

**MEETING SUMMARY – In Person Meeting #1**  
**Water Resources and Quality (Freshwater) Preparation/Adaptation Work Group**  
**Water PAWG**  
**July 30, 2007, 10AM-3PM**  
**Triad Urban Center, Seattle, WA**

**ATTENDEES**

**1. Water PAWG Members:**

Tom Laurie, WA Dept of Ecology (Lead)  
Denise Clifford, WA Dept of Health  
Jon Culp, WA State Conservation Commission (for Mark Clark)  
Marketa McGuire Elsner, Climate Impacts Group, UW  
Paul Fleming, Seattle Public Utilities  
Alan Hamlet, Climate Impacts Group, UW  
Mo McBroom, WA Environmental Council (for Rod Brown)  
Dave Monthie, King County  
Tom Myrum, WA State Water Resources Assoc.  
Carl Samuelson, WA Dept of Fish and Wildlife  
James Schroeder, National Wildlife Federation  
John Stuhlmiller, WA Farm Bureau  
Mike Petersen, The Lands Council  
Tom Ring, Yakama Nation Water Program

**2. Agency and Staff Support:**

Hedia Adelman, WA Ecology  
Stephen Bernath, WA Ecology  
Kurt Unger, WA Ecology  
Andy Chinn, Ross & Associates Environmental Consulting, Ltd  
Nancy Tosta, Ross & Associates Environmental Consulting, Ltd

**3. Public Attendees:**

Bruce Abernethy, Sinclair Knight Merz (SKM) Consulting  
Susan Adams, Washington Water Trust  
Sean Bauer, City of Kent  
Craig Clifton, Sinclair Knight Merz (SKM) Consulting  
Sue Gunn, Center for Environmental Law and Policy  
Lisa Pelly, Washington Rivers Conservancy

**BACKGROUND DOCUMENTS:**

1. Agenda:

<http://www.ecy.wa.gov/climatechange/PAWGdocs/wr/073007WRAgenda.pdf>

2. Coping with Climate Change (Pew Center):  
[http://www.ecy.wa.gov/climatechange/PAWGdocs/wr/073007WR\\_PewAdaptation.pdf](http://www.ecy.wa.gov/climatechange/PAWGdocs/wr/073007WR_PewAdaptation.pdf)
3. Climate Impacts on Washington's Hydropower, Water Supply, Forests, Fish and Agriculture (King County/UW Climate Impacts Group):  
[http://www.ecy.wa.gov/climatechange/PAWGdocs/wr/073007WR\\_KingCoSummaryOct05.pdf](http://www.ecy.wa.gov/climatechange/PAWGdocs/wr/073007WR_KingCoSummaryOct05.pdf)
4. California Water Plan:  
[http://www.ecy.wa.gov/climatechange/PAWGdocs/wr/073007WR\\_CaliWaterPlanning%20Process.pdf](http://www.ecy.wa.gov/climatechange/PAWGdocs/wr/073007WR_CaliWaterPlanning%20Process.pdf)
5. Summary of June 29 meeting:  
[http://www.ecy.wa.gov/climatechange/cat\\_pawg\\_wr.htm](http://www.ecy.wa.gov/climatechange/cat_pawg_wr.htm)

## DISCUSSION AND KEY ISSUES:

1. **Alan Hamlet, Climate Impacts Group, gave a brief review of House Bills 1303 and 2860.** House Bill 1303 was passed to address mitigation of greenhouse gases, in particular considering transportation opportunities. It also recognized gaps in adaptive planning for climate change, so language was added to address water, human health and agriculture adaptive measures. Ecology, using a portion of the Columbia River Basin funding provided from the 2006's HB 2860, provided funding to the UW Climate Impacts Group (CIG) to produce a comprehensive set of scenarios – particularly stream flow scenarios – for long-term planning. The study, which will provide quantitative information focusing on the Columbia basin, is also funded by Oregon, Idaho, British Columbia, the Bonneville Power Administration and the Northwest Power and Conservation Council.
2. **The PAWG reviewed the draft “issues” document.** This document was developed based on the list that the PAWG generated during the 6/29 meeting. Tom Laurie pointed out that the PAWG had received public comments on this document from the Center for Environmental Law and Policy (CELP) and others, and that as public comments are submitted they will be posted on Ecology's website. For the issues document, PAWG members' comments were organized into certain themes, some of which were general and some of which fell under specific issues categories. PAWG members provided the following comments on the first section of the document (General Issues/Considerations):
  - Make a distinction between in-stream flows and low-flows. In-stream flows are generally characterized as water *quantity* whereas low-flows generally refer to *establishing critical time periods*. The question then becomes: What is the appropriate return period in the future if you include a variable such as climate change?
  - Due to the frequency of droughts over the past several years, the topic of mobilizing the drought plan on an annual basis has arisen because of climate change. In other words, the question has become: Do we have the institutional framework in place to react quickly to extreme and changing conditions?

