

WATER PAWG RECOMMENDATIONS

The Water PAWG offers the following recommendations, organized as four main strategies:

1. Water resource management strategy
 - 1.1 Evaluate and modify state water policies that may exacerbate climate change impacts
 - 1.2 Improve the ability to flexibly transfer water across a range of sectors
 - 1.3 Evaluate new water supply options to meet water management goals
 - 1.4 Protect and restore natural watershed functions that sustain natural flows
 - 1.5 Create incentives and assistance for acquisitions to improve water efficiency
2. Water conservation and efficiency strategy
 - 2.1. Establish a statewide water conservation program and fund
 - 2.2. Define standards for water conservation and efficiency
 - 2.3. Provide education on water conservation and efficiency
3. Emergency preparedness and drought management strategy
 - 3.1 Fund the drought preparedness and emergency water supply projects accounts and modify the utilization requirements therein
 - 3.2 Remove the 10% allocation cap for non-agriculture uses for emergency drought relief
 - 3.3 Redefine “normal” as it pertains to the definition of drought in RCW 43.83B.400
4. Water resources planning and information strategy
 - 4.1 Incorporate climate change considerations into long range and emergency planning
 - 4.2 Fund and make available knowledge about water resources for climate change research and monitoring.
 - 4.3 Provide outreach to the public and others to plan and prepare for climate change

The strategies all overlap to some extent, so in the interest of identifying specific discrete steps, recommendations are separated. Implementation steps for recommendations to address the strategies are described below. No priority is assigned by the numbering. The WA Legislature and Departments of Ecology and Community, Trade, and Economic Development will play significant roles in implementing the following recommendations, in cooperation with local governments and watershed or other planning groups.

1. WATER RESOURCE MANAGEMENT STRATEGY

Description of the Strategy

This strategy focuses on addressing current approaches to water resource management and allocation within Washington. It addresses current barriers as well as identifies potential new approaches and means for sustainable water management.

Goal of the Strategy

Given the significant potential effects of climate change on water availability (including timing and amount), many existing challenges of appropriate allocations of water are likely to be exacerbated. Access to water in the state is governed by various laws, regulations, programs, and policies that have divided the resource among many competing uses including municipal drinking water

supplies, energy and agricultural production, tribal rights, and fish habitat. Even without specific effects of climate change, in many parts of the state, the demand for water has exceeded available supplies. This situation is likely to grow worse and require increasingly rapid and adaptable responses to water management. The goal of the strategy is to examine various approaches to manage water supplies in creative ways to meet both in-stream and out-of-stream demands in an increasingly unpredictable future. The specific recommendations of the Water PAWG are:

- 1.1 Evaluate and modify state water policies that may exacerbate climate change impacts**
- 1.2 Improve the ability to flexibly transfer water across a range of sectors**
- 1.3 Evaluate new water supply options to meet water management goals**
- 1.4 Protect and restore natural watershed functions that sustain natural flows**
- 1.5 Create incentives and assistance for acquisitions to improve water efficiency**

Recommendation Implementation Steps

Recommendation 1.1 Evaluate and Modify State Water Policies

The Legislature should direct the Department of Ecology to establish a Water Policy Task Force of representatives of various sectors and interests to address current barriers in Washington water policy to the sustainability of surface and groundwater resources. In particular, the Water Policy Task Force should consider and address as appropriate (using adaptive management techniques where practicable), the impacts of:

- Continued and increasing (in some areas) inappropriate reliance on exempt wells to supply water for development needs in rapidly growing areas
- Current relinquishment statutes in relation to water conservation and wise management – and the potential of current law to inhibit good stewardship
- Unpermitted water uses

To do this, the Water Policy Task Force should evaluate existing implementation authority/mechanisms that can be strengthened or adapted to promote sustainability and collaborative decision-making, including the following:

- Watershed plans and planning groups under 90.82 and 77.85
- Columbia Basin Water Management Program authorized in 2006
- Ad hoc water management groups (e.g., Cedar River IFC; Green River Refill Committee; Yakima Basin groups; Walla Walla)
- Groundwater management plans
- State authorities (water masters; metering; enforcement/compliance; utility planning and service area obligations; trust water program)
- Local authorities (GMA; flood management plans; emergency response plans)
- Water conservation and efficiency statutes:
 - Plumbing Code (RCW 19.27.031)
 - Water Supply Facilities – Referendum 38 (Chapter 43.99E RCW)
 - Water Use Efficiency Rule (RCW 70.119.180)
 - Reclaimed Water Act (Chapter 90.46 RCW)

Recommendation 1.2 Improve the Ability to Flexibly Transfer Water

The Legislature should direct the Department of Ecology to conduct/sponsor a study that examines various approaches being used in WA, across the U.S., and internationally that improves the ability of individuals to flexibly transfer water among different users and uses of water. This study should examine the pros and cons of water markets that create equity in the ability of various sectors to

purchase water. The study should consider development of an overarching infrastructure if possible that provides a context and guidelines for water transfers that protects and ensures both in-stream and out-of-stream uses.

Recommendation 1.3 Evaluate Various Water Supply Options

The Legislature should direct the Water Policy Task Force to evaluate the potential of various water supply options (whether above or below ground) to help address water management goals for in-stream and out-of-stream purposes. Additionally, storage studies—including the *2001 Report to the Legislature, Artificial Storage and Recovery of Groundwater* and those done as part of 90.82 planning should be expanded to account for climate change impacts. Other options to be investigated as means to meet water needs should include:

- Modification of existing infrastructure to meet multiple purposes (e.g., water supply, flood control, in-stream flows)
- New and expanded incentives for water conservation
- New water storage, whether in-stream or off-channel, above or below ground, through techniques such as:
 - aquifer recharge
 - natural water storage (e.g., beavers, wetlands)
 - new impoundment structures (e.g., new storage facilities currently being assessed through the Columbia River Water Management Program)

Recommendation 1.4 Restore Natural Watershed Functions

The Departments of Ecology; Community, Trade, and Economic Development; and Natural Resources should use the tools they have available for planning and habitat restoration and protection to restore natural watershed functions that decrease peak flows and increase base flows. The Departments should work together to identify the minimum flows necessary to restore and protect habitat. This may entail setting in-stream flows for targeted watersheds and establishing specific strategies to improve and protect flows. Depending on the watershed, this may have connections to the water supply options in Recommendation 1.4. Some potential options for restoring natural watershed functions may include

- restoring flood plain connectivity,
- retiring old logging roads, and
- allowing floodwaters to inundate the surrounding land to recharge soil
- property acquisition

Recommendation 1.5 Identify and Create Incentives and Assistance for Acquisitions

In urban and urbanizing areas, the Legislature, in conjunction with local utilities and not-for-profit groups should describe the pros and cons for large water suppliers to acquire small water suppliers, to improve water use efficiency and water resource management. If these acquisitions represent improved operations, access to water, and improved quality, needed incentives should be identified and funded.

2. WATER CONSERVATION AND EFFICIENCY STRATEGY

Description of the Strategy

The state should develop and implement a coordinated program of water conservation and efficiency activities targeting multiple water use sectors within the state - agriculture, municipal water supply, wastewater, and public sector supply.

Goal of the Strategy

The goal of the conservation and efficiency strategy is perennial efficiency and a system of water use that rewards consistency, as well as adaptability. The state should reduce water and related energy demands and replace existing practices over time with “more” and “most efficient” practices and infrastructure. The net efficiency savings can provide a buffer for those years where climate change and related water supply variability stress the state’s capacity and resources. As conservation and efficiency are incorporated into normal practices, the state will be better positioned to balance or adapt to changes in water supply or demand. The goal of the strategy is to develop a coordinated program that will:

- Reduce overall water use by targeted water use sectors,
- Increase water use efficiency and related energy efficiency,
- Support the development of water and energy efficient infrastructure (link to planning strategy),
- Provide funding and support for conservation initiatives,
- Include regulatory support with standards, targets and where appropriate enforcement,
- Provide the public with a common vision for water conservation and efficiency across the state and across multiple sectors of government and businesses (link to outreach strategy).

