

DRAFT

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Headwaters to Ocean (H₂O) A STRATEGY FOR MEETING OREGON'S WATER NEEDS IN THE FACE OF CLIMATE CHANGE

Making A Case For Water

Oregon's waters are an integral part of a healthy state economy and one of the foundations of its quality of life. The demand for water continues to grow for a wide variety of beneficial uses from irrigation, municipal, and industrial, to fisheries, aquatic health, recreation, and aesthetics. Oregonians are guided by the need to protect the unique environmental resources of this state and we need to manage our waters in a way that recognizes the importance and validity of all of these uses.

However, water resource management in Oregon is facing a number of significant challenges. Surface water is nearly fully allocated during the summer months and ground water is showing declines in both quantity and quality in many areas. More than 1,100 water bodies are impaired for at least one pollutant. Twenty-four fish species have been identified as Threatened or Endangered under the Federal Endangered Species Act, while another 31 are listed as state sensitive species.

These challenges are heightened by two relatively new and increasing pressures: climate change and rapid population growth. Climate change will greatly influence how we collect, store, and use water in Oregon. Rapid population growth will radically affect demand for water. Climate change and rapid population growth are bringing a new sense of urgency to water resources management in Oregon.

Fortunately, we have good models for innovation and partnership when it comes to water resources, as demonstrated by the "Healthy Streams Partnership" and its successor, "The Oregon Plan for Salmon and Watersheds." Additionally, Oregon is renowned for its approach to natural resource planning. This "Headwaters to Ocean" (H₂O) Initiative, therefore, will continue a long tradition of partnership and planning.

Primary Water Resources Goal: Achieve sustainable¹ water supplies and quality to benefit Oregon's people, communities, economy, environment and ecosystems, and fish and wildlife.

¹ "Sustainability," as defined by the 2001 Oregon Legislature, means "using, developing and protecting resources in a manner that enables people to meet current needs and provides that future generations can also meet future needs, from the joint perspective of environmental, economic and community objectives."

Geographic Focus: From the top of watersheds to the territorial sea including all the lakes, rivers, streams, wetlands, underground aquifers, and manmade storage reservoirs along the way.

Water Resource Management Challenges: This section catalogues the primary challenges Oregon faces in terms of water supply, water quality, water for ecosystem benefits and administrative needs.

- **Ground water:**
 - Protect and manage critical ground water areas to prevent further depletion and intrusion of pollutants.
 - Recharge depleted aquifers to sustain existing agriculture and community use.
 - Limit impacts of ground water withdrawals on other ground water and surface water supplies.
- **Surface water, including lakes, rivers, streams, estuaries, and coastal waters:**
 - Secure adequate in-stream flows for fish, wildlife and recreation.
 - Ensure water quality and quantity for beneficial uses.
 - Monitor and reduce pollutants from point and non-point sources.
 - Address persistent bio-accumulative toxins and fish consumption levels.
 - Restore and protect watershed functions.
 - Use natural systems, where feasible, to improve water quality.
- **Stored water:**
 - Develop and capture available winter water.
 - Encourage feasibility studies and identify potential storage opportunities.
 - Construct necessary infrastructure, including aquifer storage and recovery sites and off-stream surface storage reservoirs with adequate environmental protections.
 - Minimize the effects of loss of snowpack, related to climate change.
- **Source water protection:**
 - Use conservation, efficiency, and re-use to develop additional supply and preserve water in-stream.
 - Prevent toxics from reaching water supplies in the first place.
 - Protect and restore wetlands and marine areas to ensure ecosystem benefits
 - Utilize bio-engineered solutions to store water using natural systems like wetlands.
 - Remediation of polluted sites using both engineered and biological solutions.
- **Administrative:**
 - Restore core capacity for statutorily-mandated functions lost in previous years, due to budget reductions.
 - Increase measurement and monitoring, including monitoring programs, data gathering and processing, and equipment.
 - Secure additional staff and resources to implement this H₂O Initiative, without creating new institutions.
 - Assist local jurisdictions in developing and maintaining critical water infrastructure.

- Address limited funding, by considering partnerships, technical assistance, and other sources.
- Ensure existing protections, while emphasizing voluntary programs and economic incentives.
- Prioritize basins for state funding. Prioritize our development and use of tools/ approaches.

Guiding Principles for Water Resource Management:

Planning and managing Oregon’s water resources represents a long-term commitment and a long-term investment. It should also be a thoughtful and inclusive process. We have a shared responsibility in this regard. The fundamental aim is to follow a state-wide strategy that fosters involvement and innovation at the basin level. Partners at the basin level should engage in cooperative planning efforts to which the state can bring tools—including economic incentives and technical assistance.

As such, this strategic document is designed to serve as guidance for the water-related initiatives, programs, and investments that will follow in the ensuing months and years. Although water-related needs in the state of Oregon are many, our resources are finite. Therefore, any water-related initiatives that receive state monies should clearly relate to the needs and principles spelled out in this document.

A Strategy For Water

This *Strategy* is a **three-pronged approach** to assure that Oregon’s future economic vitality, its quality of life, the health of its citizens, and its rich environment are fully-supported through:

- Protecting and enhancing water quality of Oregon’s surface and groundwater supplies,
- Meeting Oregon’s need for water today and in the future through development of more efficient water use, better conservation practices and investment in new water storage and supply projects, and
- Balancing the beneficial uses of water with meeting the need for water to provide ecosystem benefits.

Within each of the above three areas, this *Strategy* will channel resources through three program areas that include:

- Providing essential state services,
- Supporting the efforts of local, private and other key partners, and
- Making strategic capital investments.

