Quality	FEMA	Federal Emergency Management Agency	ODOT	Oregon Department of Transportation	OHA	Oregon Health Authority	USFS	U.S. Forestry Service

Exhibit 4-3. Implementation Plan Timeline



4.6 Funding Sources and Opportunities

The following is a list of funding available for supporting drinking water protection plan implementation. The City's 2016 Source Water Assessment also includes a thorough list of potential funding sources (see Appendix B), as does DEQ's webpage on Funding for Public Water Systems: www.oregon.gov/deq/wq/programs/Pages/DWP-Funding.aspx.

- Drinking Water Source Protection Fund, Oregon Health Authority
  - Provides grants up to $30,000; 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 are 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
  - https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/SRF/Pages/spf.aspx
- Drinking Water Provider Partnership Grants, Numerous partners (Oregon Department of Environmental Quality, USFS, US EPA, BLM, USDA, The Freshwater Trust, GEOS Institute, Wild Earth Guardians, Washington State Department of Health)
  - Provides grants up to $50,000
  - Project must be in a drinking water source area with a Federal nexus (e.g., USFS and BLM)
  - Funding must be used within 1 year
  - Proposals due in early January
  - Supports projects that restore and protect watersheds that provide drinking water while also benefiting aquatic and riparian ecosystems, including the native fish that inhabit them
  - Example projects: develop native riparian reserves, road redesign, riparian planting, weed control, floodplain reconnection
  - https://workingwatersgeos.org/drinking-water-providers-partnership
- 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 three times a year
  - Example projects: establishing monitoring programs and outreach programs, watershed restoration, loans for septic system upgrades/replacements, land purchase, and nonpoint source control activities
  - https://www.oregon.gov/deq/wq/cwsrf/pages/default.aspx
- Oregon 319 Nonpoint Source Implementation Grants, Oregon Department of Environmental Quality
  - Provides grants up to $30,000 and 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)
  - Only projects with a DEQ Watershed-Based Plan are eligible (shown in Section B of the application information)
  - Application period closes in April or May
  - 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
  - Monitoring grants: eligible monitoring projects include status and trend, project effectiveness, landscape effectiveness, and Rapid Bio-Assessment; apply in the fall
  - Restoration: Priorities include altered watershed function affecting water quality, water flow, and fish production capacity; apply in the spring or fall
  - Stakeholder Engagement: Eligible projects increase awareness and understanding watersheds to support implementation of specific restoration, monitoring, and conservation activities; apply in spring or fall
  - Technical Assistance: apply in spring or fall
  - 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; apply in the 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; apply in fall
  - Small Grants: Provides up to $15,000 for less complex, on-the-ground restoration projects
  - 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 due in April
    - Supports projects that address instream and out-of-stream water supply needs now and into the future
    - Example projects include: irrigation efficiency projects
  - Feasibility Study Grants
    - Reimburse up to 50% of the costs of studies to evaluate the feasibility of developing water conservation, reuse, and storage projects
    - Applications are due in fall
  - https://www.oregon.gov/owrd/programs/FundingOpportunities/Pages/default.aspx
- Various Financial Assistance Programs, USDA Natural Resources Conservation Service
  - 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
  - Conservation Stewardship Program: Encourages farmers, ranchers, and woodland owners to take the conservation a step further by implementing 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 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/

- Five Star and Urban Waters Restoration Grant Program, US EPA and National Fish and Wildlife Foundation
  - Provides grants to improve water quality, watershed conditions, and fish and wildlife habitat
  - Projects must incorporate: wetland, riparian, instream, and/or coastal habitat restoration; and education and training activities through community outreach, participation, and/or integration with K-12 environmental curriculum; five or more partners; measurable ecological, educational, and community benefits; and a plan for sustaining the benefits
  - Awards range from $20,000-$50,000, and grants span 12 to 18 months with a start date in late summer/early fall; apply in January
  - https://www.epa.gov/wetlands/5-star-wetland-and-urban-waters-restoration-grants
- 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, noncommercial educational broadcasting entity
  - Grant competition closes in January
  - 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
  - https://www.oregon.gov/oem/emresources/Grants/Pages/default.aspx
- Wildfire Resources, State of Oregon
  - https://wildfire.oregon.gov/
- Fire prevention and training funding, multiple agencies (FEMA, USFS, BLM)

SECTION 5: **Contingency Plan**

A public water system dependent on surface water that wants to have a state approved drinking water protection program must have a contingency plan. A contingency plan is a plan for responding to the potential loss or reduction of a drinking water source. 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

Those elements are addressed below.

This contingency plan has been developed in coordination with the City of Yachats Emergency Operations Plan (April 2019) and Lincoln County's Natural Hazards Mitigation Plan (updated 2017). The City of Yachats Emergency Operations Plan is posted on the City's website.

5.1 Threats to the Drinking Water Supply

As described in Section 2, the City identified numerous threats, or risks, in its drinking water source areas. Of those identified, the following could cause the potential loss or reduction of a drinking water source:

- Drought/Low Flows
- Wildfire
- Earthquakes
- Tsunamis
- Severe Weather (heavy precipitation/floods, ice storms, snowstorms, and wind)
- Aging Municipal Infrastructure (major water system component failure)
- Contamination (forestry pesticides), and
- Sabotage or vandalism of municipal infrastructure

5.2 Prioritization of Water Usage

If an emergency results in an insufficient water supply to meet all needs, the City may need to prioritize water use. This prioritization of water usage will be as follows:

1. Yachats Rural Fire Protection District
2. Residential, including senior assisted living facilities
3. Commercial
4. Parks
5. Irrigation (by Residential and Commercial water customers)

5.3 Responses to Potential Incidents

The City has an Emergency Operations Plan, which is an all-hazard plan that describes how the City will organize and respond to emergencies and disasters in the community. It is based on, and is compatible with, federal, State of Oregon, and other applicable laws, regulations, plans, and policies, including Presidential Policy Directive 8, the National Response Framework, Oregon Office of Emergency Management plans, and the Lincoln County Natural Hazards Mitigation Plan.

It contains an Immediate Action Checklist, a Basic Plan, and Incident Annexes outlining actions tailored to specific types of emergencies or disasters.

The Immediate Action Checklist focuses on determining the need to activate emergency operations and activating them if needed, notifying the appropriate City personnel and organizations that can assist with emergency response (local, regional, and State), and declaring a state of emergency as needed.

Exhibit 5-1 presents the threats to municipal water supply identified in 5.1 and the Incident Annex that responds to the threat. Each Incident Annex describes actions to be implemented in response to the incident. Examples of actions include analyzing scope and extent of the incident, communicating with agencies and the public, organizing efforts, documenting information and actions, activating mutual aid agreements, and initiating water curtailment procedures. For the full list of actions, see the Incident Annexes in the Emergency Operations Plan.

Exhibit 5-1. Municipal Water Supply Threats and Corresponding Incident Annex

Threats	Incident Annex(es)
Drought/Low Flows	Drought
Wildfire	Major Fire
Earthquakes	Earthquake
Tsunami	Tsunami
Severe Weather (heavy precipitation/floods, wind)	Severe Weather
Aging Municipal Infrastructure (major water system component failure)	Utility Failure
Contamination (forestry pesticides)	Hazardous Materials
Sabotage or Vandalism of Municipal Infrastructure	Terrorism

The City operates a Level 3 water treatment plant that requires a certified operator. As required by OHA, the City has a water treatment plant operations and maintenance manual, which is located at the water treatment plant. This manual is intended for use by individuals with some training in operating water treatment plants. The manual describes protocols for such activities as operations and maintenance of the facility and backwashing filters.

Drinking water sampling information for the City of Yachats is available through OHA's Drinking Water Data Online database by searching for the City of Yachats or using the following link:
https://yourwater.oregon.gov/inventory.php?pwsno=00966

Specific sampling requirements and status can be seen here in the chemical schedule details:
https://yourwater.oregon.gov/schedule_status.php?pwsno=00966

Entry point detects can be found here:
https://yourwater.oregon.gov/unconfirmved.php?pwsno=00966

Individuals trained in sampling protocols that intend to conduct water sampling in an emergency can use that database as a source for sampling requirements and schedules.

5.4 Key Personnel and Notification Roster

5.4.1 Key Personnel

The key personnel identified in this Contingency Plan as having a role in addressing emergencies is based on the City's Emergency Operations Plan (Immediate Response Checklist, Section 3.2 Emergency Management Organization, and Functional Annexes 1 through 3: Emergency Services, Human Services, and Infrastructure Services, respectively, in Section 4 Roles and Responsibilities).

The City Manager may, depending on the size or type of incident, delegate the authority to lead response and recovery actions to other City staff. Additionally, some authority to act in the event of an emergency may already be delegated by ordinance or by practice. As a result, the organizational structure for the City's emergency management program can vary depending upon the location, size, and impact of the incident.

The Emergency Management Organization (EMO) for the City is divided into two general groups, organized by function—the Executive Group and Emergency Response Agencies.

5.4.1.1 Executive group

Mayor and City Council

The ultimate responsibility for policy, budget, and political direction for the City government is borne by the City Council. During emergencies, this responsibility includes encouraging citizen involvement and citizen assistance, issuing policy statements as needed to support actions and activities of recovery and response efforts, and providing the political contact needed for visiting State and federal officials. Additionally, the Council will provide an elected liaison with the community and other jurisdictions. In the event that declaration of emergency is needed, the Mayor, or designee, will initiate and terminate the state of emergency through a declaration ratified by the Council.

City Manager

The City Manager, or designee, is responsible for continuity of government, overall direction of City emergency operations, and dissemination of public information.

Emergency Preparedness Committee

The Emergency Preparedness Committee supports the City Manager in the day-to-day authority and responsibility for overseeing emergency management programs and activities. The Emergency Preparedness Committee works with the Executive Group to ensure that there are unified objectives with regard to the City's emergency plans and activities, including coordinating all aspects of the City's capabilities. The Emergency Preparedness Committee coordinates all components of the local emergency management program, including assessing the availability and readiness of local resources most likely required during an incident, and identifying and correcting any shortfalls.

Senior Staff

Senior staff collaborate with the Executive Group during development of local emergency plans and provide key response resources. City staff develop, plan, and train to learn internal policies and procedures for meeting response and recovery needs safely. They also make themselves available to participate in

interagency training and exercises to develop and maintain the necessary capabilities, as well as clearly reinforce preparedness expectations.

5.4.1.2 Emergency response agencies

- **Lincoln County Sheriff's Office** (Emergency 9-1-1)
  - The City of Yachats does not have a police department, so it would look to Lincoln County Sheriff's Office in the event of an emergency.
- **Yachats Rural Fire Protection District (541-547-3266)**
- **Lincoln County Emergency Management** (541-265-4199)
- **Oregon Emergency Response System** (800-452-0311)
  - The Oregon Emergency Response System is an "all-hazards" system that coordinates and manages state resources in response to natural and technological emergencies, including wildfire, floods, earthquakes, and Search and Rescue missions.
- **Other Organizations**
  - Organizations such as the Oregon Department of Transportation (ODOT), the Oregon State Police (OSP), Oregon Health Authority (OHA), local ambulance service, and local hospitals may assist with emergency responses.

5.4.1.3 Tasked Agencies

Functional Annexes (FA) 1 through 3 describe agencies tasked with responding to different types of threats to the community. Section 4 in each Functional Annex describes roles and responsibilities and Section 5 describes the concept of operations, which sometimes includes initial notification procedures.

FA 1. Emergency Services

This annex addresses emergencies, such as wildfires, hazardous materials response, and community safety and security. Tasked agencies (from page FA 1-3) are listed in Exhibit 5-2.

Exhibit 5-2. Emergency Services Task Agencies

Primary Agencies	Lincoln County Sheriff's Office Yachats Rural Fire Protection District South Lincoln Ambulance
Supporting Agencies	City Public Works Department County Emergency Management County Health and Human Services Department Samaritan Pacific Community Hospital Oregon State Police Pacific West Ambulance

FA 2. Human Services

This annex addresses emergencies that require evacuation of people and sheltering or care. Tasked agencies (from page FA 2-1) are listed in Exhibit 5-3.

Exhibit 5-3. Human Services Task Agencies

Primary Agencies	City Administration
Supporting Agencies	Yachats Rural Fire District Lincoln County Sheriff's Office Lincoln County School District Housing Authority of Lincoln County County Emergency Management County Health and Human Services Department County Animal Control Local Community- and Faith-Based Organizations (e.g., Red Cross, Salvation Army) Humane Society Oregon Coast Community College

FA 3. Infrastructure Services

This annex addresses emergencies that affect public works and other infrastructure. Tasked agencies (from page FA 3-1) are listed in Exhibit 5-4.

Exhibit 5-4. Infrastructure Services Tasked Agencies

Primary Agencies	City Public Works Department
Supporting Agencies	Yachats Rural Fire Protection District Lincoln County Sheriff's Office County Public Works Department Oregon Department of Transportation Local Utilities: *Water and Sewer: City of Yachats* *Electricity: Central Lincoln PUD* *Gas and Propane: NW Natural and Amerigas* *Telephone/Internet/TV: Century Link, Charter Communications, CoastCom, Inc., Pioneer Telephone Cooperative, Dahl Sanitation Service*

Section 3 Situation and Assumptions (FA 3-2) states that: response operations for the City Public Works Department will include assisting law enforcement and fire services in traffic control and rescue operations, and clearing and maintaining critical lifeline routes; and in a natural hazards event such as flood, windstorm, or earthquake response, the Public Works Department will generally be assigned or assume the lead agency role.

Section 4 Roles and Responsibilities (FA 3-2) describes the responsibilities of the City Public Works Department, Yachats Rural Fire Protection District, Lincoln County Sheriff's Office, and utilities.

Section 5 Concept of Operations under 5.2 Response (FA 3-7) includes the following notification procedures.

Upon arrival on scene, responding staff should evaluate the situation and notify any required divisions, departments, or agencies. These may include, but are not limited to the following:

- City Public Works Department for
  - Drinking water-related impacts
  - Wastewater-related impacts
  - City-owned and operated infrastructure
  - Debris removal assistance

- **Yachats Rural Fire Protection District** for hazardous waste containment or fire and rescue operations.
- **Lincoln County Sheriff's Office** for law enforcement, or traffic control assistance.
- **County Department of Public Works** for all County-owned and operated infrastructure.
- **Oregon Department of Transportation** for all State-owned and operated infrastructure.
- **Central Lincoln People's Utility District** for all electrical concerns or assistance.
- **NW Natural Gas** for all gas-related concerns or impacts.
- **CenturyLink or Pioneer Telephone Cooperative** for telecommunications impacts.
- **Dahl Disposal Services** for garbage, waste and debris impacts

The City's Public Works Department currently consists of a water treatment plant operator and wastewater treatment plant operator that share responsibilities of managing public works activities and three support staff with responsibilities that include water distribution system maintenance and repairs, meter reading, and assistance operating both treatment plants. These five staff members work as a team, helping each other out with various public works tasks. In the event of an emergency, Public Works Department staff can be contacted at 541-547-3565 or through their personal contact information, located at City Hall in the staff contact list. The water treatment plant operator and supporting staff will address drinking water system issues as needed.

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

5.5.1 Short-term Actions

The City's Water Curtailment Plan will guide actions that the City takes to address the reduction or loss of water supply. The Water Curtailment Plan is a required component in the City's Water Management Conservation Plan and is codified in Yachats Municipal Code 8.22, which is posted on the City's website. The Water Curtailment Plan outlines four phases of water curtailment based on severity of the water supply issue. For each phase of water curtailment, it identifies the conditions or events triggering the phase of curtailment and the measures that the City will implement in response.

Phases 1 through 3 outline water use restrictions and prohibitions that aim to conserve water, thereby reducing water demand. These restrictions and prohibitions increase in severity as the phase number increases.

Phase 4 of water curtailment (Yachats Municipal Code Section 8.22.060), the most severe phase called Critical Water Supply Status, describes how the City will proceed in the event of loss of its water supply, stating:

- Providing adequate water remains in the City reservoirs, water may be provided directly from the reservoir only to single, duplex and multiple family dwellings, other residential uses, health clinics and assisted living facilities. If this water can be dispersed through the distribution system without substantial losses, such water may be provided through the system during set hours (for example, from 6:00 to 7:00 a.m. and 7:00 to 8:00 p.m. daily) so as to extend the treated water supply for sustaining life.
- In the event reservoirs are destroyed or damaged, the City shall purchase available water from the nearest city or water district. If the nearest city or water district is unable to supply water to the City, the City may contract for or commandeer private vehicles to transport water to the City. If the City is unable to obtain water from other sources, the City will pump raw water from the Yachats River with a boil water

order until the critical water supply status has ended and the City's water system is functioning on a normal basis.

If the City has a short-term loss of water supply lasting a few hours to a few days, the City will depend on its reservoirs. If the City has a short-term loss of water supply lasting more than a few days to several weeks, the City would likely pursue one of the latter water supply options listed under the second bullet above.

5.5.2 Long-term Actions

Depending on the water supply emergency, the City may need to construct new infrastructure to supply drinking water once again. Short-term potable water supply replacement actions would need to continue until long-term actions restore the City's drinking water supply. The City will also use its Water System Master Plan to guide infrastructure development and the pursuit of long-term water supply options.

5.6 Short-term and Long-term Conservation Measures

The City's Water Curtailment Plan (Yachats Municipal Code Section 8.22) describes water conservation measures required under the different phases (i.e., stages) of water curtailment, which are as follows.

Phase 1: Water Alert Status

The following non-essential uses are restricted or prohibited under Phase 1:

- The watering of lawns, gardens and landscaping is restricted to alternative days. Specifically, houses with an address number ending in even numbers (0-2-4-6-8) shall be permitted to water lawns only on even numbered calendar days. Houses with an address number ending in odd numbers (1-3-5-7-9), or fractional addresses, shall be permitted to water only on odd numbered calendar days. All watering of lawns, gardens and landscaping shall be prohibited between the hours of 10:00 a.m. and 7:00 p.m. of each day.
- All sales of water to persons who are not customers of the water system are prohibited.
- No water shall be used by the Yachats Rural Fire District for drills, fire hose testing, hydrant flushing or truck washing.
- The operation of an ornamental fountain, unless it is equipped with a recirculation system, is prohibited.

Phase 2: Water Warning Status

In addition to the restrictions and prohibitions for Phase 1 above, for Phase 2 the following non-essential uses are prohibited:

- The watering of any vegetation, except that trees and shrubs may be watered with a hand held watering device, bucket or hose with flow control nozzle, or drip irrigation system only (no airborne sprinkler systems).
- The use of water for washing, hosing and the like of buildings and pavement or other pedestrian surfaces.
- Drinking water served at restaurants, motels and other businesses which serve food or drink to the public, unless users post "drought notices" in a clearly conspicuous manner so that members of the public will be apprised of the water shortage. If so posted, water for drinking purposes may be served upon request.
- Washing of vehicles, equipment, watercraft and the like.
- The operation of all exterior ornamental fountains, even with a recirculating system.
- Use of City water for dust control.

For Phase 2, all commercial large meter, commercial water, and transient water users shall post the written notice, provided by the City, in a conspicuous location on the property receiving City water service within twenty-four (24) hours of receiving said notice. For transient water users, the notice shall be posted in each rental unit. (See Yachats Municipal Code for full details about this action.)

Phase 3: Water Emergency Status

In addition to the restrictions and prohibitions for Phases 1 and 2, above, for Phase 3 the following non-essential uses of water are prohibited:

- All landscape watering is prohibited.
- Use of water from a fire hydrant for any use other than for firefighting.
- Use of non-recirculating hot tubs, whirlpools or spas.
- All "commercial large meter" users are required to send linens for laundering outside the City except that commercial laundromats are exempt from this regulation.

For Phase 3, all small meters, including residential water, outside City water, commercial water, and transient water users shall be charged the base volumetric rate for the first four hundred (400) cubic feet per month usage. Usage over four hundred (400) cubic feet per month usage shall be charged the base volumetric rate plus two dollars ($2) per one hundred (100) cubic feet over the four hundred (400) cubic feet. Fractions of months under Phase 3 water conservation restrictions shall be billed extra based on daily usage over 13.33 cubic feet per day. Meters may be read more frequently by City personnel or approved City agents to enforce these restrictions. Small meter users using more than twenty-seven (27) cubic feet per day on average shall be given a written warning to reduce usage and thereafter cited under Section 8.22.070(C)(1) (Phase 3—First offense).

For Phase 3, all users may be required to reduce their normal usage by a certain percentage when compared to the average normal usage over the same calendar time period from the previous two (2) years. For water utility accounts with less than two (2) years of age can usage history, the percentage reduction shall be compared to a City-wide median usage for similar users.

No water connections to new residences, business or industry shall be permitted during Phase 3.

All commercial large meter, commercial, and transient water users shall post the written notice, provided by the City, pursuant to subsection B of this section in a conspicuous location on the property receiving City water service within two (2) days of receiving notice of a Phase 3. For transient water users, the notice shall be posted in each rental unit. (See Yachats Municipal Code for full details about this action.)

Phase 4: Critical Water Status

Under Phase 4, restrictions and prohibitions for Phases 1 through 3 are intended to remain in effect (even though that is not explicitly stipulated in City code). Water use is intended to be limited to only essential needs that sustain life, health, and safety.

5.7 Plan Testing, Review, and Update

In an effort to stay coordinated and up-to-date with the City's Emergency Operations Plan, this Contingency Plan will be reviewed and updated annually or when changes to emergency operations occur, such as following evaluation of lessons learned from exercises or events. All updates to the Contingency Plan will be tracked and recorded in a table that mirrors the update tracking table the Emergency Operations Plan (lists the date, change number, department, and summary of change).

5.8 Personnel Training

Personnel training is described in Section 6.2 Training in the City of Yachats Emergency Operations Plan. This section describes protocols to assist with training and preparing essential response staff and supporting personnel and/or volunteers to incorporate Incident Command System (ICS)/National Incident Management System (NIMS) concepts in all facets of an emergency (See Sections 1.1 and 1.5.1 of the EOP).

The City's Emergency Preparedness Committee, which is designated the Emergency Management Organization for the City, coordinates training for City personnel and volunteers and encourages them to participate in training sessions hosted by other agencies, organizations, and jurisdictions throughout the region. Current training and operational requirements set forth under NIMS have been adopted and implemented by the City. The Emergency Preparedness Committee maintains records and lists of training received by City personnel and/or volunteers.

The City's training includes conducting exercises throughout the year to test and evaluate the Emergency Operations Plan (See Section 6.3 Exercises of the EOP). The City coordinates with agencies to conduct exercises, which can consist of a variety of tabletop exercises, drills, functional exercises, and full-scale exercises. The Emergency Preparedness Committee will work with other City or County departments and agencies to implement corrective actions or mitigation measures for emergency protocols based on lessons learned during exercises. In addition, the Emergency Preparedness Committee will document and track lessons learned from exercises, as well as after an actual disaster, and will address any equipment, training, and planning shortfalls identified (See Section 6.4 Event Critique and After Action Reporting of the EOP).

The City is also working on making local disaster preparedness training available to its residents through the Federal Emergency Management Administration (FEMA) Community Emergency Response Team (CERT) Program. This program educates volunteers about preparedness for threats in their local area and teaches them basic disaster response skills, including fire safety, light search and rescue, team organization, and disaster medical operations.

5.9 Public Education

The City conducts public education about threats, emergency preparedness, and emergency response. The City maintains a community preparedness program that makes information available to the public at City Hall and on its website at www.yachatsoregon.org/153/Emergency-Preparedness. Information provided on the website includes the Emergency Operations Plan, a tsunami evacuation map, assistance with signing up to receive emergency notifications, what to include in an emergency preparedness kit (food, water, and other supplies) and an emergency "Go Bag," what to do about pets and livestock in an emergency, resources for emergency planning and response, and a training opportunity through the Community Emergency Response Team (CERT) program, as described above under Training.

Additional public education will be conducted as part of the Drinking Water Protection Plan's implementation plan, as described in Section 4.

Yachats Municipal Code Section 8.22 Water Shortage Emergency Regulations outlines water conservation actions under each phase of water curtailment, which the City will communicate to water customers. Possible means of communication include the City website, posted signs, phone/text messages, mailings, or other media messages.

5.10 Logistical and Financial Resources

Funding and maintaining a Contingency Plan is a City priority, just as funding and maintaining its Emergency Operations Plan is a priority. In accordance with the Emergency Operations Plan (Section 6.6), the City Manager will work with City Council and community stakeholders to:

- Identify funding sources for emergency management programs, personnel and/or volunteers, and equipment.
- Ensure that the Council is informed of progress toward building emergency response and recovery capabilities and is aware of gaps to be addressed.
- Leverage partnerships with local, regional, and State partners to maximize use of scarce resources.

In addition, the City maintains a list of contractors and suppliers for specific needs (e.g., backup generator rental company and heavy equipment rental company) in the Emergency Operations Plan and at the water treatment plant.

Resource requests and emergency/disaster declarations must be submitted by the City Manager to the County Manager through County Emergency Management via the County Emergency Operations Center, and the County Emergency Management then processes assistance requests to the State (See Section 1.9.1 in the EOP). State and Federal assistance may be available to the City (See Sections 1.7.4 and 1.7.5 in the EOP). The State evaluates resource requests for assistance based on the goals and priorities established by OEM Director. If State assistance is insufficient to meet the requirements of an emergency response (as determined by the Governor), Federal assistance may be requested. FEMA provides resources, coordination, planning, training, and funding to support State and local jurisdictions when requested by the Governor. State and Federal resources can be pursued for longer-term needs, such as infrastructure projects.

In the case of fire emergencies, the Yachats Rural Fire Chief or County Fire Defense Board Chief can contact the State Fire Marshall to mobilize and fund fire resources (EOP Section 1.9.1.1).

If the City finds it necessary to redirect its funds to respond to an emergency incident, the City Council has the authority to adjust department budgets and funding priorities (EOP Section 1.9.2).

Potential funding sources are identified in Section 4 of this Drinking Water Protection Plan, which the City will investigate.

SECTION 6: **Future Water Sources**

This Drinking Water Protection Plan has focused on the City's current water sources, Reedy Creek and Salmon Creek. Nonetheless, it is important to consider future drinking water needs and potential future water sources. The use of new water sources would expand the drinking water source area, necessitating additional protective measures. As described in Section 1.2.1, the City holds water rights authorizing the use of water from (North) Cape Creek and the Yachats River. The Yachats River watershed is the designated Emergency Intake area shown in the Source Water Assessment (SWA) prepared by DEQ in 2016. Given that the City holds these water rights, the City is considering them future water sources.

The Yachats River source water area is significantly larger than the current drinking water source area, encompassing 41.46 square miles compared to the current source area of 1.21 square miles. Similar to the Reedy and Salmon Creek watersheds, approximately three-fourths of the Yachats River watershed is part of the Siuslaw National Forest. While most of the upland headwater areas of the watershed are held in federal ownership, the lands closest to the river and its tributaries are mostly privately owned. Land uses include private industrial forest, rural residential development, and agriculture.

The (North) Cape Creek source water area is a small watershed located just north of Cape Perpetua. The land use in this watershed is forestry.

The remainder of Section 6 focuses on the Yachats River source water area and its risks and strategies. The risks and strategies identified for the Reedy Creek and Salmon Creek source water areas also apply to (North) Cape Creek, except for those risks associated with Municipal, Commercial, and Residential (Urban and Rural) Property Management. An implementation plan has not been developed for the City's potential future water sources given that the focus of this DWPP is on current water source areas and the City's future water sources have not been determined.

6.1 Risk Assessment for the Yachats River Watershed

The Yachats River watershed is adjacent to the current drinking water source watersheds characterized earlier and shares susceptibility to some of the same risks. In addition to risks described in Section 2 of this DWPP, risks specific to this watershed were identified in the SWA and by the DWPP Team.

6.1.1 Risks Identified in the Source Water Assessment

The SWA shows that 18 percent of the stream miles in the Yachats River watershed are located in areas with high soil erosion potential. Landslide deposits are also present in several locations around the watershed. These conditions increase the sensitivity of the source water area to ground disturbing activities which are likely to cause erosion and sedimentation. Water quality limitations were described for the Yachats River and several of its tributaries, although the tributaries currently supplying drinking water are not listed as water quality limited. The SWA's inventory of potential pollution sources includes a site owned by the City of Yachats where hazardous chemicals are stored; Otter Crest Quarry, a crushed stone quarry, which is now closed; and eight bridges crossing the North Fork and South Fork of the Yachats River.

