Imperative 6. Source Water Protection

The 1972 Clean Water Act specifies three categories for protection of all water sources: The physical connectivity, the biological health, and chemicals introduced from point, or non-point sources. Source water includes the rivers, streams, lakes, reservoirs, springs, and groundwater that deliver water to public drinking water supplies and private wells. Protecting source water reduces treatment costs, protects water quality for wildlife and human uses, and helps ensure the availability of water. Strategies to protect source water depend on the source, and include protection of riparian habitats, stream bank stabilization, land protection/easements, best management practices for agricultural and forestry activities, local ordinances to limit activities in source water or wellhead protection areas, emergency response plans, and outreach and education. Source: Environmental Protection Agency[39].

Objectives

- Assess the levels and presence/absence of contaminants in Mid-Coast waters and describe negative effects to human health.
- Sample throughout the Mid-Coast to accurately identify the quantity and type of toxics entering source waters to assess potential risks to both drinking water quality and aquatic life.
- Provide self-supplied water users with adequate and timely data to determine regional, local, or site-specific water quality contamination issues that may pose a health risk.
- Assess the levels and presence/absence of contaminants in Mid-Coast waters and describe negative effects to human health.
- Consistently attain water quality standards that protect drinking water and other beneficial uses.
- Anticipate and prepare for the effects of climate change stressors, which are predicted to influence precipitation, temperature, coastal inundation, ecosystem function, and water quality.
- Prioritize restoration work and support land management practices that reduce contaminants of concern to drinking water.

Action Details

Actions		Desired Outcomes	Potential Lead & Participants	Timeline	Initial Estimated Investment	Potential Funding Sources
35	**Identify, fund, and implement high priority regional source water protection activities.**	Explore and implement mechanisms for regional source water protection (e.g., carbon credits, carbon exchange, tax credits, and acquisition opportunities) are explored and implemented.	**Lead:** Water providers **Participants:** Mid-Coast Water Planning Partnership, Oregon Department of Environmental Quality	PHASES 1-2		▪ BOR WaterSMART Basin Studies. ▪ Georgia-Pacific Environment Grant Program. ▪ Business Oregon Drinking Water Source Protection Fund. ▪ EPA Drinking Water State Revolving Fund (DWSRF). ▪ Starker Forests Grant.
36	**Support the reduction of nutrient, turbidity, and bacteria inputs and emerging contaminants of concern (e.g., PFAS, PFOA, PFOS, pharmaceuticals, etc.) to source water from all sectors using the latest technology.**	Link property owners and residents to existing programs (e.g., Craft3 for septic system replacement/repair loans, OSU Extension Service, land management workshops, etc.). Homeowners improve practices, reduced nutrient contributions from all Sectors/land uses.	**Lead:** Oregon Department of Environmental Quality, Oregon Health Authority (Step a). Oregon Health Authority, Oregon State University Extension Services, Lincoln County Soil and Water Conservation District, Oregon Department of Agriculture (Step b).	PHASES 1-3	$1,000,000	▪ Business Oregon Drinking Water Source Protection Fund. ▪ EPA Clean Water State Revolving Fund.
37	**Enhance contamination prevention measures for reservoirs, surface water intakes, springs, and/or wellheads.**	Water reservoirs in the Mid-Coast region are secure.	**Lead:** Water providers, Mid-Coast Water Conservation Consortium	PHASE 1	$250,000	▪ OWRD Feasibility Study Grants. ▪ OHA's Safe Drinking Water Revolving Loan Fund (SDWRLF). ▪ BOR WaterSMART Basin Studies. ▪ Business Oregon Community Development Block Grant (CDBG) Program.

[39] https://www.epa.gov/sourcewaterprotection/basic-information-about-source-water-protection

