## Executive Summary

The Clackamas River is a drinking water source for over 300,000 people in Clackamas and Washington Counties and is identified in the Regional Water Supply Plan[[1]](#footnote-1) as a source to meet future water demand. There are five municipal surface water intakes on the Clackamas River represented by the Clackamas River Water Providers (CRWP): City of Estacada, Clackamas River Water, North Clackamas County Water Commission (Sunrise Water Authority, Oak Lodge Water Services and the City of Gladstone) South Fork Water Board (Oregon City and West Linn), and the Lake Oswego -Tigard Water Partnership (City of Lake Oswego and the City of Tigard).

Source water protection is the foundation of any drinking water utility and is one of the primary ways to reduce the risk to a source from contamination or decline in production. Source water protection not only helps the utility identify its risk, it is also necessary part of educating regulatory agencies, permitting authorities, and the community about the impacts their actions can have on drinking water source water quality and quantity.

Source water protection can also:

* Reduce the need for additional treatment to meet water quality standards.
* Help a utility be prepared and reduce the impacts and cost of an emergency when they understand the risk to source quality from contamination or reduce quantity due to climate change.
* Help sustainability when an alternative source of water may not be available or cost prohibitive.

Source water protection is one of the first key steps in a multiple barrier approach to providing clean drinking water which involves several consecutive steps including: high quality source water, source water protection, optimized water treatment, distribution system maintenance and water quality monitoring.

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The purpose of this document is to provide the CRWP with a road map of potential strategies and programs to continue to implement over the next decade to preserve the Clackamas River as a high-quality drinking water source and to minimize future drinking water treatment costs. In addition, the intent is to also address water quantity issues to ensure the long-term viability of the Clackamas River as a drinking water source. This document is intended to provide guidance to the CRWP but it should be recognized that as we learn more about the watershed, climate change, and as drinking water regulations change over time, the priorities of the programs and strategies identified in this plan may shift and change. Each year during the development of its annual budget and workplan the CRWP will examine the long-term strategies and 5-year workplan and determine if those priorities listed are still relevant to the ultimate goals of the organization.

**Who We Are**The water providers in the Clackamas River Basin have been working together on various water resource issues for more than two decades. During the summer of 2007 these efforts were expanded to include water conservation and broader water resource issues with the signing of the Intergovernmental Agreement creating the Clackamas River Water Providers (CRWP).

The organization is made up of representatives from City of Estacada, City of Lake Oswego, City of Tigard, Clackamas River Water, the North Clackamas County Water Commission, South Fork Water Board, and Sunrise Water Authority and currently includes two staff people, a Water Resource Manager and a Public Outreach and Education Coordinator. The purpose of the organization is to fund and coordinate efforts regarding water source water protection and water conservation.

Since the creation of the Clackamas River Water Providers and the adoption of the 2010 Drinking Water Protection Plan the CRWP has been actively pursuing and implementing source water protection programs and public education and outreach efforts. To date this includes an annual budget of around $600,000 per year to support these efforts. Many of these projects have been conducted in partnership with a variety of organizations including Portland State University, US Geological Service, Clackamas County, the Clackamas Soil and Water Conservation District, and the Clackamas River Basin Council.

**Plan Goals and Objectives**Protecting sources of drinking water is an effective way to reduce risks to public health, instill customer confidence, and control water treatment costs. Addressing water quality concerns at the source also has many other environmental and societal benefits that aren’t seen from treatment alone.

The overall concept of source protection is to have the ability to measure the balance between watershed health and human use over time and implement actions that maintain a healthy balance for production of exceptional water quality. This requires not only being aware of all the different human activities going on, and their risks to drinking water, within the watershed but also understanding the limits of what the river can handle and still maintain a high level of water quality. In addition, CRWP members recognize the need to better understand climate change and the potential future impacts to water quality and quantity that a changing climate may have on our watershed and water source. By doing this we will be able to ensure the long-term viability of the Clackamas River as a drinking water source.

The Water Providers have three primary goals for the source water protection program for the Clackamas River. They are to:

1. Identify, prevent, minimize and mitigate activities that have known or potentially harmful impacts on drinking water quality so that the Clackamas River can be preserved as a high-quality drinking water source that meets human future needs and minimizes drinking water treatment costs.
2. Identify climate mitigation and adaption strategies that will help ensure a more resilient watershed and drinking water source.
3. Promote public awareness and stewardship of healthy watershed ecology in collaboration with other stakeholders.