Risk levels are presented after each item below showing the overall risk level, and its probability of occurrence and severity of impact rated from 1 (lowest) to 5 (highest).

6.1.1.1 Property management: municipal hazardous chemical storage (low: 1, 2)

The City stores up to four 50 gallon barrels of polymer for coagulation and up to four 50 gallons barrels of 12 percent bleach at the water treatment plant for water treatment purposes. If an accidental spill of these

chemicals occurred, it would only have the potential to affect water quality at the downstream POD on the Yachats River near the estuary if built. The City is unlikely to use the downstream POD as a result of salt water intrusion issues, which are discussed in 6.1.2.3.

6.1.1.2 Property management: quarry (low: 1, 1)

The City has limited information about the closed Otter Crest Quarry. A quarry could potentially contribute sediment to the Yachats River, increasing turbidity or impairing water quality in some manner.

6.1.1.3 Property management: bridges (high: 4, 4)

Eight bridges were identified crossing the North Fork and South Fork of the Yachats River. Stream crossings can present risks to water quality depending on their design and location. Undersized culverts can back up during heavy precipitation, causing localized flooding and erosion. Contaminants, such as petroleum products, on the roadway can also wash into the stream, and any chemicals being transported that are accidentally spilled on roads over water bodies can lead to contamination of the drinking water source downstream.

6.1.2 Risks Identified by the DWPP Team

The risks described in Section 2 related to Natural Disasters and Forestry apply equally to the Yachats River source water area. In addition, the DWPP Team identified risks that fall within the Development category and a new Agriculture category. The same risks described in Section 2.2.3.1 for residential, commercial, and municipal development; property management activities described in Section 2.2.3.2; and landscape care described in Section 2.2.3.4 also apply within the Yachats River watershed. The additional development-related risks identified for the Yachats River source water area related to septic systems, wells, and the potential for saltwater intrusion at the original downstream municipal intake site (POD 2). In contrast to the current drinking water source area, portions of the Yachats River watershed are currently used for agriculture, and the potential also exists for expanded agricultural use in the future. The Agriculture risk category identified by the DWPP Team includes risks related to crops, animal grazing, and the use of agricultural pesticides. Risk levels are presented after each item below showing the overall risk level, and its probability of occurrence and severity of impact rated from 1 (lowest) to 5 (highest).

6.1.2.1 Property management: septic systems (medium: 3, 3)

New development in the watershed would most likely be rural residences located outside of the City's urban growth boundary. New and existing developments primarily rely on septic systems for sanitation. If septic systems are improperly designed, installed, or maintained, the systems could potentially fail and allow contaminants to leach into drinking water sources. The cumulative effects of multiple septic systems in the area could impact drinking water quality through potential discharge to shallow sediments adjacent to the Yachats River.

6.1.2.2 Property management: wells (medium: 3, 3)

Domestic wells within the watershed that are improperly installed or maintained, along with wells that have been abandoned, may provide a direct route to contamination of groundwater. In areas where groundwater and surface water are hydraulically connected, this could lead to contamination of the City's drinking water sources.

6.1.2.3 Property management: saltwater intrusion (low: 1, 2)

Permit S-53471 authorizes two points of diversion (POD) on the Yachats River. POD 1 is located upstream of the confluence of Reedy Creek with the Yachats River, and POD 2 is located downstream near the Yachats

River estuary. POD 2, if built, could be subject to saltwater intrusion under conditions of climate change or during storm surges. The current water treatment system is not designed to treat excess salinity.

6.1.2.4 Agriculture: crops (medium: 3, 4)

DWPP Team members are not aware of any crops within the watershed, but did identify current cultivation of indoor crops, including cannabis and succulents. The potential future use of land in the watershed for crops could further increase the risks to drinking water associated with agriculture. The risk level is impacted by specific farming practices, including whether and how crops are irrigated. Irrigated crops are likely to have more impacts due to the potential for contamination in runoff, while non-irrigated or drip-irrigated crops are likely to have lower impacts. Excessive irrigation of any type can increase runoff and transport agricultural chemicals or sediments to surface water. In addition, excessive withdrawals for irrigation would reduce streamflows, particularly in the upper basin. This could also concentrate pollution in the remaining lower flows.

Removing riparian vegetation for agriculture increases the potential for erosion of streambanks, and the lack of stream shading can increase stream temperatures while lowering dissolved oxygen. These conditions increase the potential for algae and bacteria growth. Removal of riparian vegetation may also reduce beaver habitat, ultimately reducing summer streamflows by preventing the construction of beaver dams and ponds that slowly release water throughout the year.

The over-application or improper handling of pesticides and fertilizers used in agriculture could lead to contamination of drinking water sources, even if the crops are not irrigated. In addition, the application of biosolids on fields could impact drinking water quality.

6.1.2.5 Agriculture: animal grazing (medium: 3, 4)

Currently, there is little intensive grazing in the Yachats River watershed, although the potential remains for an increase in land used for grazing. Concentrated livestock may increase erosion and sedimentation of streams by reducing riparian vegetation, which exacerbates the effects described above. Additionally, improper storage and management of animal wastes could lead to contamination of water sources.

6.1.2.6 Agriculture: pesticides (medium: 3, 4)

As mentioned above, the over-application or improper storage and handling of agricultural pesticides could contaminate drinking water sources.

6.2 Strategies for Protecting Future Water Sources

The DWPP Team identified an array of strategies to protect water quality should the Yachats River become a new drinking water source. Strategies to protect the source area are outlined here to serve as guidelines for potential future actions. Many of the strategies described in Section 3 also apply to addressing the same risks present in the Yachats River watershed. In addition, new and enhanced strategy programs are described below to address specific risks.

6.2.1 Communications and Advocacy

6.2.1.1 Communications protocols

In addition to communicating with governmental entities and other stakeholders as described for current water sources in Section 3.2.1.1, the City will establish new or build on existing communication protocols and schedules to increase awareness and cooperation around drinking water protection. To ensure that

development and property management do not pose a threat to the City's drinking water source area, the City will communicate with governmental entities, such as Lincoln County, about septic system concerns and will participate in any relevant governmental processes related to septic systems. The City will also communicate with the Oregon Department of Agriculture (ODA) to track compliance of agricultural operations with ODA's Mid Coast Agricultural Water Quality Management Area Rules. This will provide the City with timely information on potential risks to drinking water from agricultural activities such as cultivation of crops, animal grazing, and the use of pesticides.

6.2.1.2 Master outreach document

At such time as the Yachats River becomes a drinking water source, the City will add additional topics to the master outreach document described in Section 3.2.1.3 related to the installation, use, and maintenance of septic systems.

6.2.1.3 Otter Crest Quarry inquiry

The City will contact the Oregon Department of Geology and Mineral Industries to discuss the stability of the site at the time of closure, landowner requirements to maintain the site, and any concerns about erosion/instability over time that cause downstream impacts in the future. In addition, the City will inquire whether that is a permanent closure, or whether the land could be rezoned or reused for other purposes in the future.

6.2.2 Public Education and Technical Assistance

6.2.2.1 Safe management of potential contaminants

Outreach to agricultural producers will focus on ensuring that pesticides are handled, applied, and stored in a manner that does not present risks to the drinking water source. The City will also share DEQ's technical information resources on water quality and pesticide use with interested landowners and managers.

6.2.2.2 Land management education: property management

The City will hold or support domestic well and septic system educational workshops for property owners and managers in the Yachats River watershed. Such workshops may be conducted in partnership with Oregon State University (OSU) Extension Service, Lincoln SWCD, MidCoast Watersheds Council, or similar entities. The City will share materials on source water protection through proper well and septic system maintenance with area realtors. An ongoing septic system education program will provide information about appropriate operation, maintenance, and upgrades for septic systems. This program may be developed by the City or it may be a modification of an existing program such as DEQ's Septic Smart Program. The City will refer those in need of financial assistance to programs such as the Oregon On-site loan program to assist with septic system repair and replacement. To prevent wells from becoming a route for contamination, the City will provide information on well maintenance, testing, and source water protection, such as resources available from OHA, DEQ, and OWRD. The City will also notify well owners within the drinking water protection area of closure and abandonment requirements for unused wells and construction requirements and standards for active wells.

6.2.2.3 Land management education: agriculture

Agricultural producer education will focus on farm and ranch management practices that protect surface water quality, including practices required under ODA's Mid Coast Agricultural Water Quality Area Rules, and encouraging those that are voluntary under ODA's Mid Coast Agricultural Water Quality Management Area

Plan.[1] The City will direct interested producers to technical and financial assistance resources available from the Lincoln SWCD, MidCoast Watersheds Council, The Beaver Coalition, OSU County Extension Agent, ODA, and the Natural Resources Conservation Service. These resources can assist producers in implementing management measures that protect water quality, as well as developing individual farm plans for source water protection.

6.2.3 Critical Area Protection Programs

In addition to protecting sensitive locations described in Section 3.4, the City may also consider land acquisition or conservation easements to protect critical areas in the Yachats River watershed where development or intensive use could pose a risk to the drinking water source. This may include lands that are currently used for growing crops or animal grazing in close proximity to the Yachats River or its major tributaries. Additional areas of concern include areas with highly erodible soils or landslide potential, especially those lands adjacent to streams with water quality limitations described in the SWA. The City should begin prioritizing critical areas for protection of future drinking water quality prior to development of the Yachats River as a water source.

6.2.4 Municipal Policies and Infrastructure Management

At this time, the City is not proposing to construct an intake at the point of diversion closest to the estuary that is subject to saltwater intrusion (POD 2). Diversion of drinking water supply from the Yachats River would be limited to the upstream point of diversion. The City will document the risks at POD 2 to maintain institutional knowledge for future water managers.

6.2.5 Plan and Program Development and Enhancement

6.2.5.1 Property management: septic systems

A septic system inspection and repair assistance program will be developed, potentially in conjunction with partner organizations to protect drinking water quality outside of the City's jurisdiction. The program would provide free or low cost septic system inspection, property owner education, and financial assistance for any needed repairs. In some cases, the County may require advanced treatment technology when replacing a failed septic system, and this program would seek to provide financial assistance with upgrading to an approved technology. The City will also explore alternative wastewater management approaches that reduce water demand, such as composting and incinerating toilets and graywater systems. If the City were to implement such a program, the City's approach will take into account the balance between inadvertently encouraging development and mitigating potential threats to drinking water sources. The City may also explore the possibility of a septic system inspection program implemented upon property transfer.

6.2.5.2 Property management: wells

Similar to the program described above for septic systems, the City will develop a well inspection and repair assistance program. This program will include free or low cost well inspection and financial assistance for repairs that are needed to protect water quality. The City will also work with OWRD to verify proper well abandonment in sensitive areas of the watershed that may impact municipal surface water intakes.

[1] Visit ODA's website for more details at www.oregon.gov/oda/programs/NaturalResources/AgWQ/Pages/AgWQPlans.aspx.

6.2.6 Monitoring

6.2.6.1 Water quality monitoring: property management

The City will monitor for salinity at any proposed new municipal water intake in the Yachats River watershed. This will enable the City to detect any changes that may threaten water quality in the municipal supply.

6.2.6.2 Water quality monitoring: agriculture

As needed, the City will undertake a program of water quality monitoring downstream of any identified problem areas to ensure that water quality is not degraded by contaminated runoff. This may include areas affected by soil erosion and sedimentation from tillage for crop production, livestock pastures and animal waste storage areas, and storage and application locations for agricultural pesticides.

6.2.7 Contamination Prevention Programs

6.2.7.1 Contamination prevention: agriculture

The City will work with agricultural producers to understand their usage of chemical applications, such as pesticides and fertilizers within the drinking water source area. Integrated pest management strategies and the minimization of chemical applications will be encouraged in locations where there is a potential for chemicals to contaminate drinking water sources. The City may also sponsor hazardous waste collection events for agricultural chemicals combined with producer education about the need for safe disposal of contaminants.

To prevent non-point source pollution from animal grazing, the City will partner with and support entities, such as the MidCoast Watersheds Council, The Beaver Coalition, and Lincoln SWCD in helping producers implement voluntary practices to protect and improve water quality. These practices may include fencing of riparian areas or riparian vegetation enhancements to help exclude livestock and protect streambanks from erosion, as well as providing off-channel livestock watering.

6.2.8 Watershed Restoration Support

As mentioned above, partnerships with the MidCoast Watersheds Council, The Beaver Coalition, Lincoln SWCD, and similar entities will focus on projects that improve water quality and fish and wildlife habitat. In addition to restoration of forestlands and municipal, commercial, and residential properties described in Section 3.9, restoration in the Yachats River watershed may also include restoration of agricultural properties using some of the same techniques presented above for contamination prevention. Restoration may also focus on areas with highly erodible soils, improve beaver habitat, or provide vegetative buffers to filter pollution before it reaches streams with known water quality impairment.

Appendices

This page intentionally left blank.

APPENDIX A

Public Outreach Examples

This page intentionally left blank.

Your Input Needed: Help Us Protect Our Drinking Water

Thanks to a grant from the Oregon Health Authority, the City of Yachats is developing a Drinking Water Protection Plan to identify and mitigate risks to our drinking water supplies. Our drinking water currently comes from Reedy Creek and Salmon Creek, two tributaries of the Yachats River. Additional drinking water in the future would likely also come from nearby watersheds. Protecting these water sources will improve the City's ability to provide a reliable supply of high-quality drinking water for years to come.

Community input and feedback in this process is critical. To guide the development of the plan, the City assembled a Drinking Water Protection Plan Team, which consists of Yachats community members and technical experts in the region. The City of Yachats is also holding two public meetings to seek feedback from community members and stakeholders.

The first public meeting will be held online via Zoom on September 21 at 11 am. During this session, we will gather feedback from community members. There will be a presentation on the Drinking Water Protection Plan development and the risks to drinking water sources we have identified so far. Community members will then have a chance to ask questions and share knowledge of local conditions that could help inform the planning process. If you cannot attend the meeting, you can still view a recording of the meeting and provide feedback.

To learn more, join the Zoom meeting, or view the meeting recording, please visit:

https://www.yachatsoregon.org/372/Drinking-Water-Protection-Plan

Yachats Pantry

I'll start with our usual thanks to everyone who has helped the pantry by hosting or donating items such as food, cash, and materials all to help our neighbors.

We can use socks, blankets or rain gear as winter is approaching. We could also use some school supplies such as crayons, pencils, work books and erasers would be helpful in home schooling.

As always donations are welcome for drop off on ***Monday, Wednesday and Friday from 11 to 1pm*** at the pantry at the Yachats Community Presbyterian Church.

Anyone who would like to volunteer to staff the food pantry please give me a call at 541-547-3493.

CALLING ALL KIDS!

LET'S HAVE SOME FUN!

This is your chance to name a street in Yachats.

The contest is for those under 17 who live within the 97498 Zip Code.

The challenge is to come up with a name for the street behind the 501 building west of the Skateboard Park. ***Entries are due by September 30.*** PUT YOUR THINKING CAP ON and get to work!

Parents, grandparents, aunts, uncles, neighbors please pass the word to those eligible to submit an entry at City Hall.

CITY OF YACHATS

Drinking Water Protection Plan Public Meeting via Zoom

Monday, September 21 at 11 am

Meeting will include:

- Discussion about the Drinking Water Protection Plan development process
- Review of the risks identified and prioritized so far
- An opportunity for public comments and questions

Photo Credit: City of Yachats

Please join us for a public meeting

Community input is essential to protecting our water supply. Please join us for a virtual meeting on September 21 to learn about threats to local drinking water sources and provide feedback to guide the development of the Yachats Drinking Water Protection Plan.

To learn more, join the Zoom meeting, or view the meeting recording if you can't attend, please visit the City's Drinking Water Protection Plan webpage at www.yachatsoregon.org

For more information, please contact
Suzanne de Szoeke
sdeszoeke@gsiws.com
541-257-9006

Opportunity to Provide Input on Protecting Our Water

The City of Yachats will be holding a public meeting via Zoom on April 27 at 11 am. This meeting is a chance for community members to provide input on our draft Drinking Water Protection Plan.

The plan identifies potential risks to our drinking water sources, outlines strategies to mitigate these risks, and describes actions for addressing water shortage emergencies. Keeping our drinking water sources clean and safe is essential to protect public health and secure the future of our community and surrounding ecosystems.

At the April 27 meeting, we will discuss the major elements of the draft Drinking Water Protection Plan. Community members will have a chance to ask questions and provide feedback. This is the second public meeting on this topic. The first, in September 2020, helped us gather input on potential risks, and we were pleased with the widespread community interest. Incorporating your ideas into the plan is a vital part of protecting the water resources we all depend on.

Drinking water in Yachats currently comes from Reedy Creek and Salmon Creek, tributaries of the Yachats River. To safeguard the City's water sources, the City has engaged with local stakeholders and technical experts in the development of the Drinking Water Protection Plan through a grant from the Oregon Health Authority.

If you cannot attend the meeting, you will be able to view a recording and provide feedback. To read the draft plan, join the Zoom meeting, or view the meeting recording, please visit the Drinking Water Protection Plan page on the City website.

Call For Visitor Center Volunteers

By: James Kerti

The Yachats Visitor Center is preparing to open its doors in the Yachats Commons to visitors in late May. We're looking for more volunteers to answer visitor questions and share their enthusiasm about Yachats.

If you've been feeling cooped up during this long pandemic winter and are itching to talk with people face to face in a safe environment again, this is a fun opportunity to meet people on their joyous vacations and feel like you're making a difference.

We expect that volunteer shifts will be three hours and would be looking for volunteers to be able to do at least one shift per week by late May.

For more information or to express your interest, email James@DiscoverYachats.org

In the meantime, we've continued to focus on advertising partnerships and our online presence. You can find us on Instagram or Facebook under the name discoveryachats, and at our website www.DiscoverYachats.org

We also appreciate being able to collaborate with the Yachats Area Chamber of Commerce, who recently reopened their building in the middle of town, and are looking forward to working alongside them in welcoming visitors to town safely this year.

City of Yachats website: https://yachatsoregon.org/372/Drinking-Water-Protection-Plan

Drinking Water Protection Plan

Drinking Water Protection Plan Public Meeting

Interested in providing input on how our community can protect its drinking water resources? Join the City of Yachats for a public Zoom meeting to weigh in on this important issue.

The City has been developing a Drinking Water Protection Plan through a grant from the Oregon Health Authority. Public feedback has been an integral component of this process, and we want to thank everyone who attended the public meeting in September 2020 and April 2021

A second public meeting was held via Zoom on April 27 at 11 am. At this meeting, we will gather feedback on the draft Drinking Water Protection Plan, including the proposed strategies for protecting our water sources. If you cannot attend the meeting, you will be able to view a recording of the meeting and provide feedback.

Since early 2020, the planning process has brought together a team of community stakeholders and technical experts to identify potential risks to the City's drinking water sources and create locally appropriate strategies for protecting our water supply.

Reedy Creek and Salmon Creek, two tributaries of the Yachats River, provide the City's current drinking water supply. Protecting the City's water sources and maintaining healthy watersheds will enable the City to continue providing a clean and reliable water supply into the future

If you were not able to participate in the meeting:

Click Here for Recorded Zoom Meeting and enter the following *Access Passcode*: eeb0%XqA

Click Here for April Presentation

Click Here for April Meeting Notes

Yachats DWPP Local Team Members and Technical Advisors

Next Steps

We will incorporate public feedback from the April meeting into the final draft of the Drinking Water Protection Plan. The final draft will be submitted for City Council approval and then to the Oregon Department of Environmental Quality for approval in June 2021.

https://www.newportnewstimes.com/news/yachats-seeks-input-on-protecting-drinking-water/article_7b1451a8-98d2-11eb-8a86-f3ee14fbcf7e.html

Yachats seeks input on protecting drinking water

People can participate in April 27 virtual meeting

Michael Heinbach
Apr 9, 2021

YACHATS — The city of Yachats wants to hear from residents about how to best protect the city's drinking water resources.

City administration is inviting Yachats residents to a virtual public meeting, during which people can offer opinions on the city's in-development Drinking Water Protection Plan. To read a draft of the plan, go to https://tinyurl.com/7d4jx6rc.

This will be the second public meeting on the topic, following a well-attended initial meeting held last November.

The agenda for the second public meeting, scheduled to be hosted on Zoom at 11 a.m. Tuesday, April 27, includes an overview of the plan's development process, a description of proposed strategies for protecting water resources and implementation of those strategies. Also scheduled for discussion will be an overview of water shortage contingency plans and a gathering of public input on the draft plan and proposed strategies.

A link to join the meeting will be posted to the city's website, yachatsoregon.org, a few days prior to April 27, according to the city. For those who wish to call into the meeting via phone rather than view it live on Zoom, the city will also post a number to call to its website in the days before the meeting.

Comments or questions on the draft being presented later this month at the public meeting should be submitted to Suzanne de Szoeke by phone at 541-257-9006 or by email to sdeszoeke@gsiws.com. She works as a water resources consultant at GSI Water Solutions, Inc., the firm assisting the city with the plan.

Those unable to participate in the meeting as it happens can view the presentation by visiting https://tinyurl.com/hwp9ahy7. Notes from the April meeting will be posted to https://tinyurl.com/svkbz25j shortly after its completion.

With the help of a grant from the Oregon Health Authority, Yachats drafted a proposed Drinking Water Protection Plan. The planning process, which began in early 2020, amassed a variety of local stakeholders and technical experts in hopes of devising strategies to protect and identify possible risks to sources of the city's drinking water.

Included on the team tasked with developing the Drinking Water Protection Plan are Rick McClung, the city's water plant lead, Jen Hayduk of the Lincoln Soil and Water Conservation District, Onno Husing from Lincoln County Planning, and Yachats residents Ariana Carlson, Marc Courtney and Drew Tracy.

On the technical side, the team is assisted by staff from the state's Department of Environmental Quality, the Water Resources Department, the Departments of Forestry, Agriculture, Fish & Wildlife, the Oregon Health Authority and the Confederated Tribes of the Siletz Indians.

The city's drinking water supply is provided by Reedy Creek and Salmon Creek. Protecting these Yachats River tributaries and maintaining a healthy watershed are essential for its ability to provide residents with clean, safe and reliable drinking water.

Following the meeting, the city will gather public feedback for use in the plan's final draft, which will then be submitted to the Oregon DEQ for approval in June.

To learn more about protecting water sources, see the Oregon Health Authority's Drinking Water Protection Program website at https://tinyurl.com/yz97hykf or the state DEQ's website on the subject at https://tinyurl.com/428ack53.

Michael Heinbach
Reporter

CITY OF YACHATS

Drinking Water Protection Plan Public Meeting via Zoom

Tuesday, April 27 at 11 am

Meeting will include:

- Presentation on the Drinking Water Protection Plan process
- Proposed strategies for protecting water sources
- Review of water shortage contingency plan
- An opportunity for public comments and questions

For more information, please contact
Suzanne de Szoeke
sdeszoeke@gsiws.com
(541) 257-9006

Please join us for a public meeting

The City has developed a draft Drinking Water Protection Plan and wants to hear your thoughts. Please join us for a virtual meeting on April 27 to learn about proposed strategies for protecting our water supply and provide feedback.

To learn more, join the Zoom meeting, or view the meeting recording if you can't attend, please visit the City's Drinking Water Protection Plan webpage at www.yachatsoregon.org.

APPENDIX B

City of Yachats 2016 Source Water Assessment
and 2020 Update

This page intentionally left blank.

City of Yachats

2016 Source Water Assessment

This page intentionally left blank.

Updated
Source Water Assessment

City of Yachats Public Water System
PWS #4100966

October 2016

Prepared for:

City of Yachats

Oregon Health Authority

Prepared by:

DEQ

State of Oregon
Department of Environmental Quality

Oregon
Kate Brown, Governor

Department of Environmental Quality
Agency Headquarters
Water Quality Program
811 SW Sixth Avenue, Suite 600
Portland, OR 97204-1390
503-229-5696
(FAX) 503-229-6037
TTY 711

October 14, 2016

Rick McClung, Public Works
City of Yachats
PO Box 345
Yachats, Oregon 97498

Re: **Updated Source Water Assessment for PWS # *4100966***

Dear Mr. McClung,

On behalf of the Oregon Health Authority (OHA), the Oregon Department of Environmental Quality (DEQ) is pleased to provide your community with important information in this Updated Source Water Assessment. The updated assessment is intended to provide information and resources to assist you and your community to **implement local drinking water protection efforts**. Since the first source water assessments were completed in 2005, state agencies have significantly expanded analytical capabilities, including more detailed data for analyzing natural characteristics and potential pollutant sources. DEQ is currently completing the updated assessments for surface water systems and OHA is updating the groundwater system assessments.

As you know, assuring safe drinking water depends on public water suppliers implementing multiple successful practices. **First, protect the drinking water source.** Second, practice effective water treatment. Third, conduct regular monitoring for contaminants to assure safety. Fourth, protect the distribution system piping and finished water storage from recontamination. Finally, practice competent water system operation, maintenance, and construction. These practices are collectively called "multiple barrier public health protection". **Source water protection is an important first step because starting with the best possible quality source water helps assure that water treatment can be effective at all times.**

Source water protection is accomplished by effective state public health programs, environmental protection, land use policies, pro-active land stewardship, and by implementation of local drinking water protection efforts. The susceptibility of the public drinking water system source depends on both the natural conditions in the watershed as well as the anthropogenic activities in the watershed.

This letter, with attached figures and technical information, constitutes your **Updated Source Water Assessment**. It supplements your original Source Water Assessment (link here: http://www.deq.state.or.us/wq/dwp/swrpts.asp). One of the most important assets a public water system can have is accurate source water area mapping and visual resources to share with the community citizens and officials. The figures include a new regional map view of your watershed, topographic basemap with the source area delineated, and maps with natural characteristics, anthropogenic land uses, potential sources of pollutants, and historic landslides. Information on anthropogenic land uses in a drinking water source area is important for evaluating potential pollutant

sources and working with stakeholders upstream. Tables are provided that include a summary of the types of potential pollutant sources present in your drinking water source area.

There are also a variety of resources included in this document to assist you with drinking water source protection efforts. **Appendix #1** provides a summary of how to use the information provided in the assessment to move forward to develop and implement source water protection. **Appendix #3** lists websites and resources available to public water systems and community members seeking technical assistance for work on watershed protection. **Appendix #4** provides brief descriptions and contact information for grants and loans to fund both drinking water infrastructure and source protection projects.

State agency resources are available to help you with mapping and information needs. Larger sizes of the source area maps and more details of landslide potential and other natural characteristics are available for you upon request (contact Steve Aalbers at 503-229-6798). DEQ is currently developing "Resource Guides" with more extensive information to assist public water systems in protecting their source waters. Resource Guides will be developed for both Oregon surface water systems and groundwater systems by 2017.