	Actions	Desired Outcomes	Potential Lead & Participants	Timeline	Initial Estimated Investment	Potential Funding Sources
						▪ Business Oregon Water/Wastewater Funding Program. ▪ Business Oregon Drinking Water Source Protection Fund. ▪ OWRD Water Projects Grants and Loans.
38	**Assess and evaluate harmful algal bloom events that affect source water to identify potential contributing sources, and educate and support the reduction of nutrient inputs to source water from all sectors to prevent algal blooms (e.g., promote agricultural nutrient management plans, grants to reduce inputs, well water nitrate screening, well water and septic system education, low-input gardening).**	The causes of harmful algal blooms affecting source water are investigated, and projects to education and/or reduce contributing sources are implemented.	**Lead:** Water providers **Participants:** Land managers	PHASES 1-3	$100,000	▪ ODEQ Supplemental Environmental Projects (SEP) Program. ▪ Clean Water State Revolving Fund. ▪ Business Oregon Drinking Water Source Protection Fund. ▪ EPA Environmental Justice Small Grants Program. ▪ For agriculture land, ODA funds to SWCD.
39	**Advocate for integrated pest management (e.g., minimize aerial spraying in watersheds adjacent to source water; promote hand clearing in riparian zones (versus hand spraying); support notification of all water treatment facilities when and where spraying will occur), as well as notification of downstream water users who are not on municipal water systems and rely on source water for domestic use.**	Agencies and OSU deliver education on safe pesticide application practices; possible formation of a Pesticide Stewardship Partnership; reduction and/or elimination of pesticide use.	**Lead:** Pesticide Stewardship Partnership **Participants:** Oregon Department of Agriculture, Oregon Department of Forestry, Oregon State University Extension Service, Oregon Department of Environmental Quality, Oregon Health Authority, Oregon Water Resources Department US Forest Service, Lincoln County, water providers	PHASES 1-3	$100,000	▪ OWEB Stakeholder Engagement Grant. ▪ Georgia-Pacific Environment Grant Program. ▪ Meyer Memorial Trust Healthy Environment Program. ▪ Business Oregon Drinking Water Source Protection Fund. ▪ ODFW Access and Habitat Program. ▪ Oregon Integrated Pest Management Center at OSU.
40	**Furthering a working lands concept, advocate for incentives, and other strategies, that promote silvicultural practices that support restoration of watershed ecological function and protect drinking water source areas.**	Incentives and other strategies are developed that support watershed ecological function and protection of source drinking water.	**Lead:** Mid-Coast Water Planning Partnership, Oregon Department of Forestry, US Forest Service, Bureau of Land Management, and any other federal land management agencies	PHASES 1-3	$100,000	▪ Oregon Watershed Enhancement Board Conservation Reserve Enhancement (CREP) TA Program. ▪ OWEB Small Grant Program. ▪ OWEB Operating Capacity Grant. ▪ OWEB Stakeholder Engagement Grant. ▪ OWEB Restoration Grant. ▪ Georgia-Pacific Environment Grant Program. ▪ Meyer Memorial Trust Healthy Environment Program. ▪ Business Oregon Drinking Water Source Protection Fund. ▪ Clean Water State Revolving Fund. ▪ USDA NRCS Emergency Watershed Protection Program. ▪ USFWS Landowner Incentive Program. ▪ NFWF Five Star and Urban Waters Restoration Grant Program. ▪ ODFW Access and Habitat Program. ▪ ODFW Wildlife Habitat Conservation and Management Program. ▪ ODFW Riparian Lands Tax Incentive Program.
41	**Protect critical lands within drinking water source areas through acquisition, conservation easements, or**	Critical lands within drinking water source areas are adequately managed for water quality protection.	**Lead:** McKenzie River Trust, Wetlands, Conservancy, The Nature Conservancy		$10,000,000	▪ Bureau of Reclamation WaterSMART Cooperative Watershed Management

Actions	Desired Outcomes	Potential Lead & Participants	Timeline	Initial Estimated Investment	Potential Funding Sources
other tools that prevent degradation and/or impacts to source water quality.		**Participants:** Mid-Coast Watersheds Council, municipalities, Mid-Coast Water Planning Partnership			Program (Phase I or Phase II Implementation). ▪ Meyer Memorial Trust Healthy Environment Program. ▪ Business Oregon Drinking Water Source Protection Fund. ▪ Business Oregon Drinking Water Source Protection Fund. ▪ USDA NRCS Emergency Watershed Protection Program. ▪ Safe Drinking Water Revolving Loan Fund (SDWRLF). ▪ USDA Rural Development Water and Waste Disposal Loan and Grant Program. ▪ ODFW Access and Habitat Program.
			TOTAL	**$15.5M**	

Performance Metrics

- Source (raw) water contains decreasing levels of nutrients, fine sediment/turbidity and bacteria, toxics (e.g., pesticides and emerging contaminants of concern) are not detected.
- Measures are taken to enhance reservoir security to protect from contamination.
- Incentives are created and promoted to restore watershed ecological function and promote protection of source drinking water areas.
- An increasing percentage of acreage in drinking water source areas is protected from land-use activities that could negatively impact water quality and natural hydrology.

Metric Methodology

- Baseline information is summarized on existing water available for summer withdrawals (accounting for instream demand/needs), current range of levels (concentration and load) of nutrients, turbidity, bacteria, and other contaminants in raw source water. Comparisons are made within 3-5 years later to assess changes in these levels.
- Municipal water providers document enhancements to reservoir security.
- Baseline information and changes are tracked through time to assess protection from contamination for reservoirs, intakes, springs, and wellheads.
- Baseline data is collected on existing incentives. Comparisons are made 3-5 years later via an assessment to document progress in creating incentives.