The *Strategy* represents a **guaranteed investment**, for a minimum of ten years, using a dedicated source of funding supported by the legislature and ratified by the voters of Oregon.

Here is what the *Strategy* will provide:

<p style="text-align: center;">QUALITY Protecting and Enhancing the Quality of Oregon’s Surface Waters and Groundwater</p> <p><u>Essential State Services:</u></p> <p>Department of Agriculture: Water quality monitoring, compliance, educational outreach and pesticide management. Estimated Biennial Costs: \$2,250,000</p> <p>Department of Human Services: Drinking water safety, water supply protection, private well testing and monitoring, promotion of water reuse, monitoring and enhancing surface waters to protect human health. Estimated Biennial Costs: \$3,400,000</p> <p>Department of Geology and Mineral Industries: Groundwater mapping and assessment, investigation of underground aquifers and needs and opportunities for aquifer recharge, evaluating underground carbon sequestration, monitoring effects of climate change on coastal waters. Estimated Biennial Costs: \$3,400,000</p> <p>Department of Environmental Quality: Development and adoption of water quality standards with emphasis on sediments and toxics, reducing discharge of pollutants, monitoring and analyzing Oregon’s waters, communicating the state of Oregon’s waters, treating pollution in new ways. Estimated Biennial Costs: \$9,400,000</p> <p><u>Supporting Local, Private and Other Partners</u></p> <p>Support for Local Governments to address impacts of development on groundwater resources. Estimated Biennial Costs: \$1,000,000</p> <p>Provide technical assistance to local communities to assess and</p>	<p style="text-align: center;">SUPPLY Meeting Oregon’s Water Needs Today and in the Future Through Development of More Efficient Water Use, Better Conservation and Investment in New Water Storage and Supply Projects</p> <p><u>Essential State Services</u></p> <p>Water Resources Department: Meeting water supply needs for both consumptive and in-stream uses, developing better understanding of the resources by measuring water use and fully researching groundwater resources, determining and protecting water rights and environmental benefits of water, and providing technical assistance to small communities and to water conservation and efficiency initiatives. Estimated Biennial Costs: \$10,000,000</p> <p>Department of Environmental Quality: Provide technical assistance to address water quality issues associated with underground aquifer recharge projects. Estimated Biennial Costs: \$1,375,000</p> <p>Oregon Department of Fish and Wildlife: Provide technical assistance to ensure that water supply development projects address the need for water for fish, wildlife and ecosystem services: Estimated Biennial Costs: \$900,000</p> <p>Department of Agriculture: Provide support and coordination for meeting water needs for agriculture, for addressing invasive aquatic species, for addressing land-use issues related to water demand and coordination of soil and water conservation districts: Estimated Biennial Costs: \$1,000,000</p> <p><u>Supporting Local, Private and Other Partners</u></p> <p>Provide a statewide program of grants to communities to engage in pre-design, final design, feasibility studies and financial administration of water storage projects. Estimated Biennial Costs: \$10,775,000</p>	<p style="text-align: center;">ECOSYSTEM BENEFITS Balancing the Beneficial Uses of Water with Meeting the Need for Water to Provide Ecosystem Benefits</p> <p><u>Essential State Services</u></p> <p>Fish and Wildlife: Assess minimum flows and minimum levels for all water bodies in the state to assure we know the needs of fish and wildlife. Increase agency effort to address protection and management of estuaries and to address invasive aquatic species. Estimated Biennial Costs: \$3,700,000</p> <p>Water Resources: Monitoring and managing water use to meet ecosystem needs: Estimated Biennial Costs: \$1,500,000</p> <p>Department of Geology and Mineral Industries Monitor effects of climate change on coast andcoastal waters infrastructure. Estimated Biennial Costs \$300,000</p> <p><u>Supporting Local, Private and Other Partners</u></p> <p>Support for research, monitoring and planning to address the effects of climate change on water quality, water supply and ecosystem services: Estimated Biennial Costs: \$3,450,000</p>
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<p>address water quality problems and human health impacts of contaminated water. Estimated Biennial Costs: \$1,000,000</p> <p>Provide support for community-based organizations to promote outreach, education and compliance with public health standards Estimated Biennial Costs: \$1,500,000</p> <p>Provide support to soil and water conservation districts, watershed councils, local governments, land owners and others to reduce non-point source pollution. Estimated Biennial Costs: \$10,000,000</p> <p><u>Strategic Capital Investments.</u></p> <p>Fund a statewide water supply and wastewater treatment infrastructure asset management program. Estimated Biennial Costs: \$750,000</p> <p>Provide a statewide program of grants to communities to engage in pre-design, final design, feasibility studies and financial administration of water and wastewater infrastructure projects. Estimated Biennial Costs: \$10,000,000</p> <p>Grant Program for the consolidation of small drinking water systems (coordination). Estimated Biennial Costs: \$500,000</p> <p>Program of assistance to eliminate failed septic systems and contaminated private wells. Estimated Biennial Costs: \$5,000,000</p> <p>Total for Surface and Groundwater Quality: \$48,200,000</p>	<p>Grant program for water users to receive technical assistance or to install water measurement devices. Estimated Biennial Costs: \$1,000,000</p> <p><u>Strategic Capital Investments</u> Provide a state cost-share for water storage projects where there are benefits to the public as a whole: Estimated Biennial Costs: \$10,300,000</p> <p>Total For Development of New Water Supplies: \$35,350,000</p>	<p><u>Strategic Capital Investments</u> Fund for acquisition of water rights to assure minimum flows for fish, wildlife and water quality: Estimated Biennial Costs: \$7,850,000</p> <p>Total for Water for Ecosystem Benefits \$16,800,000</p>
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TOTAL COST OF PROGRAM: \$100,350,000