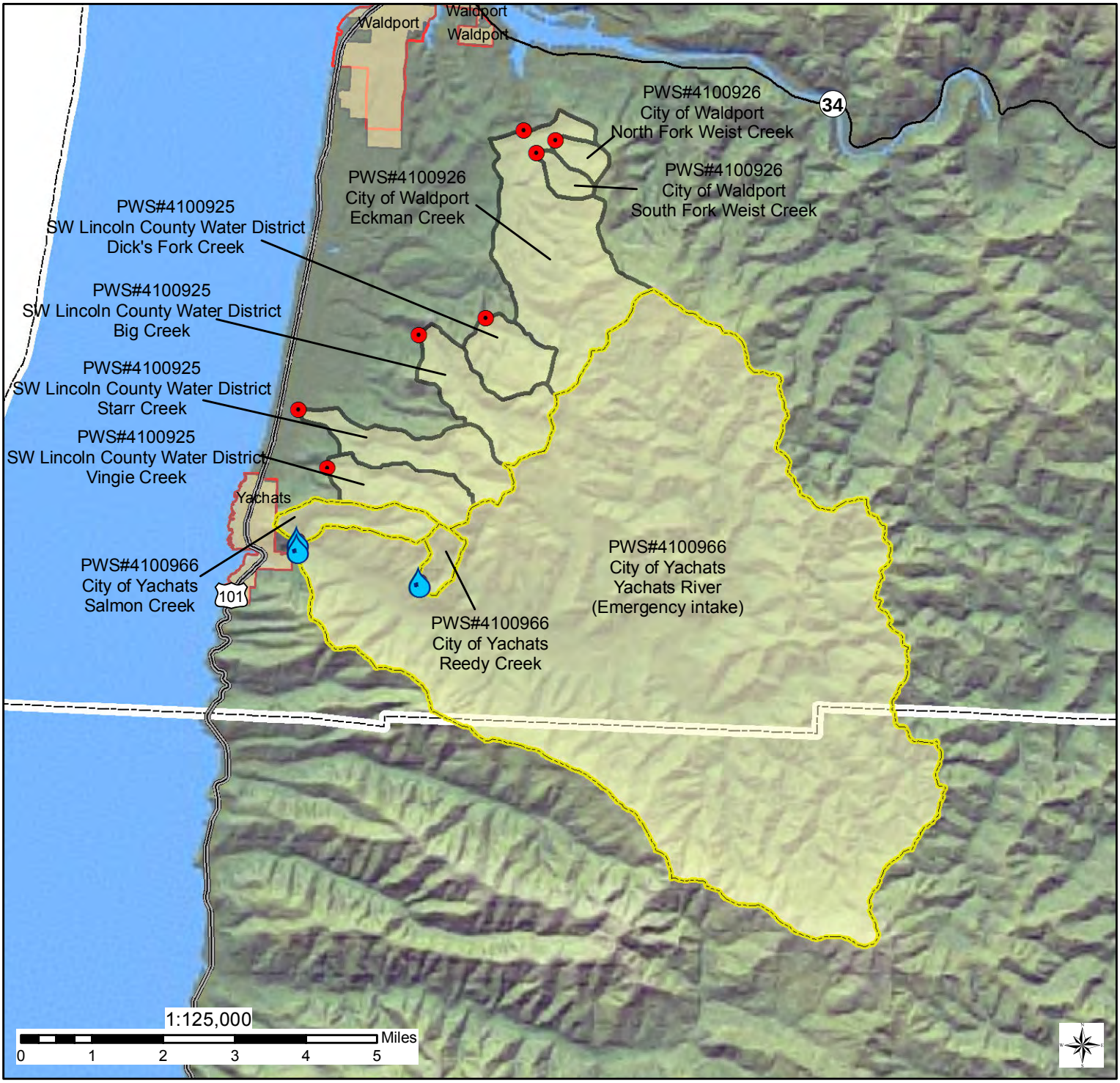
For direct assistance and/or additional information regarding watershed protection, call Sheree Stewart at DEQ (503-229-5413). For more information on drinking water policies and procedures, call Casey Lyon at OHA (541-726-2587).

Sincerely,

Sheree Stewart, Drinking Water Protection Coordinator
Environmental Solutions Division

Cc: Casey Lyon, Technical Services Manager, Oregon Health Authority

Figure 1. City of Yachats (PWS 00966) Drinking Water Source Area and Adjacent Source Areas



Legend

City of Yachats surface water intake

City of Yachats Drinking Water Source Area

Surface Water Intake

Surface Water DWSAs

City limits (ODOT, 2013)

Urban Growth Boundary (2010)

County Boundary

Highways

Interstate

U.S. Routes

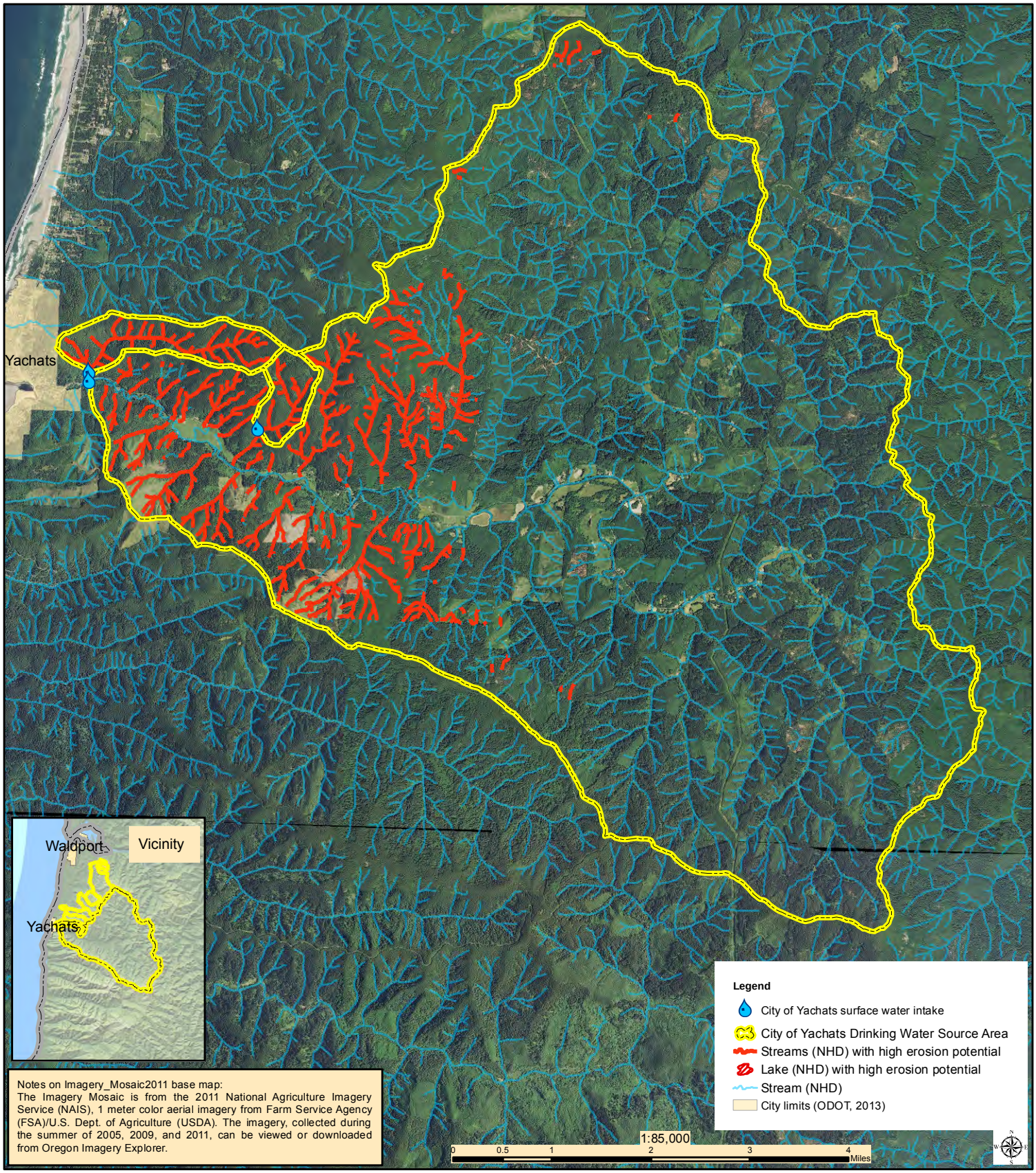
Oregon Routes

This data analysis was conducted for strategic planning purposes in drinking water protection. If other uses are considered for the data, please contact DEQ's Drinking Water Protection Program for details on how this query was 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.

Oregon Dept of Environmental Quality/Environmental Solutions Division/Water Quality Program
Drinking Water Protection Program/GIS
Projection: Oregon Lambert (Lambert Conformal Conic)
GCS_North_American_1983, Datum: D_North_American_1983
File:\\deqhq1\dwp\SWA Reports & Plan\Update SWA SW 2016\PWSReports\4100966_Yachats\USWA_Fig1_SW_CityOfYachats_VicinityMap.mxd
Prepared by: jkh(21DEC2015, Rev. 13JUL2016 (sda)), Printed: 13JUL2016 (sda)

Note on Base Layer: The hillshade color effect shown here is the result of additional processing of digital elevation models (DEM - 30 meter grid) data from 1:24000 topographic maps. A "hillshade" was produced first and then color adjusted. The original DEM files were developed by the OR Dept. of Forestry. Additional processing of the hillshade data with Red, Green, Blue (RGB) color scheme resulted in the "orshade.sid" dataset displayed here. The data set is provided for use by the Oregon Geospatial Data Center.

Figure 2. City of Yachats (PWS 00966)
Drinking Water Source Area Erosion Potential
(See Appendix 2 for Key to map details and metadata)

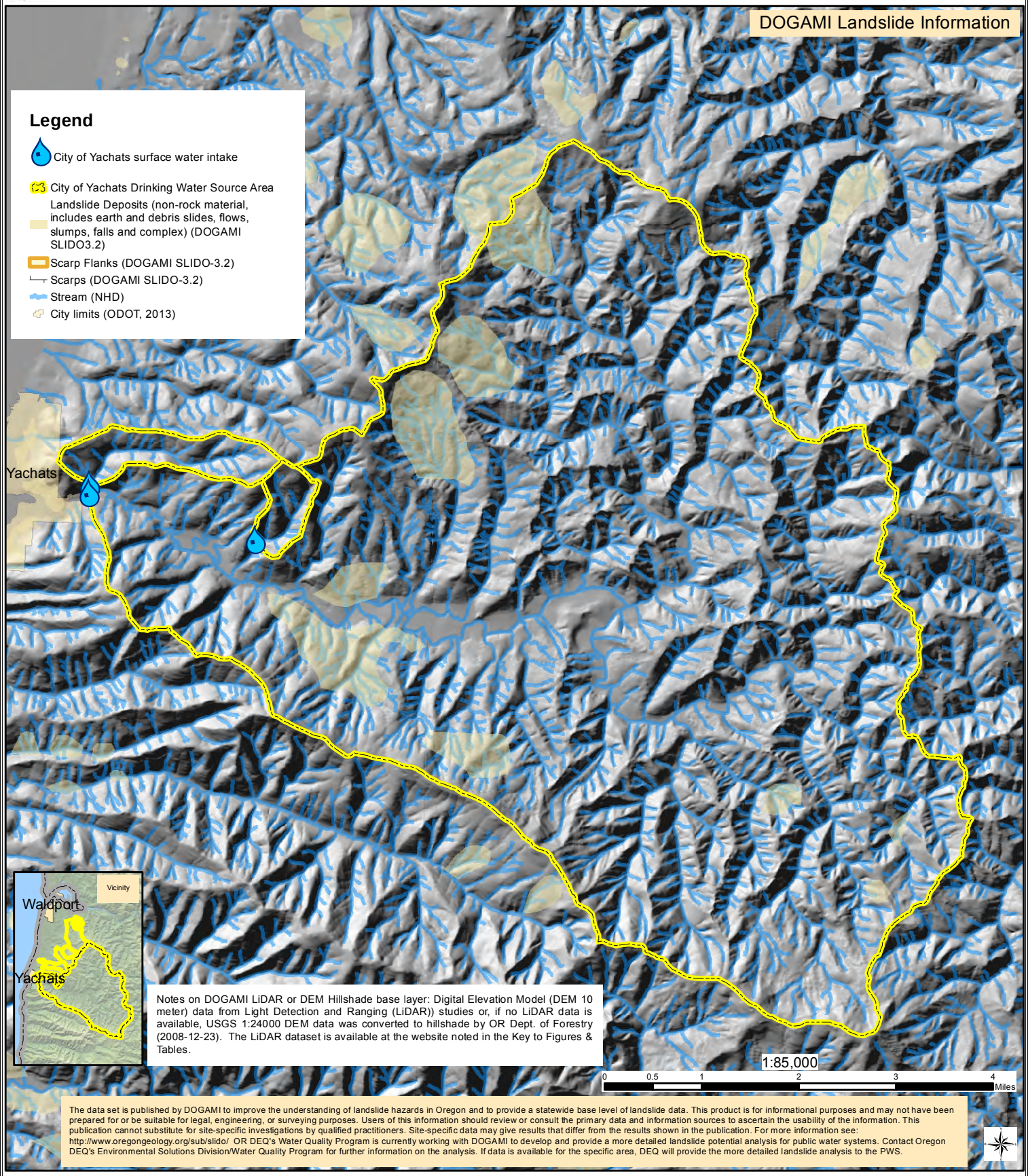


Notes on Imagery_Mosaic2011 base map:
The Imagery Mosaic is from the 2011 National Agriculture Imagery Service (NAIS), 1 meter color aerial imagery from Farm Service Agency (FSA)/U.S. Dept. of Agriculture (USDA). The imagery, collected during the summer of 2005, 2009, and 2011, can be viewed or downloaded from Oregon Imagery Explorer.

Oregon Department of Environmental Quality/Environmental Solutions Division/Water Quality Program/ Drinking Water Protection Program/GIS
Projection: Oregon Lambert (Lambert Conformal Conic), GCS_North_American_1983
Datum: D_North_American_1983
File: \\deqhq1\dwp\SWA Reports & Plan\Update SWA SW 2016\PWSReports\4100966_Yachats\USWA_Fig2_SW_CityOfYachats_SensitiveAreas_8x11.mxd
Prepared by: S. Aalbers (13JUL), Printed: 13JUL2016 (sda)

Updated with additional NRCS data 11/2/2016

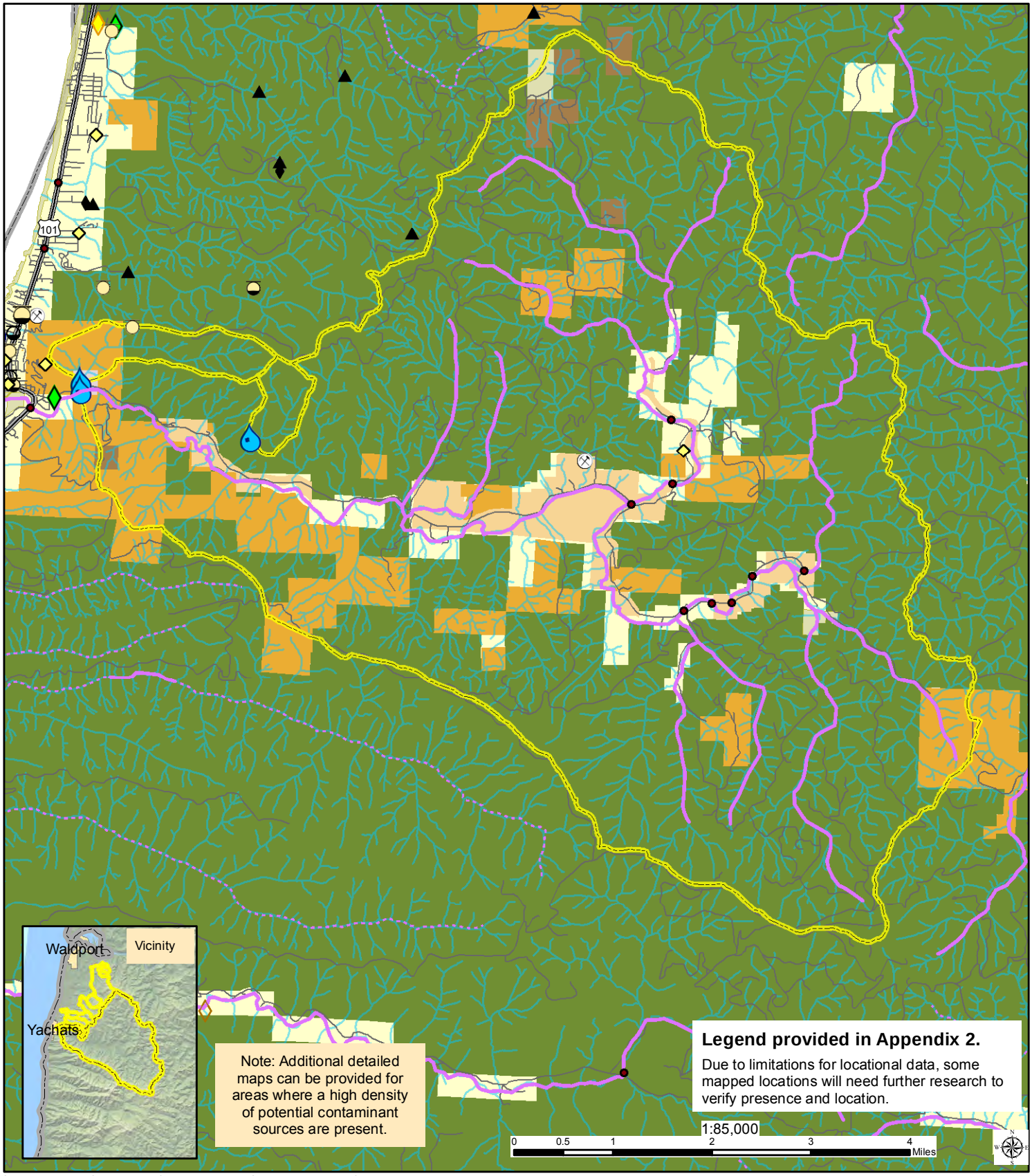
Figure 3. City of Yachats (PWS 00966) Drinking Water Source Area Landslide Hazards Map (See Appendix 2 for Key to map details and metadata)



The data set is published by DOGAMI to improve the understanding of landslide hazards in Oregon and to provide a statewide base level of landslide data. 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 or consult the primary data and information sources to ascertain the usability of the information. This publication cannot substitute for site-specific investigations by qualified practitioners. Site-specific data may give results that differ from the results shown in the publication. For more information see: http://www.oregongeology.org/sub/slido/ OR DEQ's Water Quality Program is currently working with DOGAMI to develop and provide a more detailed landslide potential analysis for public water systems. Contact Oregon DEQ's Environmental Solutions Division/Water Quality Program for further information on the analysis. If data is available for the specific area, DEQ will provide the more detailed landslide analysis to the PWS.

Oregon Department of Environmental Quality/Environmental Solutions Division/Water Quality Program/
Drinking Water Protection Program/GIS
Projection: Oregon Lambert (Lambert Conformal Conic), GCS_North_American_1983, Datum: D_North_American_1983
File: \\deqhq1\dwp\SWA Reports & Plan\Update SWA SW 2016\PWSReports\4100966_Yachats\USWA_Fig3_SW_CityOfYachats_DOGAMI_LandslideSusceptibility_8x11.mxd
Prepared by: S. Aalbers (14JUL2016 (sda), Printed: 14JUL2016 (sda)

Figure 4. City of Yachats (PWS 00966)
Drinking Water Source Area - Potential Anthropogenic Sources, Transportation Corridors and Land Ownership/Use
(See Appendix 2 for Key to map details and metadata)



Oregon Department of Environmental Quality/Environmental Solutions Division/Water Quality Program/ Drinking Water Protection Program/GIS
Projection: Oregon Lambert (Lambert Conformal Conic), GCS_North_American_1983
Datum: D_North_American_1983
File: \\deqhq1\dwp\SWA Reports & Plan\Update SWA SW 2016\PWSReports\4100966_Yachats\USWA_Fig4-5_SW_CityOfYachats_AnthroRoadsLandOwnershipUseSources_8x11.mxd
Prepared by: S. Aalbers (14JUl2016), Printed: 14JUL2016 (sda)

This page intentionally left blank.

Table 1: Drinking Water Source Area Land Use and Susceptibility Analysis Summary

See Appendix 2 for Key to Tables and Notes

Public Water System Name	**City of Yachats**
PWS ID	00966
County Served	Lincoln
Population (includes wholesale buyers) [2]	1,000
Number of Public Water Systems Served [2]	1

	Drinking Water Source Name	**Salmon and Reedy Creek**		**Yachats River (emergency intake)**		**Notes**
	Subbasin	Alsea		Alsea		
	Drinking Water Source Area (DWSA) Size [1]	1.21 sq.mi. / 773 acres		41.46 sq.mi./26,536 acres		
	Stream Miles in DWSA	9.36		341.70		
Land Use / Ownership [3]	**Owner Type**	**Area (acres)**	**% of DWSA**	**Area (acres)**	**% of DWSA**	
	Agricultural	0	0%	1,392	5%	Salmon/Reedy DWSA: ~10 acres near Salmon Cr. Intake owned by PWS. Lot near Salmon Cr. intake owned by water district. 2 large lots in lower watershed owned by investment co (possible development) high priority for protection. Rest by US Forest Service/BLM Yachats R. DWSA: private ownership along the Yachats River and major tributaries with Federal lands throughout the headwaters.
	Private Industrial Forest	178	23%	3,128	12%	
	Private (Rural/Non-industrial)	0	0%	1,408	5%	
	Local Govt	15	2%	2	0%	
	State Forest	0	0%	57	0%	
	Other State Lands	0	0%	39	0%	
	BLM	0	0%	264	1%	
	USFS	580	75%	20,246	76%	
	Tribal	0	0%	0	0%	
	Other (Water)	0	0%	0	0%	

Natural and Anthropogenic Potential Pollutants						
	Stream Miles in Erodible Soils (4)	9.36		59.93		see note 4 in Appendix 2
	High Soil Erosion Potential Percent (4) (% stream mi w/ high erosion	100%		18%		see note 4 in Appendix 2
	Shallow Landslide Potential	NA		NA		More details on shallow landslide susceptibility may be available. Contact DEQ Drinking Water Protection for additional information.
	Landslide Deposits (5) (DOGAMI - SLIDO 3.2)	none mapped		present in Yachats River intake source area - see map and note		Includes earth and debris slides, flows, slumps, falls and complex landslide types. Does not include rock material landslide deposits.

Water Quality Monitoring Data and Treatment Method	Treatment Process	Rapid sand & rapid mix				
	Safe Drinking Water Information System Results [6]	MCL Violations [6]	Significant Detections (2005-2016) [6]	MCL Violations [6]	Significant Detections (2005-2016) [6]	Water quality data not available in OHA Safe Drinking Water System Data Online for the Yachats River intake since it is not currently active.
	Regulated volatile organic chemicals, synthetic organic chemicals and inorganic compounds	none	none	not applicable	not applicable	
	Disinfection byproducts (Total Trihalomethanes (TTHM), Haloacetic acids (five) (HAA5), bromate, and chlorite)	none	none	not applicable	not applicable	
	Bacteria (Ecoli and TCR=Total Coliform Rule)	none	none	not applicable	not applicable	
	DEQ/OHA Source Water Monitoring project test data [7] ND = All parameters not detected and NA = source water not analyzed	not applicable		not applicable		
	Additional raw water quality monitoring data for the drinking water source may be available from other sources including USGS, DEQ's LASAR database, individual water providers, local partners (i.e. soil and water conservation districts or watershed councils) or local volunteer monitoring.					

Updated with additional NRCS data 11/2/2016

Table 2: Inventory of Potential Sources of Pollution

as identified in readily accessible state and federal databases and GIS layers

Updated Source Water Assessment

see Appendix 2 for Key to Tables for Notes and Descriptions of Acronyms

PWS Name: City of Yachats

PWS Number: 00966

This information supplements the Original Source Water Assessment Inventory dated between 2000 and 2005 and should be used in conjunction with the original inventory to provide a more detailed analysis of potential sources of pollution. Note that due to limitations for locational data in state databases, some locations will need further research to verify presence and location.

Primary Land Ownership/Use(s)								**Data Source**
Primarily Federal land (USFS) with some private industrial forestry land use especially near the Salmon and Reedy Creek intakes. Private Non-Industrial/Urban (rural residential) and agricultural land use also present in the river valleys of the Yachats River (emergency intake) delineation.								Land use map - Figure 4
Other potential sources of pollution identified based on aerial photographs, topographic maps or local knowledge.								
Name				Address/location	City	County		Data Source
Utility right-of-way - power lines in upper watershed								aerial photograph
Database Identifier (DB_ID)	Site Identifier (SIte_ID)	Status	Common Name	Address	City	County	Retrieval Date (RET_DATE)	Data Source
Identified in Salmon and Reedy Creeks Source Area (Emergency Intake)								
UST - SHAMROCK LODGETTES	12039	0 Upgraded, 1 Decommissioned, 0 Unknown	SHAMROCK LODGETTES	105 HWY 101 SOUTH	YACHATS	LINCOLN	01/25/2016	OR Dept. of Environmental Quality Underground Storage Tank Program (DEQ/UST - 2016)
Identified in Yachats River Intake Source Area (Emergency Intake)								
SFM - HSIS - YACHATS CITY OF	024349	OTHER GENERAL GOV SUPPORT with 2 different chemicals reported on site (liquids and solids only)	YACHATS CITY OF	936 YACHATS RIVER RD	YACHATS	LINCOLN	09/29/2008	OR State Fire Marshall Hazardous Substance Information System database (SFM/HSIS - 2009)
DOGAMI - Otter Crest Quarry	21-0054	Closed -	Otter Crest QuarryDevils Lake Rock Company		Not applicable	Lincoln	10/21/2015	OR Dept. of Geology and Mineral Industries Mineral Information layer for Oregon Release 2 (DOGAMI/MILO-2 - 2014)
Bridge - North Fork Yachats River, Yachats River Rd	12035A	Highway, major road, bridge, or stream crossing	North Fork Yachats River, Yachats River Rd	Not Applicable	UNKNOWN	Lincoln	2013	Oregon Dept. of Transportation, Technical Services Branch, Bridges Section (ODOT - 2013)
Bridge - North Fork Yachats River, North Yachats River Rd	12036A	Highway, major road, bridge, or stream crossing	North Fork Yachats River, North Yachats River Rd	Not Applicable	UNKNOWN	Lincoln	2013	Oregon Dept. of Transportation, Technical Services Branch, Bridges Section (ODOT - 2013)
Bridge - North Fork Yachats River, North Yachats River Rd	12037	Highway, major road, bridge, or stream crossing	North Fork Yachats River, North Yachats River Rd	Not Applicable	UNKNOWN	Lincoln	2013	Oregon Dept. of Transportation, Technical Services Branch, Bridges Section (ODOT - 2013)
Bridge - South Fork Yachats River, Yachats River Rd	12039A	Highway, major road, bridge, or stream crossing	South Fork Yachats River, Yachats River Rd	Not Applicable	UNKNOWN	Lincoln	2013	Oregon Dept. of Transportation, Technical Services Branch, Bridges Section (ODOT - 2013)
Bridge - South Fork Yachats River, Yachats River Rd	12040A	Highway, major road, bridge, or stream crossing	South Fork Yachats River, Yachats River Rd	Not Applicable	UNKNOWN	Lincoln	2013	Oregon Dept. of Transportation, Technical Services Branch, Bridges Section (ODOT - 2013)

Database Identifier (DB_ID)	Site Identifier (SIte_ID)	Status	Common Name	Address	City	County	Retrieval Date (RET_DATE)	Data Source
Bridge - South Fork Yachats River, Yachats River Rd	12041A	Highway, major road, bridge, or stream crossing	South Fork Yachats River, Yachats River Rd	Not Applicable	UNKNOWN	Lincoln	2013	Oregon Dept. of Transportation, Technical Services Branch, Bridges Section (ODOT - 2013)
Bridge - South Fork Yachats River, Yachats River Rd	12042A	Highway, major road, bridge, or stream crossing	South Fork Yachats River, Yachats River Rd	Not Applicable	UNKNOWN	Lincoln	2013	Oregon Dept. of Transportation, Technical Services Branch, Bridges Section (ODOT - 2013)
Bridge - School Fork Creek, Yachats River Rd	19581	Highway, major road, bridge, or stream crossing	School Fork Creek, Yachats River Rd	Not Applicable	UNKNOWN	Lincoln	2013	Oregon Dept. of Transportation, Technical Services Branch, Bridges Section (ODOT - 2013)
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - Beamer Creek	1240245442960	Cat 5: Water quality limited, 303(d) list, TMDL needed - Dissolved Oxygen	Beamer Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - Carson Creek	1240227442940	Cat 5: Water quality limited, 303(d) list, TMDL needed - Temperature	Carson Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - Depew Creek	1239716443300	Cat 5: Water quality limited, 303(d) list, TMDL needed - Temperature	Depew Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - Grass Creek	1239387442830	Cat 5: Water quality limited, 303(d) list, TMDL needed - Temperature	Grass Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - Keller Creek	1239671442810	Cat 5: Water quality limited, 303(d) list, TMDL needed - Dissolved Oxygen, E.Coli, Temperature	Keller Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - North Fork Yachats River	1239775442970	Cat 5: Water quality limited, 303(d) list, TMDL needed - Dissolved Oxygen, E. Coli, Temperature	North Fork Yachats River	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - School Fork	1239444442900	Cat 5: Water quality limited, 303(d) list, TMDL needed - Dissolved Oxygen, E. Coli, Temperature	School Fork	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - Stump Creek	1239622442780	Cat 5: Water quality limited, 303(d) list, TMDL needed - Dissolved Oxygen, E. Coli, Temperature	Stump Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)

Database Identifier (DB_ID)	Site Identifier (SIte_ID)	Status	Common Name	Address	City	County	Retrieval Date (RET_DATE)	Data Source
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - Williamson Creek	123974844317 0	Cat 5: Water quality limited, 303(d) list, TMDL needed - Dissolved Oxygen, E. Coli, Temperature	Williamson Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - Yachats River	124108344308 0	Cat 5: Water quality limited, 303(d) list, TMDL needed - Dissolved Oxygen, E. Coli, Temperature	Yachats River	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat3 - Keller Creek	123967144281 0	Cat 3: Insufficient data - E. Coli	Keller Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat3 - Keller Creek	123967144281 0	Cat 3: Insufficient data - pH	Keller Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat3 - North Fork Yachats River	123977544297 0	Cat 3: Insufficient data - E. Coli, habitat Modification, pH, Sedimentation, Biological Criteria	North Fork Yachats River	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat3 - School Fork	123944444290 0	Cat 3: Insufficient data - E. Coli, pH	School Fork	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat3 - Stump Creek	123962244278 0	Cat 3: Insufficient data - Habitat Modification, E. Coli	Stump Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat3 - Williamson Creek	123974844317 0	Cat 3: Insufficient data - E. Coli, pH	Williamson Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment - (DEQ/WQ - 10/31/2014)

Appendix #1

Developing Strategies For Drinking Water Protection

Many[1] public water systems in Oregon will receive an Updated Source Water Assessment (USWA) developed by the Oregon Department of Environmental Quality (DEQ) and the Oregon Health Authority (OHA) drinking water protection team by 2017. USWAs provide the water systems and communities more detailed information on the watershed or recharge area that supplies their well, spring or intake (the "drinking water source area"). Public water systems and local communities can use the information in the assessments to voluntarily develop and implement drinking water protection strategies.