This Plan will lay out a number of broad implementation strategies that the CRWP can use as a map and/or work plan and will help prioritize where staff time, resources, and funding should be focused. More specific strategies will be outlined in the 5-year workplan.

**What Management Strategies does the Plan Recommend?**   
The overall drinking water protection strategy includes nine elements which outline management measures, programs, and strategies to accomplish the goal of addressing the various threats to water quality and water quantity and to ensure the long-term viability of the Clackamas River as a drinking water source.

1. **Basin Analysis: Studies, GIS, Modeling and Water Quality Monitoring Subprogram.** The objective of this program is to better understand the Clackamas River watershed and the potential drinking water threats, the Clackamas River water providers need to have the ability to measure the balance between watershed health and human use over time and implement actions that maintain a healthy balance for production of exceptional water quality. This includes watershed studies, use of GIS to map land use and potential threats, pollutant load modeling, and maintaining a comprehensive water quality monitoring program.
2. **Climate Change/Water Supply Subprogram.** The objective of this program is to better understand how climate change may impact the future of the Clackamas River in terms of both water quality and water quantity. This include looking at climate adaptation strategies as well as water supply planning.
3. **Education and Research Assistance Subprogram**. The objective of this subprogram is to encourage and promote work with college students and professors on research issues related to watershed health, and protection of the Clackamas River as a valuable resource. Programs under this subprogram will also help to promote future professional interest in watershed topics.
4. **Point Source Evaluation and Mitigation Subprogram**. The objective of the point source subprogram is to inventory, track, evaluate, and monitor point sources (water quality and other permits) of potential pollution to understand these potential threats and work with regulatory agencies, facilities, and permittees to reduce these potential threats to drinking water.
5. **Nonpoint Source Evaluation and Mitigation Subprogram.** The objective of the nonpoint source subprogram is to inventory, track, evaluate, monitor, and identify ways to mitigate for nonpoint sources of potential pollution. Stormwater runoff from urban and rural areas, and from agricultural and forestry activities is the biggest contributor to nonpoint source pollution in the Clackamas watershed. Programs identified in this subprogram will identify ways to work with other stakeholders to reduce non-point source pollution.
6. **Disaster Preparedness and Response Subprogram.** The purpose of the disaster preparedness and response subprogram is for the CRWP to recognize and be prepared for events that may have a low probability of occurring, but if they happen may cause extensive problems for the CRWP member’s drinking water source.
7. **Public Outreach and Information Sharing Subprogram**. The objective of the public outreach and information sharing subprogram is to widely disseminate data and information collected as part of the source protection program as well as information on how to conserve water to CRWP water customers, Clackamas River watershed residents, and other stakeholders through the CRWP Public Outreach and Education Program. The overarching goal is for water customers, and the watershed community to help conserve and protect the water quality of the Clackamas River and be engaged in implementing this Plan.
8. **Watershed Land Use Tracking and Management Subprogram**. The objectives of the land use tracking and management subprogram are to gain a thorough understanding of current land use activities and zoning regulations in the watershed; to develop a mechanism for tracking land use activities; and, become an active participant in shaping land use and zoning policy in the watershed to protect the Clackamas River as a drinking water source.
9. **Land Acquisition Subprogram**. The objective of the land acquisition subprogram is to target critical properties in the Clackamas River watershed for purchase or conservation easement in order to protect the watershed over the long term as a high quality source of drinking water.

**Next Steps**  
A separate 5 year workplan will be developed to outline implementation of the strategies and programs in this Plan. There are more strategies and programs identified in the Drinking Water Protection Plan than the CRWP will be able to accomplish under current staffing and funding levels. The purpose of the 5 year workplan is to provide an estimated budget for plan implementation. The implementation schedule and estimated budget will help guide the CRWP’s annual workplan and budget process but will be flexible enough to allow for changes as drinking water rules and regulation change and as more watershed data is collected that could shift program priorities.

1. Regional Water Supply Plan Update, December 2004 [↑](#footnote-ref-1)