The following are recommendation of the Water PAWG:

- 2.1 Establish a statewide water conservation program and fund**
- 2.2 Define standards for water conservation and efficiency**
- 2.3 Provide education on water conservation and efficiency**

Recommendation Implementation Steps

Recommendation 2.1: Establish and Fund a Statewide Water Conservation Program and Fund

The Legislature should appropriate \$10 million to fund conservation activities. With this funding a Cooperative Statewide Conservation Program would be established to competitively disperse funds, evaluate and track performance of expenditures, and disseminate lessons learned. State agencies would pool their resources and efforts to provide a coordinated front for all sectors and users of water resources. The Program would be managed by [REDACTED]. Water conservation and efficiency activities to be supported and funded may include the following:

- Market initiatives and tax credits
- Conservation incentive programs
- Infrastructure development or redevelopment
- Enforcement of water mis-use
- Development and application of new technologies and techniques
- Improved agricultural techniques
- Landscaping techniques (such as urban forests, xeri-scaping™)
- On-site use of stormwater and rainwater and low impact development techniques
- Retrofits of existing development for on-site use of stormwater and rainwater
- Use of basic service meters in communities
- Use of reclaimed water, grey water, industrial re-use

Additionally, the state should aggressively pursue federal resources to support management strategies and decisions [e.g., Senate bill, S. 1766, “The Low Carbon Economy Act,” which includes the creation of a Climate Adaptation Fund to facilitate planning, design, and construction of projects to conserve water and improve water use efficiency]

Recommendation 2.2 Define Standards for Water Conservation and Efficiency

State agencies should develop rules to establish and enforce standards for water conservation and efficiency across a range of sectors. Examples include:

- o State agencies should promote standards for sustainable development such as dual pipes
- o The state should explore options/standards for decreasing energy and water use for wastewater treatment
- o The state should support stronger federal and state appliance efficiency standards.

Recommendation 2.3 Provide Educational Outreach on Water Conservation

State agencies should provide education on water conservation and efficiency tools and techniques to a variety of audiences from a range of sectors.

- o Outreach programs should encourage the adoption of more efficient water conservation equipment across a range of sectors.
- o Agencies should provide incentives and education for communities to use less water and energy.

3. EMERGENCY PREPAREDNESS AND DROUGHT MANAGEMENT STRATEGY

Description of the Strategy

This strategy revitalizes the drought preparation account and actively markets preparation for drought in all sectors. It also recognizes a need to re-think the definition of drought.

Goal of the Strategy:

Climate change is expected to result in increased frequency, severity, and persistence of low or drought level water supply conditions in Washington State. The goal of the strategy is to enhance the state’s capacity to adapt to emergency water supply conditions by shifting emphasis from emergency response to proactive preparation and management. The recommendations of the Water PAWG are to:

- 3.1 Fund the drought preparedness and emergency water supply projects accounts and modify the utilization requirements therein**
- 3.2 Remove the 10% allocation cap for non-agriculture uses for emergency drought relief**
- 3.3 Redefine “normal” as it pertains to the definition of drought in RCW 43.83B.400**

Recommendation Implementation Steps

Recommendation 3.1 Fund the Drought Preparedness (DPA) and Emergency Water Supply Projects Accounts and Modify the Utilization Requirements Therein

The Legislature should authorize bonding for \$10 million to fund the accounts. This would allow bonds to be sold on an “as-needed” basis to support a multi-year preparation and response. Use of the account would not require new legislation if applied within existing statutes and intent.