Requirements for water quality monitoring of public water systems in Oregon provide some degree of assurance of safe drinking water; however, all systems are vulnerable to potential contamination. **One of the best ways to ensure safe drinking water and minimize future treatment costs is to develop local strategies designed to protect against potential contamination.** Not only will this add a margin of safety; it will also raise local community awareness of drinking water contamination risks and provide information about how communities and local landowners can help protect their drinking water sources.

Using Place-Based Planning to Develop Protection Strategies

The drinking water source area for most communities lies partially, if not entirely, outside of their jurisdiction and may include several different governing agencies as well as a diverse mix of landowners, businesses and residents. When developing protection strategies, DEQ and OHA highly recommend that the water system and community involve potentially affected stakeholders early in the process to foster stakeholder awareness and trust in the resulting strategies.

Oregon adopted an "Integrated Water Resources Strategy (IWRS)" in 2012 that provides recommendations for how to do a place-based and integrated approach to water resources planning. This approach helps communities achieve the level of coordination and collaboration to successfully address local water quality and water quantity challenges, such as developing and implementing strategies to protect their drinking water sources. The IWRS Place-Based Planning guidelines describe elements to consider for building a collaborative process, characterizing water-related issues, quantifying existing and future water needs, developing a suite of solutions, and adopting and implementing the plan. More information about the process can be found in this Water Resources Department document:
http://www.oregon.gov/owrd/LAW/docs/IWRS/2015_February_Draft_Place_Based_Guidelines.pdf

Strategies to Achieve Risk Reduction

The primary goal of the drinking water protection strategies should be to reduce or minimize the risks of pollution in the source water. It is highly improbable that one can

[1] [1] All water systems using surface water will receive a USWA. Because of the number of water systems using groundwater in Oregon, the Oregon Health Authority has prioritized completing assessments for new Community and Non-Transient Non-Community water systems and systems that have added a new water source since their original source water assessment was completed.

State of Oregon Department of Environmental Quality

Environmental Solutions Division
Drinking Water Protection
811 SW 6th Ave.
Portland, OR 97204
Phone: (503) 229-5413
(800) 452-4011
Fax: (503) 229-5408
Contact: Sheree Stewart
http://www.deq.state.or.us/wq/dwp/dwp.htm

Oregon Health Authority

Oregon Health Authority
Drinking Water Program
444 "A" Street
Springfield, OR 97477
Phone: (541) 726-2587
Fax: (541) 726-2596
Contact: Tom Pattee
http://www.healthoregon.org/dwp

Alternative formats
Alternative formats (Braille, large type) of this document can be made available. Contact DEQ's Office of Communications & Outreach, Portland, at (503) 229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696.

Last Updated 4/2016
By: Sheree Stewart

eliminate risks in any area, but by applying one or more protection strategies, a community will be able to reduce the likelihood of pollutants affecting the water supply in the future. Potential strategies include both general management practices such as conservation or efficiency measures that will apply to the entire drinking water protection area and management practices that can be applied most appropriately by land-use category (commercial/industrial, agricultural/rural, forestry, residential/municipal, and miscellaneous). The following list provides some of the most common management options as an example to public water suppliers and communities:

Example Strategies for Drinking Water Protection

Non-Regulatory Options
Notify and Educate the Public: Contact property owners within the protection area so they are aware of the need for protection measures. Let them know this is voluntary. Focus educational efforts on basic information about the source water and the relationship between surface activities and the water quality; familiarity with the location of the protected area; basic information on sources of contamination; and effective strategies for safe management of all potential contaminants. Public education/notification can be accomplished using local news media outlets, letters to residents, letters to land owners/operators, and bill stuffers/customer mailings. Information signs could be placed adjacent to roadways entering the protection area. Include on the sign the name of the water system/jurisdiction and a phone number where callers can obtain more information or report releases.
Use Technical Assistance Resources: Work with local or state providers of technical assistance (e.g., DEQ's regional offices, Soil and Water Conservation Districts, OSU Extension) to encourage the use of best management practices for pollution prevention and waste reduction. Apply for grants or funding to provide financial incentives such as pollution prevention tax credits, low-interest loans or direct subsidies/cost sharing. Provide recognition for environmental friendly businesses and operations (e.g., green awards, plaques/door signs).
Sponsor Hazardous Waste/Unused Chemical Collection: Establishing a permanent location or holding one-day events to collect hazardous wastes from community residents (including households and small businesses) is an effective way to reduce risks posed by storing hazardous wastes or other chemicals within the protection area. Hold an amnesty (free-disposal) event for unused business or agricultural chemicals stored in the protection area. Set up a local materials exchange program (or publicize existing programs).
Develop Spill Response Plans: Encourage and assist your local fire department and transportation department with spill response planning. Jurisdictions within protection areas could develop specific spill response procedures to allow quicker response and notifications should a hazardous material spill or release occur. These can be integrated into your county's Emergency Management Plan. Contact the Oregon Department of Transportation (ODOT) for state highways.
Acquire Land or Rights to Development: Community ownership of as much as possible of the critical land areas within the protection area and managed for water quality protection provides some of the best assurance of long-term protection of the public water supply. Protection could be provided by ownership accomplished through methods such as capital or bond fund programs, or through easements and deed restrictions. Private non-profit land conservation organizations or local land trusts in your area can assist you in acquiring land within your protection area by conveyance to a trust, seeking donations, or direct land purchases for conservation.
Local Regulatory Options
Existing Regulations and Permits: Take advantage of opportunities to provide public comment and input when existing regulatory programs are reviewing permits or programs which affect the siting, design, construction, operation or closure of facilities within your protection area. Ensure you are included on regulatory agency contact lists so that you receive announcements for public involvement opportunities. Consider participating in advisory group meetings for specific topics of interest. Ensure that the regulatory programs are aware of your protection area and request that compliance inspections or technical assistance is prioritized in critical areas.
Land Use Controls (Zoning/Health Ordinances): There are many different types of zoning tools. Your community can identify the protection area with an overlay map and enact specific requirements for land uses and development within these boundaries in order to protect public health. Ordinances applying to sites that pose a risk to water quality within the overlay area may include prohibition of various land uses (such as landfills or underground fuel storage tanks); subdivision controls (such as limiting density or requiring larger lot sizes); special permitting or siting requirements (i.e. placing limitations on the use of toxic and hazardous materials, pesticides, salts); and performance standards (i.e. requiring secondary containment for petroleum or chemical storage over a certain volume).

How do communities use the Updated Source Water Assessments?

The Updated Source Water Assessment (USWA) provides the information for developing local protection strategies. The USWAs include details characterizing the source area and potential source water risks. It also provides key information that will allow the community to focus limited resources on higher-risk areas within the watershed or recharge zones for wells. The USWA information should be supplemented with local knowledge of the water system and community. The water system and community can refine the delineation of sensitive areas and identification of potential contamination sources through further research, local input and coordination with state agencies.

The USWA source area characterization should be reviewed to clarify the presence, location, operational practices, and actual risks of the identified facilities and land-use activities. Additional potential contaminant sources or sensitive areas may also be added based on local knowledge or additional research. Potential sources with low or no risk (such as landowners who have already incorporated best management practices into their operations to protect your source of drinking water) can be screened out or selected for low priority outreach or technical assistance. Local and state resources can then be directed to the highest priority potential problems in the drinking water source area.

Another way to use the information in the USWA is in developing the water system's contingency plan. Contingency planning focuses on potential threats to the drinking water supply (such as mechanical problems, chemical detections in the source water, chemical spills in the source area, or natural disasters) and the development of procedures to be followed should these events occur. Guidance for preparing a contingency plan and examples are available from OHA. Many contingency plan elements may have already been completed by public water systems as part of their required Emergency Response Plan. Additional elements can be added as drinking water source protection strategies are developed.

Public water systems may also find it necessary, as a result of either existing or projected increased demand, to explore the development of additional sources for drinking water. Drinking water source protection provides a mechanism that can be used to help select the best site and identify areas that should be protected now so they will provide quality drinking water in the future. Additionally, development of a new groundwater source in the vicinity of existing sources may modify the movement of groundwater in the subsurface, perhaps changing the shape and orientation of existing drinking water source areas. Evaluation of the significance of those changes should be addressed in the protection planning process to ensure that the management strategy in place will continue to protect the community's drinking water supply.

Need assistance?

Drinking water source protection is already at work in Oregon. A number of Oregon communities are currently developing and implementing strategies to protect their drinking water source areas. Successful drinking water protection plans developed in Oregon are available to communities as templates or examples. Staff members at OHA and DEQ are available to provide assistance, and extensive written materials are available to local community groups or consultants to assist in developing drinking water protection plans or strategies.

Detailed information about developing drinking water source protection strategies can be found on DEQ's Drinking Water Protection Program website. The website also includes Updated Source Water Assessment methods and results, sample Drinking Water Protection Plans, information for schools, and links to many other useful sites:
http://www.deq.state.or.us/wq/dwp/dwp.htm

The OHA – Drinking Water Program website includes system characteristics, monitoring data, contacts for all public water systems in Oregon, drinking water standards, fact sheets on contaminants, information on the Safe Drinking Water Revolving Loan Fund, Consumer Confidence Reports, and more: http://www.healthoregon.org/dwp

Water systems or community members interested in the potential of developing drinking water protection strategies should contact the respective DEQ and OHA coordinators. Those systems using surface water sources should initially contact Sheree Stewart, Drinking Water Protection Program Coordinator, DEQ, Portland, (503) 229-5413. Groundwater-based water systems should initially contact Tom Pattee, Groundwater Coordinator, OHA, Springfield, (541) 726-2587 x24. As the state moves further into the protection phase of the Oregon program, DEQ and OHA will be able to direct individual requests for assistance to specific staff trained and experienced in that area, both within the state agencies and in other partner organizations.

Appendix # 2

Key to Figures and Tables including Notes and Symbols
Updated Source Water Assessments

General Legend:

- Public water system surface water
- Public water system drinking water source
- Nearby public water system surface water
- Nearby public surface water system drinking water source area
- Stream (NHD)
- Interstate
- U.S. Routes
- Oregon Routes
- City limits (ODOT, 2013)
- Urban Growth Boundary
- County Boundary

Erosion Potential:

- Streams (NHD) with high erosion potential
- Lake (NHD) with high erosion potential

Landslide Information

- Landslide Deposits (non-rock material, includes earth and debris slides, flows, slumps, falls and complex) (DOGAMI SLIDO3.2)
- Scarp Flanks (DOGAMI SLIDO-3.2)
- Scarps (DOGAMI SLIDO-3.2)

Land Ownership/Use:

- Private Non-Industrial/Urban (includes residential, municipal, commercial, industrial, and rural residential land uses)
- Agriculture (Ag Zoning (BLM) and NASS 2013)
- Private Industrial Forests (ODF data); Lands Managed by Private Industry (BLM)
- Local Government
- State Dept. of Forestry
- State - Other
- Bureau of Land Management
- U.S. Forest Service
- Federal - Other
- Bonneville Power
- Bureau of Indian Affairs
- Undetermined
- Water

Potential Sources of Pollutants identified in State and Federal Regulatory Databases:

- Boating access sites (OSMB as of 1/2016)
- Confined Animal Feeding Operations (ODA as of
- Dry Cleaner, Active (DEQ as of
- Dry Cleaner, Dry Store (DEQ as of 2015)
- Dry Cleaner, Closed (DEQ as of 2015)
- Dry Cleaner, Inactive (DEQ as of 2015)
- Dry Cleaner, Solvent Supplier (DEQ as of 2015)
- Environmental cleanup site with known contamination (DEQ as of 01/2016)
- Environmental cleanup site No Further Action required or otherwise lower risk (DEQ as of 01/2016)
- Hazardous Material Large Quantity Generator (DEQ - HW as of 1/02/2016)
- Hazardous Material Small Quantity or Conditionally Exempt Generator (DEQ - HW as of 1/02/2016)
- Hazardous Material Transport, Storage, and Disposal sites (DEQ - HW as of 1/2016)
- Hazardous Substance Information System (OSFM as of 2009)
- Hazardous Substance Information System - AST (OSFM as of
- Leaking underground storage tank - Confirmed (DEQ as of 9/2012) (Locaton will likely need verification.)
- Leaking underground storage tank with No Further Action required or otherwise lower risk (DEQ as of 9/2015) (Location will likely need verification.)
- Mining permits (DOGAMI as of 1/16/2014)
- Oil and Gas wells (permitted only) (DOGAMI as of 7/2016)
- Original Source Water Assessment Potential Contaminant Source - Area-wide source (DEQ as of 2005)
- Original Source Water Assessment Potential Contaminant Source - Point source (DEQ as of 2005)
- Other Source Water Assessment Potential Contaminant Source - SWA Update (OHA/DEQ as of 2016)
- School Locations OR (DHS as of 2015)
- Solid Waste sites (DEQ - SW as of 1/25/2016)
- Underground Injection Control - Non-stormwater (UIC - DEQ as of 91/12/2016)
- Underground Injection Control - Stormwater (UIC - DEQ as of 91/12/2016)
- Underground Storage Tanks (DEQ as of 1/25/2016) (Location will likely need verificaton.)
- Water Quality domestic wastewater treatment sites (DEQ - SIS as of 1/25/2016)
- Water Quality permits (DEQ - SIS as of 1/25/2016)
- Major route stream crossings and bridges (ODOT - 2013)
- Water Quality effluent outfalls (DEQ -WQ as of 2009)
- Water Quality Concern; lakes - Cat3 (DEQ - 2012)
- Major route stream crossings & bridges (ODOT - 2013)
- Water quality limited stream/lake, DEQ 303(d) list Cat 4A or 5, TMDL approved or needed (DEQ - 2012)
- Water Quality Concern stream/lake, DEQ 303(d) Cat.3, Insufficient Data (DEQ - 2012)

Appendix # 2

Key to Figures and Tables including Notes and Symbols
Updated Source Water Assessments

Notes

(1) DWSA - drinking water source area - delineated as the 5th-field watershed upstream of the intake. Note that Oregon's surface water source areas are delineated intake to intake. For watersheds with more than one intake, the DWSA is the watershed segment from the PWSs intake to the next intake upstream. All protection areas upstream of a specific water system's intake are included in the drinking water source area for that water system and PWSs are encouraged to work with other water providers and other entities within the Subbasin as they evaluate potential sources and move forward with developing protection strategies.

(2) There are independent public water systems that purchase water from the water systems listed and distribute it within their service areas. The total population served listed includes these "wholesale" customers and the total number of PWSs using the source water is also provided.

(3) Land Ownership/Use

The dataset is a combination of multiple datasets and was developed by DEQ in 02/2015. The primary dataset is from Bureau of Land Management BLM (OWNERSHIP_POLY.shp dated 06/20/2013) obtained from BLM at: http://www.blm.gov/or/gis/data-details.php?id=425. Publication date: 20130718. The dataset has been modified by grouping land owner categories in order to simplify data display on the map and using geospatial techniques to add additional data to capture the following land uses:

- agricultural land using a combination of the National Agricultural Statistics Service (NASS) data from Natural Resource Conservation Service (2007 " cdl_awifs_r_or_2007.tif") and agricultural land zoning from OR Dept. of Land Conservation and Development (note that public water systems may obtain more detailed information on potential crop types using the US Department of Agriculture National Agricultural Statistics Service "CropScape-cropland data layer." Available at https://nassgeodata.gmu.edu/CropScape/),
- private industrial forests using Oregon Dept. of Forestry's (ODF) "Private_Industrial_2006_ORLambert.shp" last updated in 2013,
- local government land combined from BLM ownership, tax lot ownership information from local county tax lot data and "OR Map" on-line application: http://www.ormap.net/, and
- all other categories (BLM, USFS, State, etc) from BLM 06202013 data. Note that Private Non-Industrial/Urban includes residential, municipal, commercial, industrial, and rural residential land uses.

Because of the nature of combining multiple datasets, minor discrepancies will be seen in some maps especially at larger scales. Public water systems and communities could use tax lot data available from the counties or other datasets to further refine the analysis if higher accuracy is needed.

(4) High Soil Erosion Potential

This layer was developed in accordance with the methods detailed in Oregon's Source Water Assessment program to assist public water systems prioritize drinking water protection strategies within their source area and was updated in 2016 using with Natural Resource Conservation Service (NRCS) 1:24,000 Soil Survey Geographic Database (SSURGO) and State Soil Geographic Database (STATSGO) data downloaded 25OCT2016. High Soil Erosion Potential for non-Forest Service lands with steeper slopes is determined by combining the effects of slope and the soil erodibility factor ("K-factor") using SSURGO and STATSGO data. The K-factor quantifies the susceptibility of soil particles to detachment and movement by water including the effects of rainfall, runoff, and infiltration. Soils with "high" soil erodibility ratings are considered sensitive to extensive ground disturbance such as some yarding methods and road building activities. Soils classified as "high" include soil with slopes of 30% (or greater) and K-factors (kffactor - rock free) of 0.25 (or greater). Soil Resource Inventory (SRI) information from the US Forest Service was used to determine erosion potential on National Forest lands. Erosion potential for soils represented in the SRI data is based on available representative data attributes such as sedimentation yield potential, sediment, or surface soil erosion potential. Specific information on the factors used for each National Forest to evaluate sensitivity is available from DEQ upon request. For future assessment on flatter terrains or in areas where K-factor is not available, a comparable approach will be developed and vetted with input from Natural Resource Conservation Service and others.

(5) Landslide Information

OR Department of Geology and Mineral Industries (DOGAMI) Statewide Landslide Information Database of Oregon Release 3.2 (SLIDO-3.2). Includes earth and debris slides, flows, slumps, falls and complex landslide types. Does not include rock material landslide deposits. The landslide data set is published to improve the understanding of landslide hazards in Oregon and to provide a statewide base level of landslide data. 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 or consult the primary data and information sources to ascertain the usability of the information. This publication cannot substitute for site-specific investigations by qualified practitioners. Site-specific data may give results that differ from the results shown in the publication. For more information see: http://www.oregongeology.org/sub/slido/

OR DEQ's Water Quality Program is currently working with DOGAMI to develop and provide a more detailed landslide potential analysis for public water systems. Contact Oregon DEQ's Environmental Solutions Division/Water Quality Program for further information on the analysis. If data is available for the specific area, DEQ will provide the more detailed landslide analysis to the public water system.

(6) Safe Drinking Water Information System (SDWIS) data is obtained from Oregon Health Authority's Data Online available at https://yourwater.oregon.gov/.

- "Significant detections" indicate water quality tests with analytical results greater than the detection limit (for volatile and synthetic organic compounds (VOCs and SOCs)) or one-half of the maximum allowable contaminant level (for inorganic compounds (IOCs), arsenic and nitrate). Significant detections are not water quality violations but may require follow-up actions by the OHA Drinking Water Program. Significant detections are available as "alerts" in OHAs Data Online.
- Maximum Contaminant Level (MCL) Violations indicate samples that exceed the MCL and may be based on an average of samples or violation of a treatment technique (i.e. lead and copper rule). Maximum Contaminant levels and action levels for chemicals are available OAR 333-061-0030. Does not include violations for late/non-reporting or treatment/distribution system deficiencies.
- A full list of tested and regulated volatile organic chemicals, synthetic organic chemicals and inorganic compounds and disinfection byproducts is provided in OAR 333-061-0030 and OAR 333-061-0036. Only regulated chemicals are reported in SDWIS. It is important to note that public water system compliance data is collected after drinking water treatment, typically at the entry point to the distribution system.

(7) DEQ/OHA source water monitoring project samples were collected between 2008 and 2012 and analyzed for several hundred compounds, including Oregon-specific herbicides, insecticides, pharmaceuticals, volatile organic compounds (including cleaners), fire retardants, polycyclic aromatic hydrocarbons (organic compounds produced as byproducts of fuel burning) and plasticizers. Only the contaminants that were detected are listed. The concentrations of compounds listed were detected at very low levels well below existing standards and guidelines and are well within acceptable limits. The primary objective of this ongoing monitoring program is to identify priorities for drinking water protection through water quality data. Water quality samples are taken from raw source waters, not treated drinking water. A comprehensive list of analytical methods, compounds, and detection limits is available in each Analytical Report (search DEQ database or by request) and information is summarized at http://www.deq.state.or.us/wq/dwp/monitoring.htm.

Key to Figures and Tables including Notes and Symbols
Updated Source Water Assessments

Inventory of Potential Sources of Pollution (Table 2 and Figures)

This information is intended to supplement the original Source Water Assessment completed for the water system between 2000 and 2005 by DEQ and Oregon Health Authority. This update should be used in conjunction with the original inventory. DEQ can provide more information on potential impact, risk and status as the public water system moves into developing protection strategies.

The inventory of potential sources of pollution is based on the readily-available state and federal regulatory databases listed below and general categories of land use/ownership. The primary intent is to identify and locate significant potential sources of contaminants of concern. Areas with agricultural, septic systems, or managed forests are generally not identified in the regulated databases but are presented in the figures as a factor of land ownership/use.

It is important to remember that the sites and areas identified are only potential sources of contamination to the drinking water. Water quality impacts are not likely to occur when contaminants are used and managed properly and land use activities occur in such a way as to minimize erosion and contaminant releases.

It is highly recommended that the community "enhance" or refine the delineation of the sensitive areas and the identification of the potential contamination sources through further research and local input. If there were no potential sources of contamination identified during the review of regulatory databases or community's enhanced inventory, the water system and community should consider the potential for future development to impact the source water.

Table 2 Header	Description
Database Identifier (DB_ID)	Database Type and site name for identified potential pollutant
Site Identifier (Site ID)	Program specific identifier. This is the number or name used to look the site up in the programs regulatory database.
Status	Select information on the site that helps to evaluate potential risk to water quality
Common Name, Address, City	Common Name, Address and City as listed in the regulatory database. Note that some sites may have addresses associated with responsible party, not the physical location of the site.
County	County site is located in
Retrieval Date (Ret_Date)	Date the information was retrieved from the individual programs regulatory database
Data Source	Source for geographic information system (GIS) data

State and Federal Regulatory Database Information

CAFO 	Oregon Department of Agriculture's Confined Animal Feeding Operation database of livestock owners. Includes permitted, non-permitted, and applications. Status indicates facility designation and animal type. Permits typically address conditions for animal waste management. More information at http://www.oregon.gov/ODA/programs/NaturalResources/Pages/CAFO.aspx
DOGAMI 	Oregon Department of Geology and Mineral Industries list of mining sites. Status includes permit status and primary material extracted.

Appendix # 2

Key to Figures and Tables including Notes and Symbols
Updated Source Water Assessments

DC Active Dry Store Closed Inactive Solvent Supplier	DEQ Dry Cleaners list Status indicates Facility type and information on historic and current solvent use: Facility Type: *Dry Cleaner* - currently active *Dry Store*: current 'dry store': pickup and drop off point that does not have a dry cleaning machine on site. These sites may still pose a risk as the industry has consolidated over past decades, so many of these used to be dry cleaners and may have contamination. *Closed site:* There is no longer a dry cleaner or dry store on site, and the site has not opted to stay in the program as 'inactive'. Note that when a site changes ownership, the old Dry Cleaner ID (DCID) may be identified as Closed and a new dry cleaner record may be added for the new owner resulting in the potential for on address to have more than one status *Listed Inactive:* Site is no longer a dry cleaner or dry store but the property owner or former operator has opted to continue paying dry cleaner program fees in order to maintain their liability protection & cleanup coverage. *Solvent Supplier:* This may be a chemical supply businesses or individual dry cleaner that imports their own solvent from out-of-state SolventBefore1998: true if dry cleaning solvent was used at this site prior to spill prevention regulations that came in around 1998. If this field is true, there's a higher likelihood that there may be contamination on site. PercUseOngoing: true if perchloroethylene solvent is currently used at the site.
DWP-PCSs area wide point source	Potential sources of contamination (PCS) identified by the DEQ and Oregon Health Authority drinking water protection (DWP) program in the original source water assessments completed between 2000 and 2005. Status includes DEQ's potential contaminant source Code (i.e. M31 or R15), Source type (P= point source, A=Area wide source) and a description of the land use type. Note that sources classified as "Area-wide" were marked at a point on the map closest to the intake, well or spring. Additional detailed maps can be provided upon request for source areas where DWP PCSs are not shown on maps to improve map clarity.
DWP-PCS (update)	Potential sources of contamination (PCS) identified by the OHA or DEQ in the Source Water Assessment updates completed in 2016 and 2017. May include information from interviews with public water system operators, field visits, aerial photograph or topographic map review.
ECSI	DEQ Environmental Cleanup Site Information database. Includes the U.S. EPA National Priorities List (NPL) and the U.S. EPA Comprehensive Environmental Response, Compensation and Liability Information System (CERCLA) list. Includes sites where further assessment or action is needed. More information available at http://www.deq.state.or.us/lq/ECSI/ecsi.htm
ECSI-NFA	DEQ Environmental Cleanup Site Information database site where no further action (NFA) is required. Public water system may consider verifying with DEQ that standards used during site investigation were protective of drinking water.
HW LQG SQG or CEG	DEQ Hazardous Waste generators that submit an annual report to DEQ. This list includes active facilities in HazWaste.NET (http://www.deq.state.or.us/lq/hw/hwrptonlineforms.htm). Status includes information on generator size including LQG (Large Quantity Generator), SQG (Small Quantity Generator), CEG (Conditionally Exempt Generator), and Unknown (may be used oil or universal waste activities or old generators that require further assessment.
HW/TSD	DEQ Hazardous Waste Program registered sites that treat, store or dispose of hazardous waste. Includes both active and inactive sites in the process of closing or in post-closure care that are registered in HazWaste.NET (http://www.deq.state.or.us/lq/hw/hwrptonlineforms.htm).
LUST	DEQ leaking underground storage tank (LUST) list - includes sites that have reported releases from petroleum-containing underground storage tanks, including residential heating oil tanks, regulated tanks at gas stations and other commercial facilities, and non-regulated tanks.
LUST-NFA	DEQ leaking underground storage tank (LUST) list where no further action (NFA) is required or cleanup is completed. PWS may consider verifying with DEQ that standards used during site investigation were protective of drinking water.
Oil & Gas Wells	Oil and Gas wells from OR Department of Geology and Mineral Industries. Only includes wells with a status of "permitted".
OSMB	Oregon State Marine Board's Boating Access Sites.

