



**WASHINGTON
ENVIRONMENTAL
COUNCIL**
PROTECTING OUR LAND, AIR AND WATER



Water for Washington Coalition

Climate change: less snow, less water. How will we adapt?

Introduction

Already unable to address Washington's over-tapped rivers, streams, and aquifers, our state's water management system is unprepared to help communities, farms and fish adapt to the negative effects that climate change will have on salmon and freshwater ecosystems, as well as on the livelihoods of many Washingtonians.

Basins like the Yakima that already face water shortages, will – absent major water management reforms – have an even tougher time providing water for instream and out-of-stream needs.

How do we know our water management system is broken?

- A chronic lack of information and monitoring of water availability, use and quality plagues water resource management in our state
- Many stretches of Washington's waters run dry during late summer due to over-allocation.
- Washington aquifers are depleted by close to 1 million permit-exempt wells that have been drilled across the state since the 1940s. Many are not metered and deplete groundwater sources that feed and sustain rivers during critical fish periods in late summer and early fall.
- The Department of Ecology only has one person in each of the four regions to monitor compliance and metering of water resources.

Water for Washington, a partnership of three organizations – American Rivers, Washington Rivers Conservancy, and the Washington Environmental Council – is committed to the protection and conservation of Washington's waters and to finding collaborative water management solutions that meet instream and out-of-stream needs. The coalition works cooperatively identify solutions to the state's outdated, complex and unsustainable water management system for the benefit of fish, farms and communities.

Shortly after its creation over a year ago, the coalition organized a conversation among developers, farmers, local governments, realtors, tribes, and other interest groups to discuss opportunities to improve Washington's water management system. The group is making progress bringing 19th century water law into the 21st century.

Climate Change and Washington's Water Supply

NOAA's national climate change report and the March 2009 publication of the Climate Impacts Group (CIG) Washington Climate Change Impacts Assessment present the most current research in climate science, providing a factual foundation that demonstrates the dire need for water management reform. The most recent CIG climate change report projects a wide range of climate change impacts, including:

- Regional temperature will increase by 2.6°F. Higher elevations and windward slopes, such as the north and central Cascades will experience even greater increases in temperatures relative to the rest of the state.
- April 1st snow-water content will decrease by an average of 28% to 29% across the state by the 2020s, 37% to 44% by the 2040s and 53% to 65% by the 2080s compared to the 1916–2006 historical mean.
- The Yakima basin reservoir system will likely be less able (compared to 1970 to 2005) to supply water to all users. Other basins throughout the state will experience similar supply issues.
- Average summer runoff will decrease 16% to 19% by the 2020s, 22% to 28% by the 2040s and 34% to 43% by the 2080s.
- Salmon that spawn, migrate, or rear in fresh water during the summer and fall will experience significant thermal stress.
- Lower summer flows will also impact rearing capacities of salmon species that spend at least one year rearing in fresh water.

Adaptation to climate change requires reform of state water laws

The link between climate and water is one of the most vexing issues facing the west, yet it is just now beginning to receive the necessary attention from the public and policymakers. Clearly, we must reduce greenhouse gas emissions and work at the state and local levels to maximize the resiliency of our rivers in the face of inevitable climate impacts.

And there is no time to waste – the additional climate-related stresses to our inadequate water management system necessitate major reform of the state’s water laws. Washington should implement the following reforms to reduce the impact of climate change on our state’s waters:

- Develop and implement local water budgets that rely on science-based accounting for existing and future water needs for fish and local communities. Water budgets are a logical extension of the watershed planning process and should be accompanied by incentives to help communities meet their water management goals.
- Promote conservation and efficiency measures that reduce the amount of water we withdraw from rivers, streams, and aquifers, and still support the needs of farms and communities. Market and incentive-based conservation are useful methods for balancing these needs.
- Close or limit loopholes, like permit-exempt wells, that allow unsustainable water use and infringe on senior water rights.
- Support efforts by local communities and the Department of Ecology to prevent or address illegal water use.

Why we must act now

Climate change science, while it continues to be refined, provides evidence that cannot be ignored. If we do not act now to reform our management strategies, the long-term effects of climate change will be devastating for fish, irrigators, recreation, and human consumption.

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