# Clackamas River Water providers,

# clackamas watershed, Oregon

Background

The Clackamas River Water Providers (CRWP) is a coalition of nine member utilities that work to foster partnerships within the Clackamas Watershed (watershed), provide funding for source water protection, public outreach, and water conservation.While CRWP’s projects and staff are jointly funded, each utility retains its autonomy. In total, CRWP’s member utilities provide approximately 34 million gallons per day (MGD) of drinking water for 300,000 customers in the Portland Metro Area. All CRWP members source their water from the Clackamas River, which flows 82.7 miles from the slopes of Olallie Butte, the upstream mountain range that feeds the river, and drains more than 940 square miles across the region. Most of the water that feeds the watershed is from snowmelt. Portland General Electric (PGE) operates three dams on the Clackamas River for electricity generation, but water storage is limited.

Challenges

CRWP has become increasingly concerned as climate change is projected to reduce the region’s number of snow days and overall snowpack, the main contributor to their source water. Drought during the summer months has increased in frequency and severity, and water levels in the river have started to fall below fish flow targets in September and October on a more regular basis. During the record drought that occurred in the late summer of 2021, CRWP and the Oregon Department of Fish and Wildlife were required to work with PGE to release some water from Timothy Lake, which increased the total volume of water in the river by about ten percent. Since most utilities’ water intakes are located downstream, summer water conservation measures alone are not likely to significantly increase water supply levels.

Planning Process

To better understand the effectiveness of their current adaptive measures and to determine their future climate change risk, CRWP conducted a risk assessment of their drinking water system with technical assistance from the U.S. Environmental Protection Agency (EPA) using the Climate Resilience Evaluation and Awareness Tool ([CREAT](https://www.epa.gov/crwu/build-resilience-your-utility)). CREAT is a risk assessment tool that helps municipalities and utilities assess current and potential adaptive measures. The tool provides monetized risk reduction outputs to help plan for addressing climate risks. The assessment brought together individuals from CRWP and EPA’s Creating Resilient Water Utilities (CRWU) team to think critically about potential climate impacts, priority assets, potential adaptive measures, and monetized risk reduction in response to those measures.

Resilience Strategies and Priorities

CRWP has implemented several adaptive measures for drought resilience, including a voluntary water conservation program and conducting climate resiliency and alternative water supply studies. To increase their resilience, CRWP used CREAT to evaluate six potential adaptive measures: a nonvoluntary waterconservation program, accessing a new source, aquifer storage and recovery infrastructure, introducing beavers to the watershed, floodplain reconnection/enhancing wetlands, and watershed land management. The CREAT assessment illustrated the cost-effectiveness of these potential adaptive measures by calculating the monetized risk reduction under current climate conditions, along with potential future climate conditions including a hotter and drier scenario, with lower future flows for surface waters. Initial CREAT results suggest that the potential adaptive measures have varying degrees of cost-effectiveness depending on the selection of future climate scenarios and assets. An adaptation plan that includes watershed resiliency measures will produce cost-effectiveness benefits across all climate scenarios and accessing a new source could hold additional benefits such as added water storage for use during dry months.

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| **TYPE** | **RESILIENCE STRATEGIES FOR CRWP** |
| **Current Measures** | Voluntary Conservation Program |
| Climate Resiliency Studies |
| Alternative Water Supply Study |
| **Potential Adaptive Measures** | Non-Voluntary Water Conservation Program |
| Alternative Source |
| Aquifer Storage + Recovery Infrastructure |
| Floodplain Reconnection / Enhancing Wetlands |
| Watershed Land Management |
| Introducing Beavers |

Contact Information

For more information regarding CRWP’s resilience planning, contact Kim Swan, Water Resource Manager, at kims@clackamasproviders.org.