Appendix # 2

Key to Figures and Tables including Notes and Symbols
Updated Source Water Assessments

School	School as identified by Department of Human Services. Further evaluation may be needed to identify if school has onsite/septic system, pesticide use, chemistry lab, vehicle maintenance, or other potential contaminant sources.
SFM-HSIS AST	Aboveground storage tank(s) as identified in the State Fire Marshall Hazardous Material Information System (HMIS) site list. Aboveground tanks storing gas products were not included since gaseous compounds rarely pose a threat to surface water or groundwater. Additional information on material stored and tank size is available upon request.
SFM (HSIS)	State Fire Marshall Hazardous Material Information System (HMIS) site list. Status indicates number of different chemicals stored on site. A full list of chemicals with information on storage type and a range of amounts is available on request. Information on materials in a gas-form was not included in the chemical counts since gaseous compounds rarely pose a threat to surface water or groundwater.
Stream Crossing/Bridge	Oregon Department of Transportation structure in the "Bridge" layer for interstates, highways, or Oregon Routes. Does not include crossings over ODOT 2012 Roads layer. Includes some culverts. Name indicates water body (or other structure) crossed and the highway/route name.
SW	DEQ Active Solid Waste Disposal Permits list. Status includes permit type and activity (active, terminated, closure, pending). Solid waste disposal site permits are issued for the following facility types: landfill, solid waste treatment, transfer station/material recovery, composting, incineration, conversion technology, and energy recovery.
UIC – Stormwater	DEQ Underground Injection Control (UIC) list of facilities with registered underground injection control systems that manage Stormwater. Status includes type and number of UIC wells registered.
UIC – Non-Stormwater	DEQ Underground Injection Control (UIC) facilities with registered underground injection control systems that do not manage stormwater. Status includes type and number of UIC wells registered.
UST	DEQ registered underground storage tank (UST) list with details on number of tanks that are upgraded to current standards, decommissioned and with unknown status that require further assessment.
WQ SIS	DEQ Site Information System (SIS) which includes Water Pollution Control Facility (WPCF) permits where discharge to surface water is not allowed and National Pollutant Discharge Elimination System (NPDES) permits for "point source" discharges into surface water. Includes both individual permits (site specific) and general permits covering a category of similar discharges.
WQ SIS-WWTP	Subset of water quality Site Information System (SIS) for domestic wastewater treatment plants that discharge to surface water
WQ SIS Outfalls	Water quality effluent outfalls - location of permitted outfall to water body. May vary from facility address or permitted activity location.
WQL Streams/ Lakes TMDL approved or needed Insuff-icient data	Streams and lakes identified by DEQ under Section 303(d) of the Clean Water Act as Water Quality Limited and either having (Category 4A) or needing (Category 5) a Total Maximum Daily Load pollutant load limit. Streams and lakes with insufficient data (Category 3) to make a determination are also shown. Based on Oregon's 2012 Integrated Report and 303(d) list. Contact DEQ basin coordinator for more information (http://www.deq.state.or.us/WQ/TMDLs/docs/basincoordinators.pdf)

Transportation Sources

Interstate/Highway Interstate U.S. Roads Oregon Routes	Oregon Department of Transportation interstate, highway, road or route identified in the Integrated Transportation Information System database.
Roads	Oregon Department of Transportation 2012 Roads layer - note roads are usually mapped by section so there will be many duplications of road names.
Railways	Railways
Stream Crossing/Bridge	Oregon Department of Transportation structure in the "Bridge" layer for interstates, highways, or Oregon Routes. Does not include crossings over ODOT 2012 Roads layer. Includes some culverts. Name indicates water body (or other structure) crossed and the highway/route name.

Appendix #3

Technical Information and Factsheets for Water Quality

PLEASE NOTE: The Internet URL Addresses listed in this document were included as a convenience for the users of this document. All URL Addresses were functional at the time this publication was last updated (September 2016). For active links, this list is located at http://www.oregon.gov/DEQ/WQ/pages/index.aspx

General Water Quality Information	
Handbook for Developing Watershed Plans to Restore and Protect Our Waters (EPA)	https://www.epa.gov/polluted-runoff-nonpoint-source-pollution/handbook-developing-watershed-plans-restore-and-protect
Water Quality Model Code and Guidebook (DLCD)	http://www.oregon.gov/LCD/pages/waterqualitygb.aspx
DEQ Toxics Reduction Strategy	http://www.deq.state.or.us/toxics/docs/ToxicsStrategyNov28.pdf
Oregon's Groundwater Protection Program – who does what? (DEQ)	http://www.deq.state.or.us/wq/groundwater/agencies.htm
Groundwater Basics for Drinking Water Protection (DEQ)	http://www.deq.state.or.us/wq/pubs/factsheets/drinkingwater/GroundwaterBasics.pdf
Protecting Oregon's Groundwater from Contamination (OSU)	http://groundwater.orst.edu/groundwater/
Oregon Climate Change Research Institute	http://occri.net/
Climate Impacts in the Northwest (EPA)	http://www3.epa.gov/climatechange/impacts/northwest.html
Climate science, data, tools, and information (NOAA)	http://www.noaa.gov/climate.html
Harmful Algae Blooms (OHA) FAQs, guidelines for lake managers and outreach materials	https://public.health.oregon.gov/HealthyEnvironments/Recreation/HarmfulAlgaeBlooms/Pages/index.aspx
Harmful Algal Blooms (DEQ) - agency strategy, actions to control/eliminate & prevention	http://www.deq.state.or.us/wq/algae/algae.htm
Residential Areas, Parks and Golf Courses	
Domestic Well Safety Program (OHA) – Resources and contacts for domestic/private wells	http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/SourceWater/DomesticWellSafety/Pages/index.aspx
Well Water Program (OSU)- tech. assistance for domestic/private wells & septic systems	http://wellwater.oregonstate.edu/
Oregon's Domestic Well Testing Program for Real Estate Transactions	http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/SourceWater/DomesticWellSafety/Pages/Testing-Regulations.aspx
After You Buy: Wells, Septic Systems, and a Healthy Homesite (NRCS)	http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_042403.pdf
Household Hazardous Waste Program website (DEQ)	http://www.deq.state.or.us/lq/sw/hhw/index.htm
Household Hazardous Waste - locally-sponsored collection programs	http://www.deq.state.or.us/lq/sw/hhw/collection.htm
Household Pharmaceutical Waste Disposal (OHA)	https://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/SourceWater/Pages/takeback.aspx

Residential Areas, Parks and Golf Courses (cont.)	
Household Hazardous Wastes (EPA)	https://www.epa.gov/hw/household-hazardous-waste-hhw
Recycle Used Motor Oil Resources (EPA)	https://www.epa.gov/recycle/managing-reusing-and-recycling-used-oil
Frequently Asked Questions About Heating Oil Tanks (DEQ)	http://www.deq.state.or.us/lq/tanks/hot/homeowners.htm
Proper Care/Maintenance of Heating Oil and Other Unregulated Tank Systems	http://www.deq.state.or.us/lq/pubs/factsheets/tanks/hot/ProperCareMaintenance.pdf
Oregon resources for on-site septic systems (DEQ)	http://www.oregon.gov/deq/WQ/Pages/onsite/SepticSmartHome.aspx
Oregon's Onsite Wastewater Management Program (Septic Systems) (DEQ)	http://www.deq.state.or.us/wq/onsite/onsite.htm
Local Outreach Toolkit for Septic Systems (EPA)	https://www.epa.gov/septic/septic-systems-outreach-toolkit
A Homeowners Guide to Septic Systems (EPA)	http://www.nesc.wvu.edu/pdf/ww/septic/epa_septic_guide.pdf
Septic Tank Maintenance (DEQ)	http://www.deq.state.or.us/wq/pubs/factsheets/onsite/septictankmaint.pdf
Septic Systems OSU Extension website (OSU)	http://wellwater.oregonstate.edu/septic-systems-0
Groundwater protection and your septic system (National Small Flows Clearinghouse)	http://www.nesc.wvu.edu/pdf/ww/septic/septic_tank3.pdf
Combating Illegal Dumping (DEQ)	http://www.deq.state.or.us/lq/sw/disposal/illegaldumping.htm
Water Well Owner's Handbook & other related guidance documents (WRD)	http://www.oregon.gov/owrd/pages/pubs/index.aspx
Oregon Water Resources Department	http://egov.oregon.gov/OWRD/
Disposal of Chlorinated Water from Swimming Pools and Hot Tubs (DEQ)	http://www.deq.state.or.us/wq/pubs/factsheets/wastewater/bmpchlorwaterdisp.pdf
Source Water Protection Publications (EPA) for managing various including: Septic Systems Turfgrass and Garden Fertilizer Application Small-Scale Application of Pesticides Small Quantity Chemical Use Pet and Wildlife Waste Storm Water Runoff	http://www.deq.state.or.us/wq/dwp/assistance.htm
Integrated Plant Protection Center (OSU)	http://ipmnet.org/
National Pesticide Information Center	http://npic.orst.edu/
Integrated Pest Management and Pesticide Safety for Schools (OSU)	http://www.ipmnet.org/Tim/PSEP_home.htm
School Lab Cleanout Program (DEQ)	http://www.deq.state.or.us/lq/labcleanout.htm
Golf Course Integrated Pest Management (IPM) tool and BMP Generator	http://www.greengolfusa.com/tiki-index.php
EcoBiz Certified Landscapers and Auto Repair Shops	http://ecobiz.org/find-an-ecobiz/

Agriculture/Forestry Land Uses (cont.)	
Tips for Small Acreages in Oregon (NRCS) - Fact Sheets on wells, septic systems, animals, crops, weeds, streamside erosion protection. Includes specific factsheets for Eastern and Western Oregon.	http://www.nrcs.usda.gov/wps/portal/nrcs/detail/or/newsroom/?cid=nrcs142p2_046062
Source Water Protection Pubs (EPA) for managing various activities including: Agricultural Fertilizer Application Large-Scale and Small-Scale Application of Pesticides Livestock, Poultry and Horse Waste Above Ground and Underground Storage Tanks Small Quantity Chemical Use Turfgrass and Garden Fertilizer Application	http://www.deq.state.or.us/wq/dwp/assistance.htm
Oregon Small Farms (OSU Extension) Information on Crops, Grains, Livestock, Pastures, and Soils (see tabs at top of page for multiple resources)	http://smallfarms.oregonstate.edu/
Oregon Pesticide Stewardship Partnerships and Waste Pesticide Collection Events	http://www.oregon.gov/oda/programs/pesticides/water/pages/pesticidestewardship.aspx
Managing Waste Pesticide (DEQ)	http://www.deq.state.or.us/lq/hw/pesticide.htm
Oregon Department of Agriculture (ODA) – resources for reducing impacts	http://www.oregon.gov/oda/Pages/default.aspx
Soil and Water Conservation Districts (OACD) – technical assistance for rural landowners, family forests and growers	http://oacd.org/conservation-districts/directory
Natural Resources Conservation Service, Oregon (NRCS)	http://www.or.nrcs.usda.gov/
NRCS Financial Assistance Programs	http://www.nrcs.usda.gov/wps/portal/nrcs/main/or/programs/financial/
Oregon Department of Fish and Wildlife Hatchery Information (ODFW)	http://www.dfw.state.or.us/fish/hatchery/
Animal Care and Handling Facilities (from California stormwater program)	https://www.casqa.org/sites/default/files/BMPHandbooks/BMP_IndComm_Appendix_D.pdf
Managing Small-acreage Horse Farms (OSU)	https://catalog.extension.oregonstate.edu/ec1558/viewfile
Irrigation well use and maintenance	See resources for domestic wells under Information for Residential Areas
Oregon State University Forestry & Natural Resources Extension Program	http://extensionweb.forestry.oregonstate.edu/
Oregon Department of Forestry Stewardship Foresters	http://www.oregon.gov/ODF/Working/Pages/FindAForester.aspx
Oregon Department of Forestry Grants and Incentives	http://www.oregon.gov/ODF/AboutODF/Pages/GrantsIncentives.aspx
US Department of Agriculture Pacific Northwest Research Station	http://www.fs.fed.us/pnw/
US Department of Agriculture Forest Incentive Programs Available in Oregon	http://www.srs.fs.usda.gov/econ/data/forestincentives/or.htm
US Forest Service State & Private Forestry–Cooperative Forestry, Forest Health Protection, Sustainable Development & Urban/ Community Forestry	http://www.fs.fed.us/spf/
Water quality impacts information from US Forest Service - Part III: Chapter 10: Forest Management; Chapter 13: Pesticides and Part IV: Chapter 14-16 Animals	http://www.srs.fs.fed.us/pubs/gtr/gtr_srs039/

Agriculture/Forestry Land Uses (cont.)	
National Management Measures to Control Nonpoint Source Pollution from Forestry (EPA)	http://water.epa.gov/polwaste/nps/forestry/forestrymgmt_index.cfm
Managing Nonpoint Source Pollution from Forestry (EPA)	https://www.epa.gov/polluted-runoff-nonpoint-source-pollution/forestry-additional-resources
Oregon Forest Practices Act	https://www.oregon.gov/ODF/Working/Pages/FPA.aspx
Forest Practices Board Manual (Washington Dept. of Natural Resources)	http://www.dnr.wa.gov/about/boards-and-councils/forest-practices-board/rules-and-guidelines/forest-practices-board-manual
Sustainable Forest Management Programs/Certifications: American Tree Farm Systems (ATFS) Forest Stewardship Council (FSC) Sustainable Forestry Initiative (SFI) Dovetail Partners, Inc.	https://www.oregon.gov/ODF/Documents/AboutODF/ForestCertificationFactsheet.pdf https://www.treefarmsystem.org/ https://us.fsc.org/en-us/certification http://www.oregonsfi.org/ http://www.dovetailinc.org/
Commercial/Industrial/Municipal Land Uses	
Drinking Water Protection Strategies for Commercial & Industrial Land Uses (DEQ)	http://www.deq.state.or.us/wq/dwp/docs/DWPStrategiesCommercialIndustrial.pdf
Business and Industry tips for reducing water quality impacts (DEQ)	http://www.deq.state.or.us/wq/pubs/factsheets/drinkingwater/busindtips.pdf
Source Water Protection Publications (EPA) for managing various including: Above Ground and Underground Storage Tanks Aircraft and Airfield Deicing Operations Highway Deicing Operations Vehicle Washing Pet and Wildlife Waste Small Quantity Chemical Use Storm Water Runoff	http://www.deq.state.or.us/wq/dwp/assistance.htm
Free Assistance from DEQ's Toxics Use and Waste Reduction Assistance Program	http://www.deq.state.or.us/lq/pubs/docs/hw/TABrochure.pdf
10 Ways for Businesses to Prevent Pollution, Conserve Resources and Save Money (with pollution prevention resources for various industry sectors) (DEQ)	http://www.deq.state.or.us/programs/sustainability/10ways-businesses.htm
Managing Used Computers and Other Electronic Equipment (DEQ)	http://www.deq.state.or.us/lq/pubs/factsheets/ManagingUsedComputers.pdf
Computer and Electronic Equipment Recyclers (DEQ)	http://www.deq.state.or.us/lq/pubs/factsheets/OregonECyclesConsumers.pdf
Underground Injection Control (UIC) Program (DEQ)	http://www.deq.state.or.us/wq/uic/overview.htm
Industrial Stormwater Best Management Practices Manual (DEQ)	http://www.deq.state.or.us/wq/wqpermit/docs/IndBMP021413.pdf
Best Mgmt Practices for Industrial Activity Storm Water Discharges (DEQ)	http://www.deq.state.or.us/wq/stormwater/docs/nwr/indbmps.pdf
Construction Stormwater Best Management Practices Manual (DEQ)	http://www.deq.state.or.us/wq/wqpermit/docs/general/npdes1200c/BMPManual.pdf

Commercial/Industrial/Municipal Land Uses (cont.)	
Illicit Discharge and Source Tracing Guidance Manual (Washington Stormwater Center)	http://www.wastormwatercenter.org/illicit-connection-illicit-discharge
Low Impact Development O&M guidance (Washington Stormwater Center)	http://www.wastormwatercenter.org/lid-om-guidance/
Water quality impacts information from USFS - Part V: Chapter 18-20 Mining and Oil/Gas	http://www.srs.fs.fed.us/pubs/gtr/gtr_srs039/
Dam Safety Publications and Resources FEMA website	https://www.fema.gov/dam-safety-publications-resources
Healthcare: Pollution Prevention & Best Management Practices (EPA)	http://www3.epa.gov/region9/waste/p2/hospart.html
Boating/Marinas/Recreation Areas	
Oregon Clean Boater Program (OSMB)	http://www.oregon.gov/OSMB/boater-info/Pages/Clean-Boater.aspx
Clean Boater Guide (OSMB)	http://www.oregon.gov/OSMB/boater-info/Documents/2015_osmb_clean_boater_guide_forweb.pdf
Best Management Practices for Oregon's Marinas (DEQ)	http://www.deq.state.or.us/wq/pubs/bmps/marinas.pdf
Clean Marina Program (OSMB)	http://www.oregon.gov/OSMB/boater-info/Pages/Clean-Marinas.aspx
Clean Marina Guidebook (OSMB)	http://www.oregon.gov/OSMB/forms-library/Documents/Environmental/entire_clean_marina_guidebook.pdf
Marine Sewage and Wastewater Disposal (DEQ)	http://www.oregon.gov/OSMB/Pages/Pumpout-and-Dump-Stations.aspx
Water quality impacts information from US Forest Service - Part II: Chapters 7-8: Recreation; Chapter 5: Dams and Chapter 9: Roads	http://www.srs.fs.fed.us/pubs/gtr/gtr_srs039/

This page intentionally left blank.

Appendix #4

FUNDS AND RESOURCES for Drinking Water Source Protection

This document provides brief descriptions and contact information for resources available to public water systems, including grants and loans to fund drinking water infrastructure and source protection projects. DEQ's list of "Technical Information and Factsheets for Water Quality Protection" provides other websites and resources available to public water systems and community members seeking to work on watershed protection.
Note: The Internet links listed in this document were included as a convenience for the users of this document. All URL Addresses were functional at the time this publication was last updated (October 2016).

Oregon Health Authority (OHA)

Drinking Water Services
Phone: 971-673-0405
Website: www.healthoregon.org/dwp

The Oregon Health Authority (OHA) is the primacy agency for the implementation of the federal Safe Drinking Water Act (SWDA) in Oregon. ORS 338.277 authorizes the OHA to administer the federal Safe Drinking Water Act in Oregon as the Primacy Agency in agreement with the federal government. ORS 448.131 further authorizes the adoption of standards necessary to protect public health through insuring safe drinking water within a water system. Standards in OAR 333-061 outlines requirements for systems to meet MCLs, submit to periodic inspections, and meet enforcement requirements as administered by OHA. As the primacy agency, OHA also approves drinking water treatment plans and sets construction standards, operator certification standards, and enforces rules to ensure safe drinking water. The OHA website has extensive information on drinking water treatment requirements: http://healthoregon.org/dwp

In order to assist systems in complying with standards, OHA also provides technical assistance and oversight of grants and loans from the Safe Drinking Water Act for public water system operation and improvements. *For those Safe Drinking Water Act loans and grant funds, the* ***Oregon Health Authority partners with Oregon Infrastructure Finance Authority to provide the financial services*** *(see below).*

Business Oregon - Infrastructure Finance Authority (IFA)

Infrastructure Finance Authority (IFA)
Municipal Infrastructure Funding
Phone: (503) 986-0123
Website: www.orinfrastructure.org

IFA is a division of Business Oregon that provides funding for municipally owned infrastructure projects. IFA manages federal infrastructure funds for agencies such as Oregon Health Authority and Housing and Urban Development. IFA is not a regulatory agency but collaborates and supports our state and federal partners with financing programs and technical assistance.

State of Oregon Department of Environmental Quality

Environmental Solutions Division
Drinking Water Protection
811 SW 6th Ave.
Portland, OR 97204
Phone: (503) 229-5413
(800) 452-4011
Fax: (503) 229-5408
Contact: Sheree Stewart
http://www.deq.state.or.us/wq/dwp/dwp.htm

Oregon Health Authority

Oregon Health Authority
Drinking Water Program
444 "A" Street
Springfield, OR 97477
Phone: (541) 726-2587
Fax: (541) 726-2596
Contact: Tom Pattee
http://www.healthoregon.org/dwp

Alternative formats
Alternative formats (Braille, large type) of this document can be made available. Contact DEQ's Office of Communications & Outreach, Portland, at (503) 229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696.

Last Updated 10/2016
By: Sheree Stewart

The list of available funding programs for drinking water infrastructure and source protection is:

- **Safe Drinking Water Revolving Loan Fund (SDWRLF)**
- **Drinking Water Source Protection Fund (DWSP)**
- **Water/Wastewater Financing Program (WWFP)**
- **Special Public Works Fund (SPWF)**
- **Community Development Block Grant Program (CDBG)**
- **Port Revolving Loan Fund (PRLF)**

Safe Drinking Water Revolving Loan Fund (SDWRLF)

This loan program funds drinking water system improvements needed to maintain compliance with the Federal Safe Drinking Water Act. The Safe Drinking Water Fund is funded by annual grants from the U.S. Environmental Protection Agency (EPA) and matched with funds from the state Water/Wastewater Financing Program. The program is managed by the Oregon Health Authority (OHA), Drinking Water Services. The loans are managed by the Oregon Infrastructure Finance Authority (IFA).

The Safe Drinking Water Revolving Loan Fund (SDWRLF) is designed for water source, treatment, distribution, storage and related infrastructure projects. Funding is available for all sizes of water systems, although 15 percent of the funds are reserved for systems serving a population of fewer than 10,000. Eligible applicants can be owners of water systems that provide service to at least 25 year-round residents or systems that have 15 or more connections (or a nonprofit with 25 or more regular users). Owners can be a nonprofit, private party or municipality, but systems cannot be federally owned or operated.

To be eligible for funding, a project must solve an existing or potential health hazard or noncompliance issue under federal/state water quality standards. The following are the main types of eligible activities:

- Engineering, design, upgrade, construction or installation of system improvements and equipment for water intake, filtration, treatment, storage, transmission
- Acquisitions of property or easements
- Planning, surveys, legal/technical support and environmental review
- Investments to enhance the physical security of drinking water systems, as well as water sources

SDWRLF loan amount: The program provides up to $6 million per project (more with additional approval) with the possibility of subsidized interest rate and principal forgiveness for a Disadvantaged Community. The standard loan term is 20 years or the useful life of project assets, whichever is less, and may be extended up to 30 years under SDWRLF for a Disadvantaged Community. Interest rates are 80 percent of state/local bond index rate.

To apply, the municipality should first submit a Letter of Interest to Oregon Health Authority where it will be rated and ranked. Call Oregon OHA Drinking Water Services at 971-673-0422 or go to the OHA website: www.healthoregon.org/srf

Projects placed on the Project Priority List will be invited to apply through IFA for funding. Contact your IFA Regional Coordinator for assistance and more information. Call IFA at 503-986-0123 or http://www.orinfrastructure.org/

Drinking Water Source Protection Fund (DWSP)

From the Safe Drinking Water Act, loans and grants are also available for drinking water protection projects: low interest *loans up to a maximum of $100,000 per project*, and *grant funds up to $30,000 per water system*. Eligible systems include any public and privately-owned Community and Nonprofit Non-Community water systems with a completed Source Water Assessment are able to demonstrate a direct link between the proposed project and maintaining or improving drinking water quality. Eligible activities include those that lead to risk reduction within the delineated source water area or would contribute to a reduction in contaminant concentration within the drinking water source. Projects can take either a local or regional approach. Local projects are defined as activities that concentrate on a public water system's source area(s). Regional projects are defined as activities that involve multiple communities and/or water systems attempting to address a common source water issue or group of issues.

The categories for eligible projects for DW Source Protection funding include the following:

Refined Delineation OHA and DEQ have completed delineations for most drinking water source areas (DWSA) for the community and non-community public water systems. DWSAs include aquifer recharge areas for groundwater sources and watershed areas for surface sources. DW Source Protection funding can be used to complete, update, or refine DWSA delineations using new or additional site-specific information as part of a more comprehensive protection strategy.

Updated Assessment

Inventory – Projects that improve upon existing potential contaminant source inventories available from the DEQ database, Geographic Information System, and Assessment Reports prepared by OHA/DEQ. A project could involve expanding or updating the inventory of land uses or existing and potential point and non-point contaminant sources.

Evaluation – Projects establishing a water quality monitoring project to evaluate existing and potential threats to water quality. This could include evaluating and prioritizing potential threats (or protection activities) based upon new or more detailed information.

Source Protection Planning

Projects designed to identify appropriate protection measures, including development of a comprehensive DW Source Protection plan, educational projects, projects to identify and ensure implementation of Best Management Practices (BMPs), development of local DW Source Protection ordinances, development of restoration or conservation plans for the source area for future easement or land acquisition.

Implementation

Funds can be used to implement many types of protection strategies in drinking water source areas. This can include implementation of any *eligible activities that will reduce risks within the source water area or would contribute to a reduction of contaminant concentration within the drinking water source(s)*.

Examples of the types of projects that can be funded include:

- Implementing drug-take-back projects in source areas
- Projects for reducing pesticide application rates and loadings in source area
- Implementing pesticide and household hazardous waste collection events
- Closure of high-risk abandoned or unused (private or irrigation) wells close to supply well
- Projects for reforestation or replanting in sensitive or riparian areas
- Installation of fencing to protect sensitive riparian source areas
- Installation of signs at boundaries of zones or protection areas
- Projects for assessing risks from onsite systems near supply wells, inspections, pump-outs, or decommissioning onsite systems.
- Secondary containment for high-risk ABOVE ground tanks
- Focused workshop events for household/business instruction for changing to alternative nonhazardous product usage (“green chemical” products)
- Seismic spill prevention or inspection project in proximate areas for high-risk sources
- Permanent abandonment (i.e. filling in) of inadequately constructed private wells within the source area
- Installation of fencing around the immediate intake or well area to provide protection
- Structures to divert contaminated stormwater runoff affecting the source area
- Set up ecosystem services (or similar) project in watershed to fund preservation areas
- Implementation of pollution prevention or waste reduction projects
- Restoration and/or conservation projects within the drinking water source area
- Implementation of water reuse and other conservation measures related to source protection
- Implementation of best management practice projects
- Implementation of conservation easements to protect sensitive source areas
- Implementation of a drinking water source protection ordinance
- Establishing management plans for easements or lands purchased within source areas
- Development of educational flyers/brochures for purposes of public education

- Purchase of lands within the drinking water source area (funded only via low interest loans)

Any *Public and Privately-owned Community and Nonprofit Non-Community water systems* with a completed *Source Water Assessment* are eligible for funds. A "community water system" is defined as a public water system that has 15 or more service connections used by year-round residents, or which regularly serves 25 or more year-round residents. This includes water systems that are owned privately, by non-profit or public entities such as a city, district, or port. A "nonprofit non-community water system" is a public water system that is not a community water system and that regularly serves at least 25 people (more than 6 months per year) and is legally recognized under Oregon law as a nonprofit entity.

For the source water protection funds, contact OHA regarding the letter of interest submittal schedule. Call Oregon OHA Drinking Water Services at 971-673-0422 or go to the OHA website: www.healthoregon.org/srf or contact IFA at 503-986-0123; www.orinfrastructure.org

Water/Wastewater Funding Program (WWFP)

This loan program funds the design and construction of public infrastructure needed to ensure compliance with the Safe Drinking Water Act or the Clean Water Act. The public entities that are eligible to apply for the program are cities, counties, county service districts, tribal councils, ports, and special districts as defined in ORS 198.010. Municipalities must either have a documented compliance issue or the potential of a compliance issue in the near future.

Allowable funded project activities may include:

- Construction costs, including Right of Way and Easements, for improvement or expansion of drinking water, wastewater or stormwater systems
- Design and construction engineering
- Planning/technical assistance for small communities

WWFP Loans

The maximum loan term is 25 years or the useful life of the infrastructure financed, whichever is less. The maximum loan amount is $10 million per project (more with additional approval) through a combination of direct and/or bond funded loans. Loans are generally repaid with utility revenues or voter approved bond issues. A limited tax general obligation pledge also may be required. "Credit worthy" borrowers may be funded through the sale of state revenue bonds.

WWFP Grants

Grant awards up to $750,000 may be awarded based on a financial review. An applicant is not eligible for grant funds if the applicant's annual median household income is equal or greater than 100 percent of the state average median household income for the same year.

Funding for Technical Assistance

The Infrastructure Finance Authority offers technical assistance financing for municipalities with populations of less than 15,000. The funds may be used to finance preliminary planning, engineering studies and economic investigations. Technical assistance projects must be in preparation for a construction project that is eligible and meets the established criteria.

Grants up to $20,000 may be awarded per project.

Loans up to $60,000 may be awarded per project.

To apply, call IFA at 503-986-0123, then contact your IFA Regional Coordinator for assistance and more information. http://www.orinfrastructure.org/

Special Public Works Fund (SPWF)

The Special Public Works Fund (SPWF) provides funds for publically owned facilities that support economic and community development in Oregon. Funds are available to public entities for planning, design, purchasing, improving and constructing publically owned facilities, replacing publically owned essential community facilities, emergency projects as a result of a disaster, and for planning. Public agencies that are eligible to apply for funding are cities,

counties, county service districts (ORS 451), tribal councils, ports, districts as defined in ORS 198.010, and airport districts (ORS 838).