Management and rule making authority for account use is delegated to Ecology per [RCW 43.83B](#). Based on prior uses of the account, adequate guidance is available ([Chapter 173-166 WAC](#)) to

provide for early and effective use. Per that guidance, funds could be distributed to public bodies for agricultural, municipal, and fish and wildlife water infrastructure improvements to facilitate operation during drought water supply conditions. A significant number of smaller infrastructure improvements could be completed within an initial 5-year period. Examples include:

- Agriculture – Emergency wells, improved water diversion and delivery
- Municipal - Small municipal systems upgrades, emergency wells and interties
- Fish and Wildlife - Hatchery water supply, fish collection and passage facilities

Other considerations for the drought preparation funding should include options for loan programs for non-municipal supplies. Many water supplies in the state are non-profit but not legally a public entity these include homeowner and community associations. A “refillable” source of low cost funds targeted for emergency preparedness would encourage small utilities to make the needed infrastructure adaptations. Existing funding programs do not preclude these types of projects but they often fail to score high enough in on the priority lists of what’s actually funded. Operator owned utilities and other small non-municipal utilities have a very limit set of funding resources. Long term infrastructure improvements often get overlooked for more immediate needs. A source of low interest loans can be an important incentive to encourage better long term assessments and preparations.

Recommendation 3.2 Remove the 10% Allocation Cap for Non-Agriculture Uses for Emergency Drought Relief

[WAC 173-166-090](#) (6) states that “no more than 10% of total available funds will be allocated for nonagricultural drought relief purposes, including the preservation of the state's fisheries during a biennium.” Stakeholders other than agriculture require emergency relief from drought. In the past, Ecology has dealt with the issues this cap creates by overriding this cap via an emergency rule and/or by transferring funds to the DPA, which does not contain such limitations. Removing the 10% cap will ensure all stakeholders are assisted during a drought emergency and will eliminate the need to expend valuable agency time on procedural tactics used to circumvent the cap. The Washington Legislature should remove this cap via an amendment to [WAC 173-166-090](#)

Recommendation 3.3 Define “Normal” as it Pertains to the Definition of Drought in RCW 43.83B.400

The Department of Ecology should research the appropriate definition for “normal” to better define drought. Currently, per [RCW 43.83B.400](#) a “drought condition means that the water supply for a geographical area or for a significant portion of a geographical area is below 75% of normal and the water shortage is likely to create undue hardships for various water uses and users.” In a pre-climate changed water policy world, it was easy to calculate “normal” – it was simply the mean of the historic record. As climate changes, historical records are less predictive of water availability. This recommendation would require further research to create a formula that would define drought to remove the bias associated with older historic data that is unrepresentative of typical conditions, even seen today. A new definition of drought would also be flexible. This flexibility will allow the state to declare drought in some regions and not in others based on different definitions of supply. Clarifying what “normal” means would not remove this flexibility. A rule that goes through the public process would demystify how the 75% of normal supply determination is calculated. Furthermore, such a rule would help push the trend away from emergency-based drought responses toward adaptive management-based planning.

4. WATER RESOURCES PLANNING AND INFORMATION STRATEGY

Description of the Strategy

The strategy promotes the need to plan for and gather better data about the effects of climate change on water resources. It recommends the integration of climate change into a variety of planning environments, including long-range water resource and emergency planning, and the conduct of science and information gathering research.

Goal of the Strategy

The strategy recognizes that the profound effects of climate change require planning from every perspective. The goal of the strategy is to incorporate climate change into long-range and emergency planning through mandates. Additionally, improved monitoring, and scientific information gathering, and data management will be implemented. The strategy also aims to engage and educate a cross-section of entities that will be affected by climate change, including the public, planning groups, and local governments, with the intent of helping them plan for the future. The Water PAWG recommends the following:

4.1 Incorporate climate change considerations into long range and emergency planning

4.2 Fund additional climate change research and monitoring to improve climate change information

4.3 Provide outreach to the public and others to plan and prepare for climate change

Recommendation Implementation Steps

Recommendation 4.1 Incorporate Climate Change Into Long-Range Planning

The Legislature, working with the Departments of Community, Trade, and Economic Development; Ecology; and Fish and Wildlife should modify the Growth Management Act (GMA), State Environmental Policy Act (SEPA), Shoreline Management Act (SMA), and State Wildlife Management Plans to require the incorporation of climate considerations. The Legislature should provide funding to revise the assessments done in RCW 90.82 watersheds to account for climate change impacts on both supply and demand sides. The Legislature should mandate that state agencies include climate change as an element in studies supported by state or federal funding or in planning activities (e.g. related to water permitting). Local governments and planning groups should be required to review and comment on existing comprehensive plans to identify, prioritize, and address issues related to climate change. Local drought response plans should be developed that include approaches for water use savings (including curtailment) during low supply periods. These could be incorporated into existing planning such as water utility planning and local government comprehensive plans. All water supply, watershed, and other significant water resource related planning should incorporate both “likely” and “worst case” scenarios relative to water availability and water demand.

To support the above efforts, the agencies should provide ongoing technical assistance and data for all variety of planning efforts, including emergency management. Additionally, the agencies should further make use of “scenario” planning to aid in developing a better understanding of potential future impacts of climate change and measures for response. These efforts should be coordinated with and involve water professionals, state agency representatives, local governments, environmental and agricultural interests, as well as academia. This may be accomplished through establishment of a working group or task force. This task force may also address trans-boundary issues associated with some components of WA water supply.

Additionally, a task force could be convened to examine the need for large-scale statewide investments in water, such as the current \$5-9 billion bond measure being promoted in California

Recommendation 4.2 Fund and make available knowledge about water resources for climate change research and monitoring.

The Legislature should augment current scientific research efforts, to establish a credible infrastructure of hydrologists and climate change scientists to provide increasingly finer resolution data and understanding (e.g., at watershed scales) of effects of climate change on water resources. This scientific infrastructure can also be used to study and develop data on hydrologic changes related to large-scale disturbances, such as fire and forest die-back.

The Legislature should direct state agencies to organize information and knowledge about water resources – including water use, water quality, return flows, extent of exempt wells, ground water availability, etc. and make this information available to a broad cross-section of users. A monitoring and data management program should be established to improve the monitoring of water rights, water use, water quality, ground water resources, return flows, exempt wells, etc through improved metering and reporting. Agencies, in coordination with academic institutions, should monitor ice resources, such as glaciers, temperature, and precipitation in high elevations, and quantify their influence on the hydrologic cycle at the watershed scale. Better data such as floodplain maps should be developed. Comprehensive data can provide the basis for water management decisions (e.g., work in Columbia basin and Walla Walla Subbasin).

Recommendation 4.3 Provide outreach to the public and others to plan and prepare for climate change

State agencies should ensure that information gathered as part of planning and water resources investigations is made accessible to the broadest audience possible. Planning will be required by many organizations to adapt to climate impacts and the more accurate the information and robust the tools, the more effective the planning. Agencies can do this by engaging more actively with watershed planning groups, as well as developing tools, fact sheets, and brochures and conducting training with local groups, schools, local governments, etc.

NOT SURE HOW TO HANDLE THESE

Overarching Critical Considerations

- **Agriculture**
 - The commitment to agricultural drought relief should be maintained. Agriculture is the last bastion of family business and people in those professions are sensitive to the financial consequences of drought.
 - Preparedness will happen most easily in municipalities and irrigation districts, but this will not address farmers who are direct irrigators.
- **Planning**
 - This recommendation should include language about using conservation policies and growth management planning to ensure that the effects of drought are not exacerbated by a lack of planning.
 - Drought is considered a natural event, but there is also human-made drought. There are many small utilities up against their water rights, but they are under development pressure. Having a drought planning component as well as a future availability component in a water system plan would help to flag points where issues might arise.

- Drought, by statute, is about the net input into the system. A planning and preparation approach can consider this, whereas waiting until an emergency could have dire consequences.
- Drawbacks to this Approach
 - Not all emergency need can be offset by preparation.
 - Simply changing the definition of drought will not change the approach to drought, it simply modifies the trigger for the release of drought funds.