SPWF Loans

Loans for development (construction) projects range from less than $100,000 to $10 million (more with additional approval). The Infrastructure Finance Authority offers very attractive interest rates that reflect tax-exempt market rates for highly qualified borrowers. Initial loan terms can be up to 25 years or the useful life of the project, whichever is less.

SPWF Grants

Grants are available for construction projects that create or retain traded-sector jobs. They are limited to $500,000 or 85 percent of the project cost, whichever is less, and are based on up to $5,000 per eligible job created or retained. Limited grants are available to plan industrial site development for publically owned sites and for feasibility studies.

To apply, call IFA at 503-986-0123, then contact your IFA Regional Coordinator for assistance and more information.
http://www.orinfrastructure.org/

Community Development Block Grant (CDBG)

Grants and technical assistance are available to develop livable urban communities for persons of low and moderate incomes by expanding economic opportunities and providing housing and suitable living environments. Non-metropolitan cities and counties in rural Oregon can apply for and receive grants. *[Oregon tribes, urban cities (Albany, Ashland, Bend, Corvallis, Eugene, Gresham, Hillsboro, Medford, Portland, Salem and Springfield) and counties (Clackamas, Multnomah, Washington) receive funds directly from HUD.]* Funding amounts are based on the applicant's need, the availability of funds, and other restrictions defined in the program's guidelines. The maximum available grant for drinking water system projects is $3,000,000.

All projects must meet one of three national objectives:

- The proposed activities must benefit low- and moderate-income individuals.
- The activities must aid in the prevention or elimination of slums or blight.
- There must be an urgent need that poses a serious and immediate threat to the health or welfare of the community.

To apply, call IFA at 503-986-0123, then contact your IFA Regional Coordinator for assistance and more information.
http://www.orinfrastructure.org/

Port Revolving Loan Fund (PRLF)

The Port Revolving Loan Fund (PRLF) is a loan program to assist Oregon ports in the planning and construction of facilities and infrastructure. Ports must be incorporated under ORS Chapter 777 or 778. The Fund may be used for port development projects (facilities or infrastructure) or to assist port-related private business development projects. The variety of eligible projects is very broad and may include water-oriented facilities, industrial parks, airports and commercial or industrial developments. Eligible project costs can include engineering, acquisition, improvement, rehabilitation, construction, operation, and maintenance or pre-project planning. Projects must be located within port district boundaries. The maximum loan amount is $3 million at any one time. The loan term can be as long as 25 years or the useful life of the project, whichever is less. Interest rates are set by the IFA at market rates, but not less than Treasury Notes of a similar term minus one percent.

Note: Flexible manufacturing space projects will not accrue interest until the building is at least 25 percent occupied or until three years after the date of the loan contract, whichever is earlier.

To apply, call IFA at 503-986-0123, then contact your IFA Regional Coordinator for assistance and more information.
http://www.orinfrastructure.org/

Oregon Department of Environmental Quality (DEQ)

Clean Water State Revolving Fund (CWSRF)

Clean Water State Revolving Fund
503-229-6412
Website: www.deq.state.or.us/wq/loans/loans.htm
Low-cost loans for planning, design, and construction projects to attain and maintain water quality standards, and necessary to protect beneficial uses such as fish habitat, drinking water sources, irrigation, and recreation. Eligible borrowers are public entities, such as cities and counties, Indian tribal governments, sanitary districts, soil and water conservation districts, irrigation districts, various special districts and some intergovernmental entities. CWSRF offers:

- Low-cost loans and bond purchases
- Lower than market interest rates
- Fixed interest rates
- Terms up to 30 years
- Up to 100% of eligible costs covered
- No match required
- Repayment begins after project is constructed
- No pre-payment penalty
- Additional financial incentives, including principle forgiveness

Applications are accepted year round with scheduled review and ranking in the first week of January, May and September. Contact the Oregon Department of Environmental Quality (DEQ); for a list of CWSRF project officers, go to www.deq.state.or.us/wq/loans/loans.htm

Financial incentives make CWSRF loans worth exploring. Principle forgiveness is available for communities meeting affordability criteria, or for meeting green project criteria. Implement a non-planning nonpoint source project ***and*** a traditional point source wastewater treatment project through the same application to reduce your interest rate on the combined two projects to as low as 1%. This combined application is called a sponsorship option.

CWSRF Pollution Reduction Funding

The Clean Water State Revolving Fund loan program provides low-cost loans to public entities for the planning, design or construction of both point source and nonpoint source projects that *prevent or mitigate water pollution*. Wastewater facility improvements and stormwater management projects are funded with CWSRF.

CWSRF loans fund development of nonpoint source water quality improvement plans, such as an integrated water resources plan and a regional or municipality-wide stormwater management plan. Planning loans can also fund the establishment of watershed partnerships, local ordinances to implement a stormwater master/management plan, engineering and development standards for new and redevelopment, permanent riparian buffers, floodplains, wetlands and other natural features.

CWSRF offers a Local Community Loan, which allows the borrower to make loans to private entities like home owners and farmers. The Local Community Loans fund the repair and replacement of failing decentralized systems. This loan type can also fund nonpoint source agricultural best management practices such as building manure containment structures, manure digesters, and fences to protect riparian resources capture and convert methane, and purchase calibrated application equipment.

CWSRF loans fund a variety of nonpoint source watershed improvement implementation projects such as establishing or restoring permanent riparian buffers and floodplains, and daylighting streams from pipes. Loans can fund protecting and restoring streamside areas, wetlands and floodplains, and to acquire riparian land, wetlands, conservation easements, and land to protect drinking water sources.

More information on DEQ's Clean Water State Revolving Fund program can be found here: http://www.deq.state.or.us/wq/loans/loans.htm. For specific information on the Sponsorship Option, Planning

Loans, Nonpoint Source Loans, or Local Community Loans, see http://www.deq.state.or.us/wq/loans/apps.htm. The application requirements for CWSRF loans may take some lead-time to develop and may require out-of-pocket expense to prepare. Prospective CWSRF applicants should discuss any questions about the required content of these items with a regional DEQ CWSRF Project Officer at the earliest opportunity (http://www.deq.state.or.us/wq/loans/contacts.htm)

Supplemental Environmental Projects (SEPs)

Supplemental Environmental Projects are administered by DEQ's Office of Compliance and Enforcement. When DEQ assesses civil penalties for environmental law violations, violators can offset up to 80% of their monetary penalty by agreeing to pay for a Supplemental Environmental Project that improves Oregon's environment. SEPs can be for pollution prevention or reduction, public health protection, environmental restoration and protection as long as it is a project that the respondent is not already required to do by law or where the project would be financially self-serving for the respondent. The work can be completed by a third-party like a local government, watershed council, non-profit or private entity. Coastal PWSs can develop a "SEP Application" with general information that OCE can distribute to respondents. Community organizations with proposed projects are also free to contact respondents on their own initiative. The enforcement case does not necessarily have to be in the same area (watershed/county, etc.) as the environmental project or even address the same media (i.e. air/water/land). Interested parties can sign up for DEQ's public notifications via email at http://www.oregon.gov/deq/Pages/publicnotice.aspx - when signing up, select types of information (select "enforcement actions") and which counties or subbasins are of interest.

Nonpoint Source Implementation 319 Grants

Nonpoint Source Grants support implementation and planning projects that address water quality problems in surface and groundwater resources resulting from nonpoint source pollution. Funds are appropriated by DEQ through the U.S. Environmental Protection Agency under Section 319 of the Clean Water Act and support a wide variety of management activities, including technical assistance, site assessment, public awareness and education, training, technology transfer, demonstration projects, and monitoring to assess the success of specific nonpoint source implementation projects. Eligible applicants include government agencies, tribal nations and nonprofit organizations. For more information including funding availability, eligible projects, and application requirements and timelines see http://www.oregon.gov/deq/WQ/Pages/nps319.aspx

Oregon Water Resources Department (WRD)

Water Resources Development Program
725 Summer Street NE, Suite A
Salem, OR 97301
Phone: 503-986-0900

The Water Resources Department is the state agency charged with administration of the laws governing surface and ground water resources. The Department's core functions are to protect existing water rights, facilitate voluntary streamflow restoration, increase the understanding of the demands on the state's water resources, provide accurate and accessible water resource data, and facilitate water supply solutions. WRD is charged with carrying out the water management policies and rules set by the Water Resources Commission and with overseeing the enforcement of Oregon's water laws. By law, all surface and ground water in Oregon belongs to the public.

WRD's mission is to serve the public by practicing and promoting responsible water management through two key goals:

- to directly address Oregon's water supply needs, and
- to restore and protect streamflows and watersheds in order to ensure the long-term sustainability of Oregon's ecosystems, economy, and quality of life.

WRD developed *Oregon's 2012 Integrated Water Resources Strategy* to help individuals and communities address instream and out-of-stream needs now and into the future, including water quantity, water quality and ecosystem needs. More information can be found at:
https://www.oregon.gov/owrd/Pages/law/integrated_water_supply_strategy.aspx

There is funding available to support planning, feasibility studies, and implementation of water projects:

Place-Based Integrated Water Resources Planning
Place-based planning is a voluntary, locally initiated and led effort in which a balanced representation of water interests within a basin or watershed work in partnership with the state to: characterize current water resources and issues (water quantity, water quality, ecosystem health); understand current and future instream and out-of-stream water needs and demands; identify and prioritize strategic solutions to address water needs; and, develop a place-based integrated water resources plan that informs the state-wide strategy.
Recent cycle of funding included $750,000 in grants; requires 25% cost-share.
For more information, contact Harmony Burright at 503-986-0913.

Feasibility Study Grants
Once potential projects are identified, communities often find it difficult to secure funding to assess their viability. This program component addresses that need by providing grant funding to cover 50% of the cost of conducting feasibility studies for potential water conservation, storage and reuse projects. A feasibility study is an assessment of the practicality of a proposed project or plan and can be used to determine if and how a project should proceed to the implementation phase.
Recent cycle of funding included $2.8 million in grants; 50% cost share required.
For more information, contact Jon Unger at 503-986-0869.

Water Project Grants & Loans (formerly Water Supply Development Grants & Loans)
This account provides grants and loans to evaluate, plan and implement instream and out-of-stream water development projects that have economic, environmental and social/cultural benefits. Eligible projects include, but are not limited to projects that: increase water use efficiency; develop new or expanded storage; allocate federally stored water; promote water reuse or conservation; and protect or restore stream flows.
Recent cycle funding included $14 million in grants or loans; 25% cost share required; applications accepted year round.
For more information, contact Jon Unger at 503-986-0869.

More details and updates for these grants can be found at:
http://www.oregon.gov/OWRD/pages/Water_Resources_Development_Program.aspx

Municipal Water Management and Conservation Planning

Municipal water management and conservation planning provides a process through which cities and other municipal water suppliers estimate long-range water supply needs and identify alternatives, including water conservation programs, to meet those needs. The Department requires many municipal water suppliers to prepare plans as conditions of their water use permits or permit extensions.

Water Rights

Oregon's water laws are based on the principle of prior appropriation. This means the first person to obtain a water right on a stream is the last to be shut off in times of low streamflows. In water-short times, the water right holder with the oldest date of priority can demand the water specified in their water right regardless of the needs of junior users. The date of application for a permit to use water usually becomes the priority date of the right. Watermasters respond to complaints from water users and determine in times of water shortage, which generally occur every year, who has the right to use water. Each summer as streamflows drop, watermasters regulate junior users to provide water to the more senior users. On many streams throughout the state, by the end of summer, there is only enough water to supply users who established their rights in the late 1800s. All of the more recently established rights will have been regulated off by the watermaster.

There are "watermaster" offices located around the state. The watermaster office is an excellent source of local information. Watermasters can research water rights for a particular stream reach and provide supporting maps (above). During critical flow periods, watermasters regulate water usage to enable senior water right holders to

satisfy their water right. The watermaster may also provide information regarding instream leases, ground water rights, cancellations, transfers of water rights, streamflow data, and water right information in general (list as of 6/16).

WRD Watermasters

District 1
Nikki Hendricks
c/o Port of Tillamook Bay
4000 Blimp Blvd Ste 400
Tillamook, Oregon 97141
Ph: 503-815-1967

District 2
Michael Mattick
125 East 8th Avenue
Eugene, OR 97401-2926
Ph: 541-682-3620

District 3
Robert Wood
2705 E 2nd St
The Dalles, Oregon 97058
Ph: 541-506-2652

District 4
Eric Julsrud
201 S Humbolt, Suite 180
Grant County Courthouse
Canyon City, Oregon 97820
Ph: 541-575-0119

District 5
Greg Silbernagel
116 SE Dorion Ave
Pendleton, OR 97801
Ph: 541-278-5456

District 6
Shad Hattan
10507 N McAlister Rd #6
La Grande, Oregon 97850
Ph: 541-963-1031

District 7
David Bates
401 NE First St., Suite 11
Enterprise, Oregon 97828
Ph: 541-426-4464

District 8
Rick Lusk
Baker County Courthouse
1995 3rd Street, Suite 180
Baker City, Oregon 97814
Ph: 541-523-8224 ext 231

District 9
Ron Jacobs
Malheur County Courthouse #4
251 B St W
Vale, Oregon 97918
Ph: 541-473-5130

District 10
JR Johnson
Harney County Courthouse
450 N Buena Vista #3
Burns, OR 97720
Ph: 541-573-2591

District 11
Jeremy Giffin
231 SW Scalehouse Loop,
Ste 103
Bend, Oregon 97702
Ph: 541-306-6885

District 12
Brian Mayer
513 Center St
Lakeview, Oregon 97630
Ph: 541-947-6038

District 13
Travis Kelly
10 S Oakdale, Rm 309A
Medford, Oregon 97501
Ph: 541-774-6880

District 14
Kathy Smith
700 NW Dimmick St.
Grants Pass, Oregon 97526
Ph: 541-479-2401

District 15
David Williams
Douglas County Courthouse,
Room 306
Roseburg, Oregon 97470
Ph: 541-440-4255

District 16
Joel Plahn
725 Summer St NE, Ste A
Salem, Oregon 97301
Ph: 503-986-0889

District 17
Scott White
305 Main Street
Klamath Falls, Oregon 97601
Ph: 541-883-4182

District 18
Jake Constans
1400 SW Walnut St, Suite 240
Hillsboro, Oregon 97123
Ph: 503-846-7780

District 19
Greg Wacker
Physical Address:
225 N Adams
Coquille, Oregon 97423
Ph: 541-396-1905

District 20
Amy Kim
10722 SE Highway 212
Clackamas, Oregon 97015
Ph: 503-722-1410

District 21
Ken Thiemann
221 S Oregon St.
P.O. Box 427
Condon, OR 97823
Ph: 541-384-4207

Oregon Department of Forestry (ODF)

Salem Headquarters
2600 State Street
Salem, Oregon 97310
http://www.oregon.gov/ODF/Pages/index.aspx

The Oregon Department of Forestry manages and regulates activities on non-federal forestland in Oregon. There are three main divisions under ODF-- Fire Protection, Private Forests, and State Forests. The Private Forests Division administers the Forest Practices Act and various forestry incentive programs and employs the use of about 50 Stewardship Foresters who work closely with landowners and operators The State Forests Division is responsible for forest management to provide economic, environmental, and social benefits to Oregonians.

Financial incentive programs are aimed at encouraging and assisting landowners in managing their resources and meeting their objectives. Typical forestry projects can be aimed at protecting the landowner's resources/investment from fire or insect and disease infestation, to increasing its monetary and environmental value in the future.

Information about all ODF and federal forestry-related grants and incentive programs can be found at: http://www.oregon.gov/ODF/AboutODF/Pages/GrantsIncentives.aspx

Community Forest Program

The Community Forest and Open Space Conservation Program is a federal financial assistance program with grants available to local governments, Indian tribes, and qualified nonprofit organizations to establish community forests and sustainably manage them for many public benefits, including recreation, income, wildlife habitat, stewardship demonstration sites, and environmental education.

Conservation Stewardship Program

To help landowners and operators maintain existing stewardship and adopt additional conservation on privately-owned, non-industrial working forests and agricultural lands.

Forest Legacy Program

The Forest Legacy Program is a national program that addresses privately-owned forestlands that face threats of conversion to non-forest use by development pressures. The goal of the Forest Legacy Program is to promote stewardship and sustainable management of private forest lands by maintaining working forests that conserve important forest resource and conservation values. Forest Legacy provides funds for eligible private forestlands for the purchase of development rights through either conservation easement or fee-title acquisition into public ownership. All properties entered into Oregon's Forest Legacy Program – either through conservation easement, fee acquisition or donation – have their forest resources and conservation values protected and managed in accordance with a State Forester-approved Forest Stewardship Plan (see below).

Forest Stewardship Program

Oregon's Forest Management Planning System recognizes that forest management planning is a journey – Pathways to Stewardship -- involving several distinct steps. A landowner's initial interest may be related to a specific project or action that is pressing on their property – such as reducing hazardous wildfire fuels or combating an invasive weed. Landowner assistance organizations and agencies usually first cross paths through outreach efforts defined around mutual interests or resource concerns. Landowners who are just beginning the management planning process begin a more formal journey by taking the Woodland Discovery step. Woodland Discovery consists of gathering basic property information and solidifying management goals. The remaining steps for completing your forest management plan include organizing the planning elements into specific management planning modules: soil and water, forest vegetation, fish and wildlife, access and protection, scenery and enjoyment and tax and business. Every step completed

along the way results in the identification of specific actions that a landowner can take to improve conditions of the forestland or otherwise meet goals in owning forestland. Completion of a forest management plan opens up formal types of engagement such as forest certification and the enrollment of lands into specialized conservation programs that define a long-term commitment to sustainable forestry.

Healthy Forests Reserve Program (HFRP)
The goal is to restore and enhance ecosystems and habitat for threatened and endangered species while promoting sustainable timber harvests on working forest lands.

Oregon Department of Agriculture
Natural Resources Program

635 Capitol St. NE
Salem, OR 97301-2532
Phone: 503 986-4700
http://www.oregon.gov/ODA/programs/NaturalResources

The Oregon Department of Agriculture (ODA) is responsible for developing plans to prevent and control water pollution from agricultural activities and soil erosion on rural lands. ODA's Natural Resources Program aims to conserve, protect, and develop natural resources on public and private lands in order to ensure that agriculture will continue to be productive and economically viable in Oregon. Natural Resources Programs work to do the following:

- Address water quality and natural resource conservation on agricultural lands
- Protect Oregon's environment and public health by ensuring the proper and legal sale, use, and distribution of pesticide products
- Assist local soil and water conservation districts as they help landowners properly manage Oregon's natural resources

More information on the Agricultural Plan Areas and Regulations can be found at:
https://www.oregon.gov/ODA/programs/NaturalResources/AgWQ/Pages/AgWQPlans.aspx
Information on local management plans and your area's ODA Water Quality Specialist can be found at:
http://www.oregon.gov/ODA/programs/NaturalResources/AgWQ/Pages/AgWQPlans.aspx
More information on the regulation and use of pesticides can be found at:
http://www.oregon.gov/ODA/programs/Pesticides/Pages/default.aspx

Department of Agriculture
Pesticide Analytical and Response Center (PARC)

http://www.oregon.gov/ODA/programs/Pesticides/Pages/PARC.aspx
The Pesticide Analytical and Response Center (PARC) was created by executive order in 1978. The program was reauthorized under the Oregon Department of Agriculture (ODA) as ORS 634.550, in 1991.

PARC is mandated to perform the following activities with regard to pesticide-related incidents in Oregon that have suspected health or environmental effects: Collect incident information, mobilize expertise for investigations, identify trends and patterns of problems, make policy or other recommendations for action, report results of investigations, and prepare activity reports for each legislative session.

PARC does not have regulatory authority. Their primary function is to coordinate investigations to collect and analyze information about reported incidents. Investigation coordination includes collecting reports produced by member agencies and consultation as necessary with a toxicologist with Oregon State University. Member agencies conduct most of the investigations and take any necessary enforcement action(s). The eight member agencies include the following: Oregon Health Authority (OHA), Oregon Department of Fish and Wildlife (ODF&W), Oregon Department of Environmental Quality (DEQ), Oregon

Department of Forestry (ODF), Oregon Occupational Safety and Health Administration (OR OSHA), Office of the State Fire Marshal (SFM), Oregon Poison Center (OPC), Oregon Department of Agriculture (ODA).

To report a pesticide incident that has impacted people, animals, or the environment, contact: Theodore Bunch Jr., PARC Coordination Team Leader at 503-986-6470 or toll-free at 844-688-7272 PARC@oda.state.or.us
Christina Higby, Citizen Advocate Liaison at 503-986-5105 chigby@oda.state.or.us

Department of Agriculture
Soil and Water Conservation Districts

http://www.oregon.gov/ODA/SWCD/
SWCD Program and Water Quality Program Manager: John Byers, 503-986-4718
The Soil and Water Conservation District (SWCD) Program provides services to the 45 Soil and Water Conservation Districts throughout Oregon (list current as of 6/16). SWCDs are local government entities that have authorities to address soil, erosion, and water quality issues.

Benton SWCD
456 SW Monroe Ave., Suite 110
Corvallis, OR 97333
Phone: 541 753-7208
Website: www.bentonswcd.org

Burnt River SWCD
3990 Midway Drive
Baker City, OR 97814
Phone: 541 523-7121 Ext. 109
Email: whitney.collins@bakercountyswcds.com

Clackamas SWCD
221 Molalla Ave., Suite 102
Oregon City, OR 97045
Phone: 503 210-6000
Website: www.conservationdistrict.org

Clatsop SWCD
750 Commercial St., Room 207
Astoria, OR 97103
Phone: 503 325-4571
Website: www.clatsopswcd.org

Columbia SWCD
35285 Millard Road
St. Helens, OR 97051
Phone: 503 397-4555
Website: www.columbiaswcd.com

Coos SWCD
371 N Adams St.
Coquille, OR 97423
Phone: 541 396-6879
Website: www.coosswcd.org

Crook County SWCD
498 SE Lynn Blvd.
Prineville, OR 97754
Phone: 541 447-3548

Curry County SWCD
29692 Ellensburg Ave.
Gold Beach, OR 97444
Phone: 541 247-2755 Ext. 0#
Website: www.currywatersheds.org

Deschutes SWCD
625 SE Salmon Ave., Suite 7
Redmond, OR 97756
Phone: 541 923-2204
Website: www.deschutesswcd.com

Douglas SWCD
2741 West Harvard Ave.
Roseburg, OR 97471
Phone: 541 957-5061
Website: www.douglasswcd.org

Eagle Valley SWCD
3990 Midway Drive
Baker City, OR 97814
Phone: 541 523-7121 Ext. 109

East Multnomah SWCD
5211 N Williams Ave.
Portland, OR 97217
Phone: 503 222-SOIL (7645)
Website: www.emswcd.org

Fort Rock / Silver Lake SWCD
17612 Highway 395
Lakeview, OR 97630
Phone: 541 947-5855
Email: LakeviewSWCD2@hotmail.com

Gilliam County SWCD
Dunn Office Building
333 S Main St.
Condon, OR 97823
Phone: 541 384-2672
Email: gilliamswcd@gmail.com

Grant SWCD
721 S Canyon Blvd.
John Day, OR 97845
Phone: 541 575-0135 Ext. 3
Email: jkehrberg@ortelco.net

Harney SWCD
530 Highway 20 S
Hines, OR 97738
Phone: 541 573-5010
Email: marty.suter@or.nacdnet.net

Hood River SWCD
3007 Experiment Station Drive
Hood River, OR 97031
Phone: 541 386-4588 / 386-6719
Website: www.hoodriverswcd.org

Illinois Valley SWCD
Josephine Co. Office Building
102 S Redwood Highway
Cave Junction, OR 97523
Phone: 541 592-3731
Email: amy@ivstreamteam.org

Jackson SWCD
89 Alder Street
Central Point, OR 97502
Phone: 541 664-1070
Website: www.jswcd.org

Jefferson County SWCD
625 SE Salmon Ave., Suite 6
Redmond, OR 97756
Phone: 541 923-4358 Ext. 101
Email: debbe.chadwick@oacd.org

Josephine SWCD
1440 Parkdale Drive
Grants Pass, OR 97527
Phone: 541 474-6840
Email: joswcd@outreachinternet.com

Keating SWCD
3990 Midway Drive
Baker City, OR 97814
Phone: 541 523-7121 Ext. 109
Email: whitney.collins@bakercountyswcds.com

Klamath SWCD
2316 S 6th St., Suite C
Klamath Falls, OR 97601
Phone: 541 883-6932 Ext. 101
Website: www.klamathswcd.org

Lakeview SWCD
17612 Highway 395
Lakeview, OR 97630
Phone: 541 947-5855
Email: lakeviewswcd2@hotmail.com

Lincoln SWCD
23 North Coast Highway
Newport, OR 97365
Phone: 541 265-2631
Website: www.lincolnswcd.org

Linn SWCD
33935 Highway 99E, Suite C
Tangent, OR 97389
Phone: 541 926-2483
Website: www.linnswcd.oacd.org

Malheur County SWCD
2925 SW Sixth Ave., Suite 2
Ontario, OR 97914
Phone: 541 889-2588 Ext. 101
Email: LRowe@malcoswcd.org

Marion SWCD
338 Hawthorne Ave. NE
Salem, OR 97301
Phone: 503 391-9927
Website: www.marionswcd.net

Monument SWCD
Columbia Power Building
311 Wilson St.
Monument, OR 97864
Phone: 541 934-2141
Website: www.monumentswcd.org

Morrow SWCD
430 Linden Way
Heppner, OR 97836
Phone: 541 676-5452
Email: swcdmanager@centurytel.net

Polk SWCD
580 Main St., Suite A
Dallas, OR 97338
Phone: 503 623-9680
Website: www.polkswcd.org

Sherman County SWCD
302 Scott St.
Moro, OR 97039
Phone: 541 565-3216 Ext. 3
Website: www.shermancountyswcd.com

Siuslaw SWCD
1775 Laurel Place, Suite 4
Florence, OR 97439
Phone: 541 997-1272
Website: www.siuswcd.com

Tillamook SWCD
4000 Blimp Blvd., Suite 200
Tillamook, OR 97141
Phone: 503 842-2240 Ext. 110
Website: tillamookcountyswcd.org/

Tualatin SWCD
1080 SW Baseline St., Suite B-2
Hillsboro, OR 97123
Phone: 503 648-3174 Ext. 4
Website: www.swcd.net

Umatilla County SWCD
1 SW Nye Ave., Suite 130
Pendleton, OR 97801
Phone: 541 278-8049
Website: www.umatillacountyswcd.com

Umpqua SWCD
1877 Winchester Ave.
Reedsport, OR 97467
Phone: 541 662-1341
Website: www.umpquasoilandwater.com

Union SWCD
10507 N McAlister Road, Room 7
La Grande, OR 97850
Phone: 541 963-1313
Website: unionswcd.org

Upper Willamette SWCD
780 Bailey Hill Road, Suite 5
Eugene, OR 97402
Phone: 541 465-6443 Ext. 102
Website: www.uwswcd.org

Wallowa SWCD
401 NE 1st St., Suite E
Enterprise, OR 97828
Phone: 541 426-4521
Email: cynthia.a.warnock@gmail.com

Wasco County SWCD
2325 River Road, Suite 3
The Dalles, OR 97058
Phone: 541 296-6178 Ext. 3
Website: www.wascoswcd.org

West Multnomah SWCD
2701 NW Vaughn St., Suite 450
Portland, OR 97210
Phone: 503 238-4775
Website: www.wmswcd.org

Wheeler SWCD
40535 Highway 19
Fossil, OR 97830
Phone: 541 468-2990
Website: www.wheelerswcd.org

Yamhill SWCD
2200 SW Second St.
McMinnville, OR 97128
Phone: 503 472-6403
Fax: 503 472-6407
Website: www.yamhillswcd.org

Oregon Watershed Enhancement Board (OWEB)

775 Summer St. NE Suite 360
Salem, OR 97301
Phone: (503) 986-0178
Website: www.oregon.gov/OWEB

The Oregon Watershed Enhancement Board (OWEB) is a state agency that provides grants to help Oregonians take care of local streams, rivers, wetlands and natural areas. Community members and landowners use scientific criteria to decide jointly what needs to be done to conserve and improve rivers and natural habitat in the places where they live. OWEB grants are funded from the Oregon Lottery, federal dollars, and salmon license plate revenue. The agency is led by a 17 member citizen board drawn from the public at large, tribes, and federal and state natural resource agency boards and commissions.

OWEB provides grants to projects that contribute to the Oregon Plan for Salmon and Watersheds and the Oregon Conservation Strategy by protecting, restoring and improving clean water and fish and wildlife habitat. See the OWEB website for more information on grants: http://www.oregon.gov/OWEB/GRANTS/pages/index.aspx

Oregon Sea Grant (OSG)

Oregon State University
Corvallis, Oregon
Phone 541-737-2714
http://seagrant.oregonstate.edu/

Oregon Sea Grant serves Oregon coastal communities through integrated research, education and public engagement on ocean and coastal issues. Based at Oregon State University, OSG is part of the national network of NOAA Sea Grant College Programs, dedicated to promoting environmental stewardship, long-term economic development and responsible use of America's coastal, ocean and Great Lakes resources. OSG targets research on better defining the relationships between the many pressures that can degrade water quality: climate change, upland and coastal land use, fish and habitat restoration efforts, aquatic invasive species. OSG works with groups whose interests sometimes come in conflict - landowners, outdoor recreationists, farmers and woodland managers, local government, the general public - to seek solutions that will help sustain healthy watersheds and our precious water resources. OSG focuses on the question of resilience - the ability to plan, adapt and rebound in the face of change by supporting physical and social science research aimed at better understanding ocean and coastal processes and the socio-economic barriers to hazard and climate change preparation. Publications and resources available from OSG can be found here: http://seagrant.oregonstate.edu/sgpubs.

OSG and OSU Extension produce textbooks and other publications on such topics as conservation-friendly gardening, sustainable living and low-impact development. OSG also partners with the Oregon State Marine Board to develop the Clean Vessel Act (CVA) Education Initiative. Funded by the Clean Vessel Act of 1992, the goal of the CVA Education Initiative is to improve boaters' awareness, accessibility and use of sewage pump-outs, dump stations, and floating toilets. Publications and resources available from OSG about watershed health can be found here: http://seagrant.oregonstate.edu/sgpubs by using "watersheds and wetlands" in the "Search by Subject" field.

Every two years, OSG awards approximately $2 million in research grants addressing community preparedness for climate change, watershed health, other urgent or emerging regional needs with high relevance to coastal communities. For more information on grants, see: http://seagrant.oregonstate.edu/research

Source Water Collaborative – led by U.S. Environmental Protection Agency

Technical assistance and lists of resources and contacts are available from this national network that has worked to promote drinking water protection for several years. The Source Water Collaborative is a network of federal, state, and local organizations led by US EPA. Some of the key Source Water Collaborative members include the US EPA, US Department of Agriculture, AWWA, American Planning Association, ASDWA, ACWA, National Rural Water Association, Groundwater Protection Council, National Association of Counties, and The Trust for Public Land. Resources can be found here:
http://sourcewatercollaborative.org/

U.S. Environmental Protection Agency
Catalog of Federal Funding Sources for Watershed Protection

This is an online, free searchable database of financial assistance sources (grants, loans, cost-sharing) available to fund a variety of watershed protection projects.
https://ofmpub.epa.gov/apex/watershedfunding/f?p=fedfund:1

U.S. Environmental Protection Agency - Environmental Finance Centers

Free technical assistance is available through EPA's Environmental Finance Centers. There is currently no Environmental Finance Center for US EPA Region 10, but the resources are still available through the US EPA website. The program mission is to provide help to those facing the "how to pay" challenges of environmental protection. EFC is committed to helping the regulated community build and improve the technical, managerial, and financial capabilities needed to comply with federal and state environmental protection laws.
https://www.epa.gov/envirofinance

U.S. Environmental Protection Agency
Community Action for a Renewed Environment (CARE) Grants

Eligible Projects: Prevention of human exposure to harmful pollution; improve water quality. Form community-based collaborative partnerships; identifying and developing an understanding of the many local sources of risk from toxic pollutants and environmental concerns; and setting priorities for the reduction of the identified risks and concerns of the community
Eligible Applicants: Local, public non-profit institution/organizations, federally-recognized Indian tribal government, Native American organizations, private non-profit institution/organization, quasi-public nonprofit institution/organization both interstate and intrastate, local government, colleges, and universities
Funding Available:$75,000 to $100,000 with an average project funding of about $90,000
How To Apply: www.epa.gov/care

U.S. Bureau of Reclamation
Cooperative Watershed Management Program

Eligible Projects: Improve water quality; improve ecological resiliency of a river or stream; and to reduce conflicts over water at the watershed level by supporting the formation of watershed groups to develop local solutions to address water management issues
Eligible Applicants: States, Indian tribes, local and special districts (e.g., irrigation and water districts, county soil conservation districts, etc.), local governmental entities, interstate organizations, and non-profit organizations. To be eligible, applicants must also meet all of the following requirements: (1) Significantly affect or be affected by the quality or quantity of water in a watershed; (2) Be capable of promoting the sustainable use of water resources; (3) Be located in the western United States specifically: Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington.
Funding Available: $22,000-$100,000 in the past
How To Apply: http://www.usbr.gov/WaterSMART/cwmp/index.html

U.S. Department of Agriculture
Farm Service Agency Conservation Programs

http://www.fsa.usda.gov/programs-and-services/conservation-programs/index

USDA Farm Service Agency oversees a number of voluntary conservation-related programs. These programs work to address a large number of farming and ranching related conservation issues including:

- Drinking water protection
- Reducing soil erosion
- Wildlife habitat preservation
- Preservation and restoration of forests and wetlands
- Aiding farmers whose farms are damaged by natural disasters

Source Water Protection Program (SWPP)

The SWPP is designed to protect surface and ground water used as drinking water by rural residents. Through a partnership with the National Rural Water Association, local teams are formed to develop plans to reduce pollutant impacts in rural areas.
http://www.fsa.usda.gov/programs-and-services/conservation-programs/source-water-protection/index

Conservation Reserve Program (CRP)

The CRP pays a yearly rental payment in exchange for farmers removing environmentally sensitive land from agricultural production and planting species that will improve environmental quality. In exchange for a yearly rental payment, farmers enrolled in the program agree to remove environmentally sensitive land from agricultural production and plant species that will improve environmental health and quality. Contracts for land enrolled in CRP are 10-15 years in length. The long-term goal of the program is to re-establish valuable land cover to help improve water quality, prevent soil erosion, and reduce loss of wildlife habitat.
http://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-program/index

Conservation Reserve Enhancement Program (CREP)

The CREP, an offshoot of CRP, targets high-priority conservation issues identified by local, state, or tribal governments or non-governmental organizations. In exchange for removing environmentally sensitive land from production and introducing conservation practices, farmers, ranchers, and agricultural land owners are paid an annual rental rate. Participation is voluntary, and the contract period is typically 10–15 years, along with other federal and state incentives as applicable per each CREP agreement.
http://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-enhancement/index

Emergency Conservation Program (ECP)

The ECP provides funding and technical assistance for farmers and ranchers to restore farmland damaged by natural disasters and for emergency water conservation measures in severe droughts. The ECP also provides funding and assistance to help ranchers and farmers install water conservation measures during severe drought.
http://www.fsa.usda.gov/programs-and-services/conservation-programs/emergency-conservation/index

Emergency Forest Restoration Program (EFRP)

The EFRP, which is very similar to the ECP, provides funding to restore privately owned forests damaged by natural disasters.

http://www.fsa.usda.gov/programs-and-services/disaster-assistance-program/emergency-forest-restoration/index

Farmable Wetlands Program (FWP)

The FWP is designed to restore wetlands and wetland buffer zones that are farmed. FWP gives farmers and ranchers annual rental payments in return for restoring wetlands and establishing plant cover.
http://www.fsa.usda.gov/programs-and-services/conservation-programs/farmable-wetlands/index

U.S. Department of Agriculture
Natural Resources Conservation Service

NRCS provides farmers, ranchers and forest managers with free technical assistance, or advice, for their land. Common technical assistance includes: resource assessment, practice design and resource monitoring. The conservation planner will help you determine if financial assistance is right for you. Technical assistance is also available online through Conservation Client Gateway. More information about NRCS can be found on their home page:
http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/about/

Environmental Quality Incentives Program (EQIP)

Grants are available for best management practices and conservation on private, non-industrial forestland and agricultural lands. Financial assistance is available to help plan and implement conservation practices that address natural resource concerns and for opportunities to improve soil, water, plant, animal, air and related resources on agricultural land and non-industrial private forestland. In addition, EQIP can help producers meet Federal, State, Tribal and local environmental regulations.
http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/
Eligible Applicants: Owners of land in agricultural or forest production or persons who are engaged in livestock, agricultural or forest production on eligible land and that have a natural resource concern on the land
Funding Available*:* Financial and technical assistance to agricultural and forestland producers through contracts up to 10 years. Not to exceed $300,000 for all EQIP contracts entered into during any six-year period. If NRCS determines project has special environmental significance the payment limitation is a maximum of $450,000.

Conservation Stewardship Program (CSP)

CSP helps agricultural producers maintain and improve their existing conservation systems and adopt additional conservation activities to address priority resources concerns. Through CSP, participants take additional steps to improve resource condition including soil quality, water quality, water quantity, air quality, and habitat quality, as well as energy. Participants earn CSP payments for conservation performance - the higher the performance, the higher the payment.
http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/csp/

Wetlands Reserve Easements (WRE)

WRE provides habitat for fish and wildlife, including threatened and endangered species, improve water quality by filtering sediments and chemicals, reduce flooding, recharge groundwater, protect biological diversity and provide opportunities for educational, scientific and limited recreational activities.
NRCS also provides technical and financial assistance directly to private landowners and Indian tribes to restore, protect, and enhance wetlands through the purchase of a wetland reserve easement. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/or/home/?cid=stelprdb1249312

Agricultural Land Easements (ALE)

ALE is designed to protect the long-term viability of the nation's food supply by preventing conversion of productive working lands to non-agricultural uses. Land protected by agricultural land easements provides additional public benefits, including environmental quality, historic preservation, wildlife habitat and protection of open space.
http://www.nrcs.usda.gov/wps/portal/nrcs/detail/or/home/?cid=stelprdb1249312

Emergency Watershed Protection (EWP)

The EWP program was set up by Congress to respond to emergencies created by natural disasters. The United States Department of Agriculture's Natural Resources Conservation Service is responsible for administering the program. EWP is designed to relieve imminent hazards to life and property caused by floods, fires, windstorms, and other natural occurrences. It is not necessary for a national emergency to be declared for an area to be eligible for assistance. Activities include providing financial and technical assistance to remove debris from streams, protect destabilized streambanks, establish cover on critically eroding lands, repairing conservation practices, and the purchase of flood plain easements. The purpose of EWP is to help groups of people with a common problem. EWP is generally not an individual assistance program. All projects undertaken must be sponsored by a political subdivision of the State, such as a city, county, general improvement district or conservation district, or by a tribal government.
http://www.nrcs.usda.gov/wps/portal/nrcs/main/or/programs/financial/ewp/

Other NRCS Programs

There are other NRCS programs that are specific to Oregon geographic areas---Wildfire Rehabilitation Initiative, Organic Initiative, drought funding, and restoration funding---see the Oregon NRCS link for more information on those:
http://www.nrcs.usda.gov/wps/portal/nrcs/main/or/programs/financial/eqip/
Anyone applying for EQIP or any of the other NRCS grants for the first time should schedule a meeting with NRCS to discuss their options before moving forward.

U.S. Department of Agriculture
Rural Development Water and Waste Disposal Direct Loans and Grants

Eligible Projects: Pre-construction and construction associated with building, repairing, or improving drinking water, solid waste facilities and wastewater facilities
Eligible Applicants:
-Cities or towns with fewer than 10,000 population
-Counties, special purpose districts, non-profit corporations or tribes unable to get funds from other sources at reasonable rates and terms
Funding Available: Loans (40-year term), grants in some cases, interest rates vary (currently 2.125 – 3.5%)
How To Apply: Applications accepted year-round on a fund-available basis.
http://www.rd.usda.gov/programs-services/water-waste-disposal-loan-grant-program

U.S. Department of Commerce
Community Development Block Grant Planning Program

Region 10 HUD
Seattle Regional Office
Phone: (206) 220-5101
http://portal.hud.gov/hudportal/HUD?src=/states/washington/offices

http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs

Eligible Projects: Comprehensive plans, Infrastructure plans, Feasibility studies, Community action plans, Low-income housing assessments

Eligible Applicants: Projects must principally benefit low- to moderate-income people in non-entitlement cities and counties.

· Cities or towns with fewer than 50,000 people

· Counties with fewer than 200,000 people

Funding Available: Grants

· Up to $24,000 for a single jurisdiction

· Up to $35,000 for single jurisdiction projects that address urgent public health and safety needs

· Up to $40,000 for multiple jurisdictions/joint application

How To Apply: http://portal.hud.gov/hudportal/HUD?src=/states/washington/offices

Rural Community Assistance Corporation (RCAC)

Environmental Programs
1020 S.W. Taylor Street Suite 450
Portland, OR 97205

Local contacts:

Chris Marko, Rural Development Specialist 503- 228-1780
RosAnna Noval, Rural Development Specialist 503-308-0207
Email: cmarko@rcac.org; rnoval@rcac.org
Website: www.rcac.org

At the national level, RCAC has a variety of loans for water and/or wastewater planning, environmental work, and other work to assist in developing an application for infrastructure improvements

Eligible Applicants: Non-profit organizations, public agencies, tribes, and low-income rural communities with a 50,000 population or less, or 10,000 or less if guaranteed by USDA Rural Development financing.

Funding Available:

- Maximum $50,000 for feasibility loan
- Maximum $350,000 for pre-development loan
- 1 year term
- 5.5% interest rate

How To Apply: Applications accepted anytime. www.rcac.org

National contact: Josh Griff, 720-951-2163, jgriff@rcac.org

Water Research Foundation - Source Water Protection Cost-Benefit Tool

This is a free, online suite of tools designed to assist in evaluating the triple bottom-line costs and benefits of different source water protection options. Cost/benefit calculations help evaluate, prioritize, justify, and ultimately implement source water protection initiatives.
http://www.swptool.org/index.cfm

Healthy Watersheds Consortium

The Healthy Watersheds Consortium Grant Program has just published a Request for Proposals (RFP) to support local projects that protect and sustain healthy watersheds (including drinking water sources). Through this program, EPA will provide approximately $3.75 million over six years to the U.S. Endowment for Forestry and Communities for projects that develop and/or

support state, interstate, and tribal healthy watersheds programs and enhance collaboration among the many groups who benefit from protecting healthy watersheds such as drinking water utilities, hunters and fisherman, foresters and farmers, and more. The Endowment is also matching a portion of EPA's financial commitment to the partnership and expects to leverage additional funding from other public and private sources.

The goal of the Healthy Watersheds Consortium Grant Program is to accelerate strategic protection of healthy, freshwater ecosystems and their watersheds. This goal will be achieved by: Funding key projects identified in existing watershed protection or conservation plans; Building the sustainable organizational infrastructure, social support, and long-term funding commitments necessary to implement large-scale protection of healthy watersheds; and supporting innovative or catalytic projects that may accelerate or broadly advance the field of practice for watershed protection efforts. For more information and to view and download the RFP and other helpful documents, visit the website:
http://usendowment.org/partnerships/hwcgrantprogram.html

For questions, please contact Peter Stangel at peter@usendowment.org.

Ecotrust

http://www.ecotrust.org/
Ecotrust works to protect and restore watersheds and the economic and public health of the communities that depend upon them. Ecotrust develops and applies strategic approaches that improve habitat for native fish and wildlife, create local jobs and recreational opportunities, increase public awareness of the value of nature's services like water, and ensure a more reliable access to clean water for all members of the Oregon communities. Ecotrust provides Ecosystem Services, GIS Analysis, Mapping, Cartography, Data and Software Development, Economic Impact Assessment, etc.

Ecotrust Forest Management

http://ecotrustforests.com
Ecotrust Forest Management is a for-profit forestland investment management company that acquires and manages land on behalf of investors and forestland owners to enhance forest health and productivity, and to produce a diverse array of forest products and services including timber, biomass, carbon, and improved habitat and water quality. Where possible, our goal is to transition land to long-term, local, stewards of land like Tribes, Community Forests, Public or State Agencies etc. EFM is adept at using a wide array of financing sources— New Market Tax Credits, carbon credits, conservation easements, and restoration funding — to supplement private capital resources in the acquisition and management of forestland. Contact:
info@ecotrustforests.com

LAND TRUSTS_____

Resources to assist in locating a land trust can be found here:
http://findalandtrust.org/states/oregon41

Coalition of Oregon Land Trusts

The Coalition of Oregon Land Trusts (COLT) is a newly formed nonprofit representing and serving Oregon's land trusts. Its mission is to serve and strengthen the land trust community in Oregon. Oregon's land trust community is working at local, regional, and statewide scales with

landowners, communities, public agencies and other partners to maintain the state's natural heritage and the economies it supports. COLT will accomplish its mission by strengthening public policies and programs that are supportive of land conservation, helping to build capacity within and across land trusts, and communicating to key audiences about the role of land trusts in conserving Oregon's natural heritage and healthy human communities that depend on it. There are currently 18 land trusts that are members of COLT.
Coalition of Oregon Land Trusts
322 NW 5th, Suite 312 Portland, OR 97209
Phone: 503-719-4732 http://oregonlandtrusts.org/

Land Trust Alliance

The Land Trust Alliance is a national conservation organization that works preserve land through conservation and easements, so land and natural resources get protected. The Alliance is based in Washington, D.C., and has several regional offices.
Northwest Conservation Manager
1353 Officers Row Vancouver, WA 98661
Phone: (971) 202-1483 http://www.landtrustalliance.org/

Individual land trusts which may be of assistance include:

The Trust for Public Land

http://www.tpl.org/services/conservation-transactions

The Nature Conservancy

http://www.nature.org/

FOUNDATIONS_____

The Oregon Community Foundation / Community Grant Program

Eligible Projects: Community Livability, Environment & Citizen Engagement (*10 to 20 percent of grants*)

- Promote leadership development, volunteerism, immigrant integration, and civic participation
- Support stewardship and appreciation of Oregon's outdoor spaces and scenic beauty
- Address social, economic and environmental challenges or opportunities by bringing together disparate stakeholders
- Preserve places essential to communities' civic and historic identities

Eligible Applicants: nonprofits with tax-exempt status under Section 501(c)(3)
Funding Available: average grant is $20,000
Contact: http://www.oregoncf.org/grants-scholarships/grants/community-grants

National Fish and Wildlife Foundation

Eligible Projects: Environmental Solutions for Communities (1:1 match required)

- Supporting sustainable agricultural practices and private lands stewardship;
- Conserving critical land and water resources and improving local water quality;

- Restoring and managing natural habitat, species and ecosystems that are important to community livelihoods;
- Facilitating investments in green infrastructure, renewable energy and energy efficiency; and
- Encouraging broad-based citizen and targeted youth participation in project implementation.

Eligible Applicants: non-profit 501(c) organizations, state government agencies, local governments, municipal governments, Indian tribes, educational institutions
Funding Available: grants range from $25,000 to $100,000
Contact: 202-595-2434 - Community-Based Conservation

Access Fund Foundation

Eligible Projects: land acquisitions; considering the management and financial resources of land ownership, the Access Fund views land acquisitions as a tool of last resort and have adopted the following guidelines for land acquisition projects. If you are requesting funds for a land acquisitions please call the Access Fund before submitting your application.

- The area must be imminently threatened with permanent closure or sale to an outside party that may consider land development opportunities or other uses threatening its climbing and/or access resources.
- The area can be acquired for a reasonable price (reasonable price being one that falls within existing market values and is not in excess of appraised value), together with a reasonable budget (including secured funding) or secured exit-strategy for management by another land trust, local climbers organization or governmental agency.
- A fully executed purchase agreement stating how the project will be funded is required before Access Fund grant funds will be allocated to any acquisition.
- A high degree of matching funds is required. The Access Fund's role in land acquisitions is as an additional, not primary, funding resource.
- Applicants whose projects require continued payments and/or financing should submit a plan describing how these payments will be met in the future. These include, but are not limited to, property tax payments, loan payments, lease and mortgage payments. This payment plan will be taken into consideration during the grant review process.

Eligible Applicants: Local climbing groups, individuals or organizations (Note: tax exempt 501(c)(3) status is not a pre-requisite); governmental agencies that wish to sponsor or organize a local project; conservation organizations and land trusts.
Funding Available: $1,000 to $4,000. (The Access Fund considers requests for over $10,000, but these projects should have national significance and utilize a high degree of matching funds.)
Contact: http://www.accessfund.org/

The Collins Foundation

Eligible Projects: land acquisitions; grants are for projects that directly benefit the residents of Oregon
Eligible Applicants: nonprofits with tax-exempt status under Section 501(c)(3) / agencies that have current registration with the offices of the Oregon State Attorney General and the Secretary of State
Funding Available: varies; grants may range from $3000 to $150,000
Contact: www.collinsfoundation.org

Giles W. and Elise G. Mead Foundation

Eligible Projects: Preserving and improving the environment; primary emphasis forestry, fisheries and the sustainable use of natural resources in western North America
Eligible Applicants: nonprofits with tax-exempt status under Section 501(c)(3) in western North America
Funding Available: past grants ranged from $15,000 to $100,000
Contact: http://www.gileswmeadfoundation.org/

Rose E. Tucker Charitable Trust

Eligible Projects: giving limited to organizations and projects in Oregon, with emphasis on the metropolitan Portland area; land acquisition is eligible
Eligible Applicants: nonprofits with tax-exempt status under Section 501(c)(3)
Funding Available: past grants ranged from $6,000 to $150,000
How to Apply: apply anytime; board meets approximately every 2 months
Contact: Tuckertrust@stoel.com

Doris Duke Charitable Foundation

Eligible Projects: The foundation's grant-making is designed to provide frameworks and concrete examples of how practitioners can protect biodiversity in light of climate change through strategic land conservation. The program's adaptation efforts focus on three critical land conservation activities undertaken by non-profit organizations and government natural resource agencies:

- Habitat conservation planning (i.e., the identification of which sites should be conserved in their natural state to benefit wildlife);
- Permanent land protection (i.e., the acquisition of conservation easements or fee title to secure high priority sites); and C) Management of lands already in protected status. The goal for each of these activities is to encourage the conservation community to augment the dominant species-based approach to wildlife conservation with a focus on maintaining ecosystem functionality as climate change takes hold.
- The program has adopted three approaches to achieve its objectives: 1) Identifying resilient landscapes; 2) Protecting resilient landscapes; and 3) Managing conserved lands.

Eligible Applicants: nonprofits with tax-exempt status under Section 501(c)(3)
Funding Available: past grants ranged in the $100K
Contact: http://www.ddcf.org/what-we-fund/environment/

Bonneville Environmental Foundation

Eligible Projects: renewable power and acquire, maintain, preserve, restore, protect, and/or sustain fish and wildlife habitat within the Pacific Northwest.
Interest area: Watershed Restoration Program---supports restoration of damaged watershed ecosystems; supports communities trying to heal their local watersheds by supporting watershed restoration projects grounded in the best available watershed science
Eligible Applicants: nonprofit organizations
Funding Available: varies
Contact: www.b-e-f.org

The Bullitt Foundation

Program priorities:

- Manage freshwater resources: control, use, distribution, conservation;
- Conserve and restore resilient watersheds, wetlands and estuaries;
- Maintain a working land base for sustainable agriculture and forestry;
- Enforce laws and policies intended to assure air and water quality;
- Create landowner incentives for maintaining and enhancing ecosystem services, including the development of market-based mechanisms.

Eligible Applicants: nonprofit organizations in Washington, Oregon, Idaho, western Montana, south-central Alaska, and British Columbia. Within that broad geographic range, work is targeted to specific sub-regions generally associated with major population centers.
Funding Available: varies---past grants ranged from $10,000 to over $600,000
Contact: http://www.bullitt.org/

Weyerhaeuser Foundation

Eligible Projects: forestry practices, manufacturing's effects on air, water and land; free trade, recycling, diversity, land conservation and environmental education; land acquisitions or conservation easement projects may fit with the Foundation's priorities and goals
Eligible Applicants: educational institutions, non-profit organizations, research institutions in Oregon and Washington
Funding Available: $1,000 - $50,000
Contact: http://www.wfamilyfoundation.org/

Laird Norton Foundation

Eligible Projects: projects contribute to a heightened awareness of the ecological, social and economic significance of water sources and watersheds. Preference will be given to projects which demonstrate innovative measures for protecting and restoring water resources and which involve local communities and/or regional institutions.
Eligible Applicants: nonprofit organizations working in Hood Canal (WA), Upper Deschutes (OR), and Rogue (OR) watersheds
Funding Available: varies; past grants ranged from $10k to $100k
Contact: http://www.lairdnorton.org

This page intentionally left blank.

City of Yachats
2020 Source Water Assessment Update

This page intentionally left blank.

Table 2: Inventory of Potential Sources of Pollution

as identified in readily accessible state and federal databases and GIS layers
Updated Source Water Assessment
see Appendix 2 for Key to Tables for Notes and Descriptions of Acronyms

PWS Name: City of Yachats
PWS Number: 00966

This information supplements the Original Source Water Assessment Inventory dated between 2000 and 2005 and should be used in conjunction with the original inventory to provide a more detailed analysis of potential sources of pollution. Note that due to limitations for locational data in state databases, some locations will need further research to verify presence and location.

Primary Land Ownership/Use(s)								**Data Source**
Primarily Federal land (USFS) with some private industrial forestry land use especially near the Salmon and Reedy Creek intakes. Private Non-Industrial/Urban (rural residential) and agricultural land use also present in the river valleys of the Yachats River (emergency intake) delineation.								Land use map - Figure 4
Other potential sources of pollution identified based on aerial photographs, topographic maps or local knowledge.								
Name				Address/location	City	County		Data Source
Utility right-of-way - power lines in upper watershed								aerial photograph
Database Identifier (DB_ID)	Site Identifier (SIte_ID)	Status	Common Name	Address	City	County	Retrieval Date (RET_DATE)	Data Source
Identified in Salmon and Reedy Creeks Source Area								
Note: There were no potential sources of contamination identified in the regulatory databases for the Surface Water protection area during this Source Water Assessment. Various land uses and natural sources in the watershed (i.e. recreation, wildlife) may contribute contaminants to the water supply. The water system and community should consider the potential for future development(s) or land use/management changes in the watershed to impact the source water.								
Identified in Yachats River Intake Source Area (Emergency Intake)								
SFM - HSIS - YACHATS CITY OF	024349	OTHER GENERAL GOV SUPPORT with 2 different chemicals reported on site (liquids and solids only)	YACHATS CITY OF	936 YACHATS RIVER RD	YACHATS	LINCOLN	09/29/2008	OR State Fire Marshall Hazardous Substance Information System database (SFM/HSIS - 2009)
DOGAMI - Otter Crest Quarry	21-0054	Closed -	Otter Crest QuarryDevils Lake Rock Company		Not applicable	Lincoln	10/21/2015	OR Dept. of Geology and Mineral Industries Mineral Information layer for Oregon Release 2 (DOGAMI/MILO-2 - 2014)
Bridge - North Fork Yachats River, Yachats River Rd	12035A	Highway, major road, bridge, or stream crossing	North Fork Yachats River, Yachats River Rd	Not Applicable	UNKNOWN	Lincoln	2013	Oregon Dept. of Transportation, Technical Services Branch, Bridges Section (ODOT - 2013)
Bridge - North Fork Yachats River, North Yachats River Rd	12036A	Highway, major road, bridge, or stream crossing	North Fork Yachats River, North Yachats River Rd	Not Applicable	UNKNOWN	Lincoln	2013	Oregon Dept. of Transportation, Technical Services Branch, Bridges Section (ODOT - 2013)
Bridge - North Fork Yachats River, North Yachats River Rd	12037	Highway, major road, bridge, or stream crossing	North Fork Yachats River, North Yachats River Rd	Not Applicable	UNKNOWN	Lincoln	2013	Oregon Dept. of Transportation, Technical Services Branch, Bridges Section (ODOT - 2013)
Bridge - South Fork Yachats River, Yachats River Rd	12039A	Highway, major road, bridge, or stream crossing	South Fork Yachats River, Yachats River Rd	Not Applicable	UNKNOWN	Lincoln	2013	Oregon Dept. of Transportation, Technical Services Branch, Bridges Section (ODOT - 2013)

Database Identifier (DB_ID)	Site Identifier (SIte_ID)	Status	Common Name	Address	City	County	Retrieval Date (RET_DATE)	Data Source
Bridge - South Fork Yachats River, Yachats River Rd	12040A	Highway, major road, bridge, or stream crossing	South Fork Yachats River, Yachats River Rd	Not Applicable	UNKNOWN	Lincoln	2013	Oregon Dept. of Transportation, Technical Services Branch, Bridges Section (ODOT - 2013)
Bridge - South Fork Yachats River, Yachats River Rd	12041A	Highway, major road, bridge, or stream crossing	South Fork Yachats River, Yachats River Rd	Not Applicable	UNKNOWN	Lincoln	2013	Oregon Dept. of Transportation, Technical Services Branch, Bridges Section (ODOT - 2013)
Bridge - South Fork Yachats River, Yachats River Rd	12042A	Highway, major road, bridge, or stream crossing	South Fork Yachats River, Yachats River Rd	Not Applicable	UNKNOWN	Lincoln	2013	Oregon Dept. of Transportation, Technical Services Branch, Bridges Section (ODOT - 2013)
Bridge - School Fork Creek, Yachats River Rd	19581	Highway, major road, bridge, or stream crossing	School Fork Creek, Yachats River Rd	Not Applicable	UNKNOWN	Lincoln	2013	Oregon Dept. of Transportation, Technical Services Branch, Bridges Section (ODOT - 2013)
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - Beamer Creek	1240245442960	Cat 5: Water quality limited, 303(d) list, TMDL needed - Dissolved Oxygen	Beamer Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - Carson Creek	1240227442940	Cat 5: Water quality limited, 303(d) list, TMDL needed - Temperature	Carson Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - Depew Creek	1239716443300	Cat 5: Water quality limited, 303(d) list, TMDL needed - Temperature	Depew Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - Grass Creek	1239387442830	Cat 5: Water quality limited, 303(d) list, TMDL needed - Temperature	Grass Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - Keller Creek	1239671442810	Cat 5: Water quality limited, 303(d) list, TMDL needed - Dissolved Oxygen, E.Coli, Temperature	Keller Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - North Fork Yachats River	1239775442970	Cat 5: Water quality limited, 303(d) list, TMDL needed - Dissolved Oxygen, E. Coli, Temperature	North Fork Yachats River	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - School Fork	1239444442900	Cat 5: Water quality limited, 303(d) list, TMDL needed - Dissolved Oxygen, E. Coli, Temperature	School Fork	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - Stump Creek	1239622442780	Cat 5: Water quality limited, 303(d) list, TMDL needed - Dissolved Oxygen, E. Coli, Temperature	Stump Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)

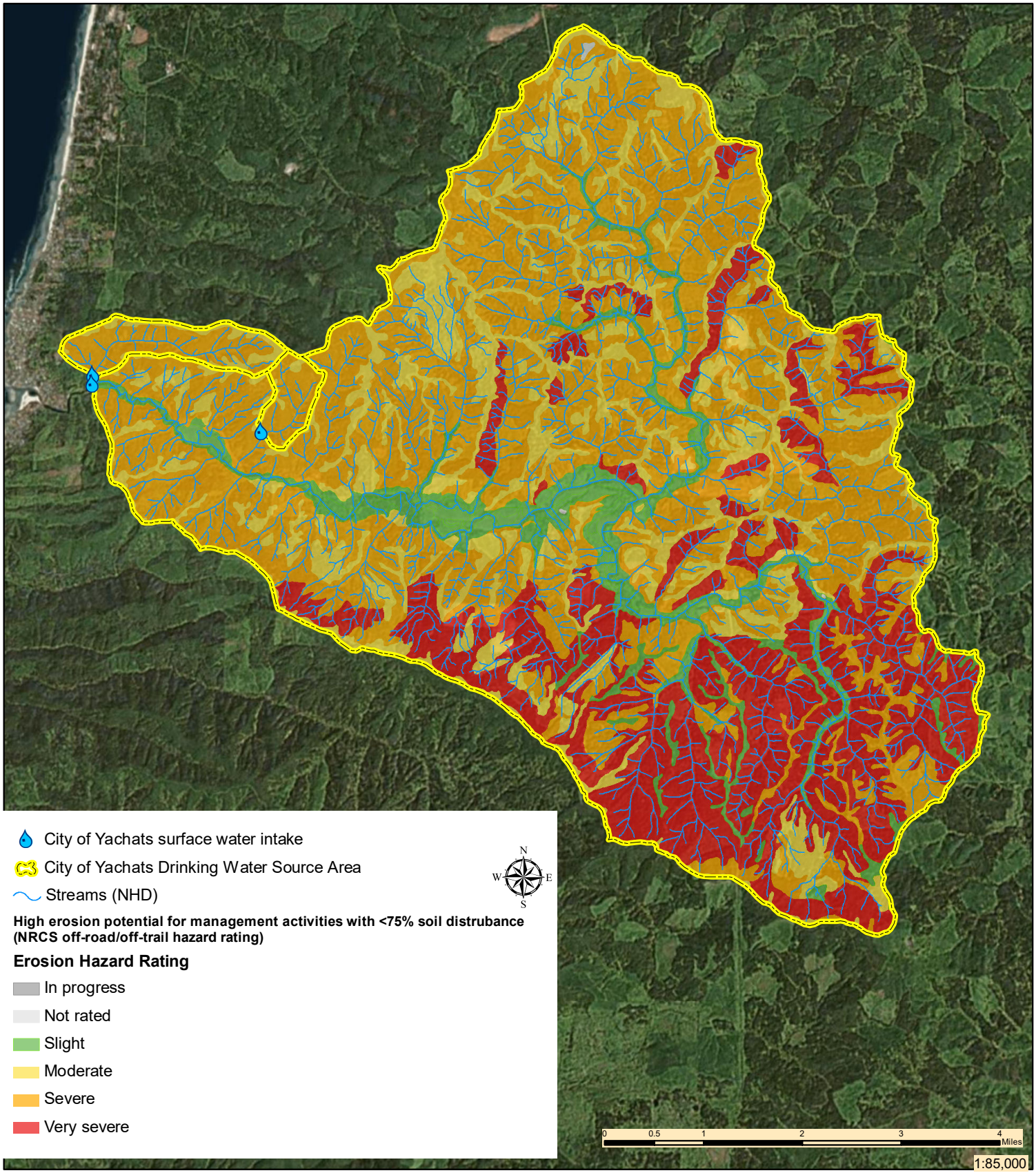
Database Identifier (DB_ID)	Site Identifier (SIte_ID)	Status	Common Name	Address	City	County	Retrieval Date (RET_DATE)	Data Source
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - Williamson Creek	123974844317 0	Cat 5: Water quality limited, 303(d) list, TMDL needed - Dissolved Oxygen, E. Coli, Temperature	Williamson Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat4A & Cat5, DEQ-2012 - Yachats River	124108344308 0	Cat 5: Water quality limited, 303(d) list, TMDL needed - Dissolved Oxygen, E. Coli, Temperature	Yachats River	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment 2012 - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat3 - Keller Creek	123967144281 0	Cat 3: Insufficient data - E. Coli	Keller Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat3 - Keller Creek	123967144281 0	Cat 3: Insufficient data - pH	Keller Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat3 - North Fork Yachats River	123977544297 0	Cat 3: Insufficient data - E. Coli, habitat Modification, pH, Sedimentation, Biological Criteria	North Fork Yachats River	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat3 - School Fork	123944444290 0	Cat 3: Insufficient data - E. Coli, pH	School Fork	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat3 - Stump Creek	123962244278 0	Cat 3: Insufficient data - Habitat Modification, E. Coli	Stump Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment - (DEQ/WQ - 10/31/2014)
Water Quality Limited streams, Cat3 - Williamson Creek	123974844317 0	Cat 3: Insufficient data - E. Coli, pH	Williamson Creek	Not applicable	Not applicable	Not applicable	10/31/2014	OR Dept. of Environmental Quality Water Quality Assessment - (DEQ/WQ - 10/31/2014)

This page intentionally left blank.

DEQ
State of Oregon Department of Environmental Quality

Oregon Health Authority

Figure 2. City of Yachats (PWS 00966) Drinking Water Source Area Erosion Potential (See Appendix 2 for Key to map details and metadata)



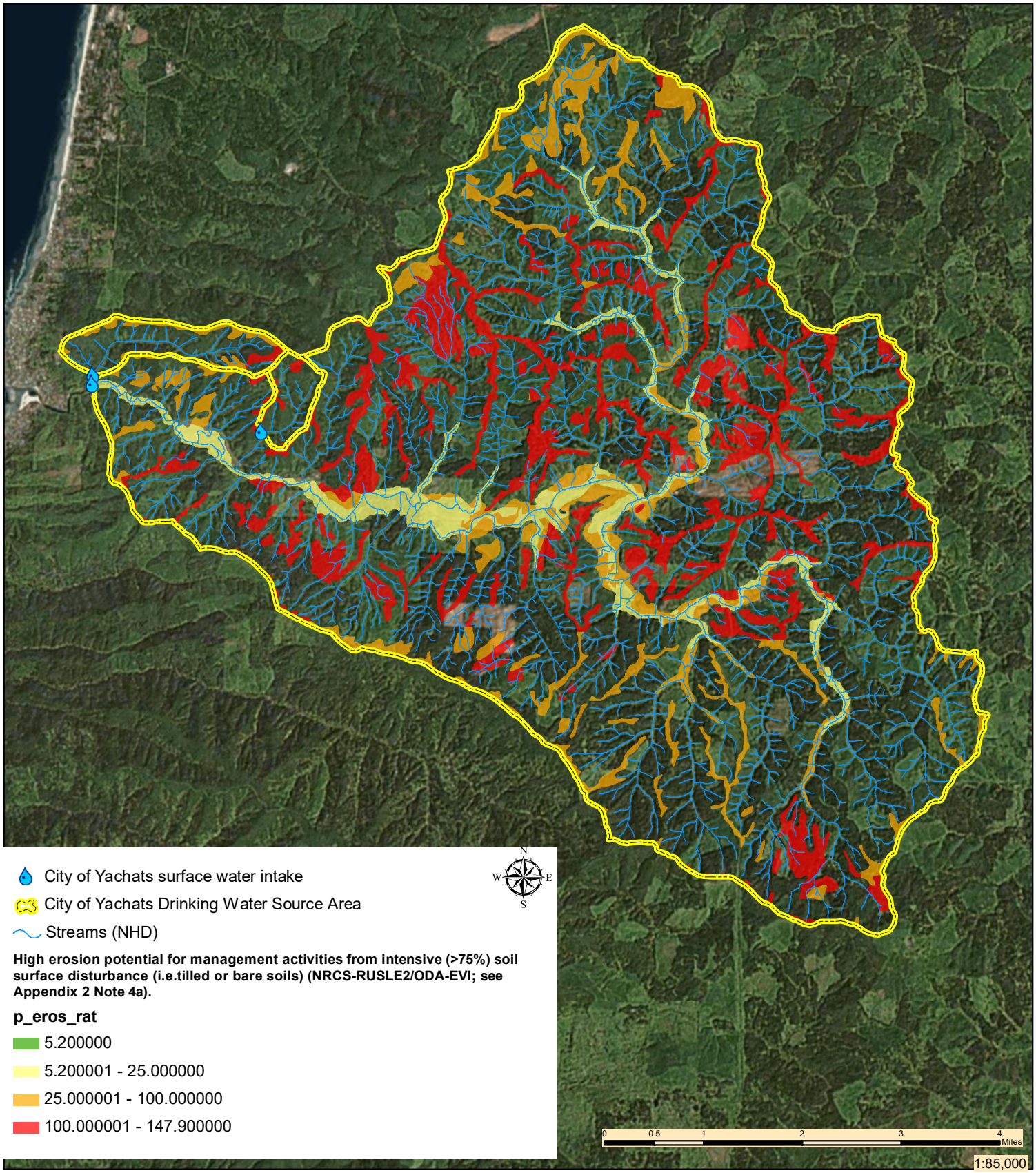
Oregon Department of Environmental Quality/Environmental Solutions Division/Water Quality Program/ Drinking Water Protection Program/GIS
Projection: Oregon Lambert (Lambert Conformal Conic), GCS_North_American_1983
Datum: D_North_American_1983
File: \\deqhq1\dwp\SWA Reports & Plan\Update SWA SW 2016\PWSReports\4100966_Yachats\AddInfo_00966CityofYachatsFig2Rev.mxd
Prepared by: hgs 30AUG2019

Updated with additional NRCS data 11/2/2016

DEQ
State of Oregon Department of Environmental Quality

Oregon Health Authority

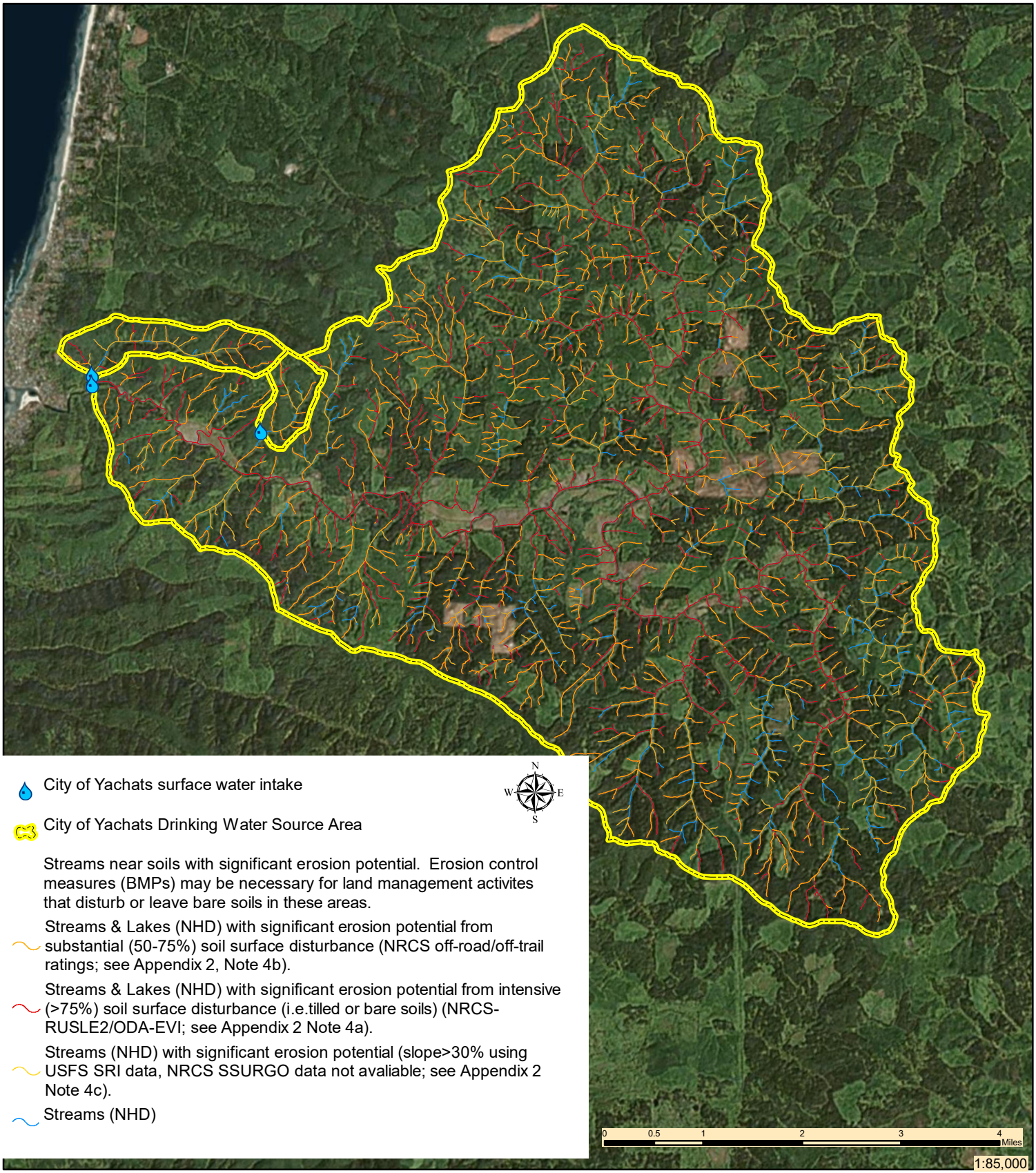
Figure 2. City of Yachats (PWS 00966) Drinking Water Source Area Erosion Potential (See Appendix 2 for Key to map details and metadata)



Oregon Department of Environmental Quality/Environmental Solutions Division/Water Quality Program/ Drinking Water Protection Program/GIS
Projection: Oregon Lambert (Lambert Conformal Conic), GCS_North_American_1983
Datum: D_North_American_1983
File: \\deqhq1\dwp\SWA Reports & Plan\Update SWA SW 2016\PWSReports\4100966_Yachats\AddInfo_00966CityofYachatsFig2Rev.mxd
Prepared by: hgs 30AUG2019

Updated with additional NRCS data 11/2/2016

Figure 2. City of Yachats (PWS 00966) Drinking Water Source Area Erosion Potential (See Appendix 2 for Key to map details and metadata)



Oregon Department of Environmental Quality/Environmental Solutions Division/Water Quality Program/ Drinking Water Protection Program/GIS
Projection: Oregon Lambert (Lambert Conformal Conic), GCS_North_American_1983
Datum: D_North_American_1983
File: \\deqhq1\dwp\SWA Reports & Plan\Update SWA SW 2016\PWSReports\4100966_Yachats\AddInfo_00966CityofYachatsFig2Rev.mxd
Prepared by: hgs 30AUG2019

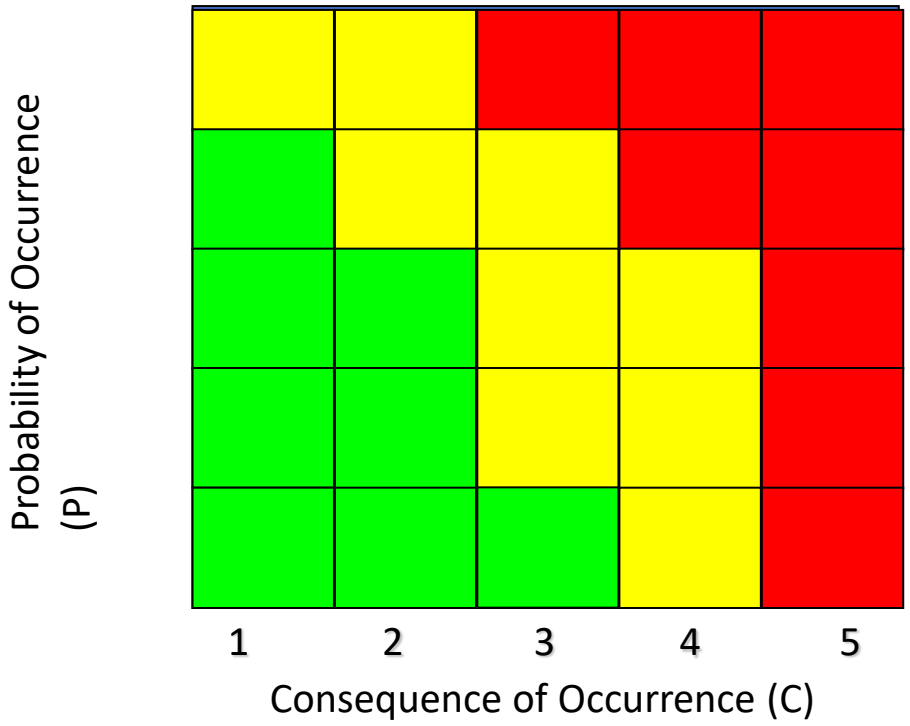
Updated with additional NRCS data 11/2/2016

This page intentionally left blank.

APPENDIX C

Risk Prioritization Matrix

This page intentionally left blank.



High Risk – Manage early and aggressively, must have a lower risk backup implementation plan and decision point defined

Moderate Risk - Manage aggressively; consider alternatives

Low Risk - Monitor On Watch List

Risk: The Probability of an Undesirable Event Occurring and the Significance of the Consequence of the Event

Risk Level	Definition
Low	Has Little Potential To Cause Disruption of Schedule, Increase in Cost, or Degradation of Performance. Normal Monitoring Will Probably Be Able To Overcome Difficulties
Moderate	Can Potentially Cause Some Disruption of Schedule, Increase in Cost, or Degradation of Performance. Special Emphasis and Close Monitoring Will Probably Be Able to Overcome Difficulties
High	Likely To Cause Serious Disruption of Schedule, Increase in Cost, or Degradation of Performance, Even With Special Emphasis and Close Monitoring

APPENDIX D

Implementation Plan Tracking Worksheet

This page intentionally left blank.

Implementation Plan Tracking Worksheet (Template)

Implementation Plan Summary: Fiscal Year 2021–2022 (Associated with Exhibit 4-1)

Activity	Responsible Party	Partnerships	Funding Secured	Start Date, End Date (if applicable)	Status Details (e.g., planning, implementing, completed)	Accomplishments Summary
▪ Complete Water System Master Plan (WSMP) ▪ Capital improvement plan for infrastructure ▪ Strategy for meeting future water demand	City Manager, Public Works Director		Secured			
▪ Complete Water Management and Conservation Plan (WMCP) ▪ Water conservation measures ▪ Strategy for meeting future water demand	City Manager, Public Works Director		Secured			

▪ Long-term water supply strategy
▪ Form a citizens committee with city staff participation to:
  ▪ provide City Council with long-term water supply recommendations, utilizing information from the WSMP and WMCP
  ▪ encourage City Council to pursue responsible growth plans/policies
	City Manager, Public Works Director		Annual budget			

▪ Begin addressing infrastructure issues identified in the WSMP ▪ Pursue long-term funding for infrastructure projects and rate studies ▪ Regularly communicate with City Council about infrastructure needs and capital improvement plans	City Manager, Public Works Director		Annual budget Infrastructure loans			
▪ Develop communications protocols and schedules to address serious risks, including developing materials to explain concerns, and begin communications to the extent possible ▪ For government entities: land use/development concerns and heavy precipitation, forestry management, climate change ▪ For regional water providers: natural disasters, forestry management, and property management ▪ For other stakeholders (e.g., MidCoast Watersheds Council, regional nonprofits, Oregon legislators, Oregon League of Cities, and landowners): forestry management, climate change	City Manager, Public Works Director	Lincoln County, ODF, USFS, BLM, DEQ, MidCoast Watersheds Council, commercial timber companies, regional nonprofits, landowners	Annual budget State and Federal agencies,			

▪ Develop public education materials and begin disseminating them to the extent possible. Materials will include:
  ▪ The value of water
  ▪ City's drinking water supply source area
	City Manager, Public Works Director	City of Yachats Emergency Preparedness Committee, Lincoln County, ODF, USFS,	Annual budget
			In-kind from volunteer time			

Activity	Responsible Party	Partnerships	Funding Secured	Start Date, End Date (if applicable)	Status Details (e.g., planning, implementing, completed)	Accomplishments Summary
▪ Risks to the water supply (natural disasters, development and property management, forestry management) ▪ Strategies to address risks and what the public can do		BLM, DEQ, commercial timber companies, FEMA, ODOT, EPA, Oregon Emergency Management (OEM), State Fire Marshal's Office, DEQ, OHA, MidCoast Watersheds Council, The Beaver Coalition, Lincoln SWCD	State and Federal agencies			

Activity	Responsible Party	Partnerships	Funding Secured	Start Date, End Date (if applicable)	Status Details (e.g., planning, implementing, completed)	Accomplishments Summary

▪ Begin implementing a water conservation program
▪ Water conservation program components may include:
  ▪ Public education for water customers and students
  ▪ Ordinances on indoor and outdoor water efficiency
  ▪ Offer free water-efficient fixtures
  ▪ Examples: Faucet aerators and showerheads
  ▪ Install water-efficient fixtures in municipal buildings and implement water-efficient landscaping practices
  ▪ Develop a tiered water rate tied to water curtailment phases and potentially to water source
  ▪ Conduct outreach to landscaping companies to promote water-efficient landscaping (e.g., plants with low water needs and water-efficient irrigation systems and practices)
  ▪ Conduct outreach to realtors to encourage them to promote water conservation when interacting with clients and contractors
	Public Works Director	Regional water providers, EPA, OWRD,	Annual budget
			State and Federal agencies			

▪ Identify land acquisition and conservation easement opportunities in the City's drinking water source areas, begin outreach to landowners, and pursue funding for viable opportunities	City Manager	MidCoast Watersheds Council	Annual budget State and Federal agencies			
▪ Request elimination or minimization of pesticide application in certain locations	City Manager	DEQ, OHA, OSU Extension, regional water providers	Annual budget			
▪ Contribute resources to watershed restoration projects as opportunities arise	City Manager	MidCoast Watersheds Council, USFS, BLM, ODF	Annual budget State and Federal agencies			

Notes

BLM	U.S. Bureau of Land Management
DEQ	Oregon Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
ODF	Oregon Department of Forestry
ODOT	Oregon Department of Transportation
OEM	Oregon Emergency Management
OHA	Oregon Health Authority
SWCD	Soil and Water Conservation District
USFS	U.S. Forestry Service
WMCP	Water Management and Conservation Plan
WSMP	Water System Master Plan

Implementation Plan Summary: Fiscal Year 2022-2023 (Associated with Exhibit 4-2)

Activity	Responsible Party	Partnerships	Funding Secured	Start Date, End Date (if applicable)	Status Details (e.g., planning, implementing, completed)	Accomplishments Summary
▪ Continue long-term water supply strategy implementation	City Manager, Public Works Director		Annual budget			
▪ Continue addressing infrastructure issues	City Manager, Public Works Director		Annual budget Infrastructure loans			
▪ Continue communications to address serious risks	City Manager, Public Works Director	Lincoln County, ODF, USFS, BLM, DEQ, MidCoast Watersheds Council, commercial timber companies, landowners	Annual budget			
▪ Continue developing and disseminating public education materials about water supply risks	City Manager, Public Works Director	Lincoln County, ODF, USFS, BLM, commercial timber companies, FEMA, ODOT, EPA, Oregon Emergency Management (OEM), State Fire Marshal's Office, DEQ, OHA	Annual budget In-kind from volunteer time State and Federal agencies			
▪ Continue implementing a water conservation program that incorporates WMCP requirements for water conservation ▪ Additional water conservation program components may include: ▪ Public education ▪ Rebate program for water-efficient indoor and outdoor fixtures ▪ Short-term rental outreach program ▪ Study non-potable water uses, including capture of runoff during the rainy season, greywater, and industrial wastewater	Public Works Director	Regional water providers, EPA, OWRD,	Annual budget State and Federal agencies			
▪ Continue identifying land acquisition and conservation easement opportunities in the City's drinking water source areas, conducting outreach to landowners, and pursuing funding for viable opportunities	City Manager	MidCoast Watersheds Council	Annual budget State and Federal agencies			
▪ Continue contributing resources to watershed restoration projects as opportunities arise	City Manager	MidCoast Watersheds Council, USFS, BLM, ODF	Annual budget State and Federal agencies			
▪ Assess and adjust City policies related to development zoning and water rates	City Manager		Annual budget			

Activity	Responsible Party	Partnerships	Funding Secured	Start Date, End Date (if applicable)	Status Details (e.g., planning, implementing, completed)	Accomplishments Summary
▪ Communicate with Oregon legislators about risks to the City's drinking water supply and potential strategies to address those risks, as well as funding needs to protect the drinking water supply	City Manager	MidCoast Watersheds Council, ODF, USFS, BLM, local volunteers	Annual budget In-kind: volunteer time			
▪ Implement pesticide collection program	City Manager	DEQ, OHA	Annual budget State and Federal agencies			
▪ Implement water monitoring program	Public Works Director	DEQ, OHA, MidCoast Watersheds Council	Annual budget			
▪ Implement insect outbreak monitoring	City Manager	ODA, Lincoln SWCD, OSU Extension, ODF, USFS, BLM	Annual budget			
▪ Identify and assess decommissioned access road locations near drinking water sources	Public Works Director	MidCoast Watersheds Council, USFS, BLM, ODF	Annual budget Oregon Watershed Enhancement Board			

Notes

BLM	U.S. Bureau of Land Management	EPA	U.S. Environmental Protection Agency	ODF	Oregon Department of Forestry	OEM	Oregon Emergency Management	SWCD	Soil and Water Conservation District
DEQ	Oregon Department of Environmental Quality	FEMA	Federal Emergency Management Agency	ODOT	Oregon Department of Transportation	OHA	Oregon Health Authority	USFS	U.S. Forestry Service