- The PAWG should consider how institutions can be more proactive and what mechanisms are needed to make them more proactive. Currently, government and policy makers are limited to a reactive legislative authority to enact the drought plan when certain trigger numbers are met.
- It might be useful at some point to describe water transfers and the amount of water available for trading. In the Yakima system there is a well-developed mechanism for transferring water from low value users to high value users, and it may be helpful to explore whether or not a similar mechanism could be applied to other regions.
- It would be helpful to look at the various watersheds that have been impacted by drought conditions and how climate change might affect them.
- The second bullet point (connection between increased population and increased water demand) can be conditional; for example, in Seattle increased population has not led to increased demand on the water system. In other words, there is a potential for decoupling of population and water supply. If this group is focused on water supply in general wastewater and urban drainage issues should also be addressed.
- The group should incorporate high-flows into the discussion.
- Problems such as watershed degradation are generally well understood. If the funds and the will exist, these can be fixed without need for further study.
- Climate change works in the same way as an issue such as development. It is a slow, cumulative change that is difficult for the policy sector to handle.
- The state is not accurately tracking use of water. Even in places where diversions are required to be metered, there is much less metering of return flows coming out of these systems. For example, someone taking 14 acres of water out of a system for agriculture is likely returning 12 acres somewhere.
- As an overarching theme – the current system is somewhat broken and as climate change increases the demands on this system the policy failures will become more apparent. This point needs to be emphasized.

The following comments address the second section of the document (Specific Water Issues):

- Setting instream flows does not improve stream quality. The PAWG needs to consider this statement under the context of how to better achieve set flows.
- There is a lack of clear understanding of water rights.
- What are the biological and ecological responses to climate change (increased algae, increased invasive species range, etc)?

- The issue of water demand or use from exempt wells needs to be understood.
  - Rain harvesting and use should be included in the list.
  - There is a need for some form of storage to replace loss of snowpack.
  - On the topic of floods and drought: In the past, historical records were used to predict the future. Given the future uncertainty, a new process is needed. Similarly, on the topic of infrastructure: What is the basis for predict stormwater or wastewater infrastructure needs in the future?
  - Under “Topic B: Long Range Planning”, the effects of climate change should not be incorporated into current salmon recovery efforts, as these efforts are already under-funded.
  - The category of water supply would serve the discussion more appropriately if it were divided into supply and demand categories (two separate issues that deserve their own conversation).
  - There needs to be something in the document about Tribal Treaty Water rights.
3. **The PAWG reviewed the maps and information showing variable effects of climate change in different regions of the state.**
- a. Given that climate change effects will vary in different parts of the state, how should the PAWG approach this problem? Should the PAWG analyze in terms of zones of effects? Should the PAWG look at Water Resource Inventory Areas (WRIAs) or “watersheds” as analyzed by the CIG or are there general recommendations for the state?
  - b. Temperature effects are much more certain than precipitation effects, so the basin assessment conducted by the CIG examines and characterizes watersheds that are likely to be more sensitive to temperature (such as those with snowpack.)
  - c. The political and infrastructure geography are important, as well as the idiosyncratic nature of climate change.
  - d. WRIAs do not represent watershed boundaries. One recommendation might be that water adaptation efforts focus on watersheds based on the potential effects as defined by the CIG (the CIG will be doing more work on this in the future).
  - e. The group may want to continue to focus statewide unless specific needs are identified to examine by watershed.
4. **The PAWG discussed different approaches/processes to move forward with its work.**
- a. One is a traditional analytical approach. The PAWG would identify the potential climate impacts (based on CIG work), outline potential effects, and then recommend how the state should prepare to adapt to those effects. The benefit is that PAWG members are already familiar with this

approach and the CIG has done a large amount of work on a range of potential climate change scenarios. The challenges are 1) the large uncertainties in climate changes and potential effects make it possible to overlook issues and 2) the approach does not provide a means to easily consider the interaction of water issues with other variables (such as changing crops, population demands).

- b. The second method is a scenario-based approach where PAWG members would conceptualize all aspects of the water system, the drivers that might affect it, and various stories about the future based on the interaction of and variations on the drivers. Based on the possible futures, the PAWG would then outline the range of adaptive approaches that should be considered to deal with those futures. The advantages of a scenario approach are to provide a means to visualize different futures and to consider variables that may affect water that would be missed in a more traditional approach. It also provides a means for the PAWG to share views on possible future that does not require agreement on the effects of climate change. The disadvantage is that would require work between meetings that isn't likely to be necessary under the analytical approach.
- c. The question was put to the PAWG on the approach they'd like to pursue. Most stated they found the scenario approach intriguing and of interest, but were concerned about the time commitment. The decision was made to move forward by brainstorming specific ideas for actions to be further discussed at future meetings. Additionally, a smaller team of PAWG members will meet to explore whether the scenario approach may also help to inform the dialog.

**5. PAWG members gave their thoughts on various climate change adaptation actions for freshwater resources:**

- Redefine drought triggers.
- Provide adequate funds in the drought preparedness account to allow for a proactive approach.
- Provide adequate funds for water conservation and efficiency, particularly infrastructure and management.
- Create a better understanding of water use on the ground and better understanding of water rights.
- Improve the flexibility of moving water around.
- Restore natural watershed functions that decrease peak flows and increase base flows.
- Create incentives for large water suppliers to acquire small water suppliers to improve efficiency and management. Find incentives for people to use reclaimed water.
- Regulate exempt wells.
- Invest in scientific infrastructure
- Explore storage for retiming flows, including modifying existing storage.

- Promote on-site use of stormwater and rainwater as well as low impact development techniques.
- Retrofit existing development through incentivizing or funding for on-site stormwater and rainwater use.
- Promote less water-intensive crops.
- Support stronger federal appliance efficiency standards.
- Redefine drought (defining drought determines the triggers for release of drought funds).
- Promote urban forests and xeri-scaping to reduce water use.
- Require local drought response plans that include curtailment and other use.
- Promote water conservation.
- Incorporate an achievement aspect to setting stream flows.
- Strengthen emergency management plans to incorporate greater risks.
- Revise floodplain maps.
- Promote standards for sustainable development such as dual pipes.
- Incorporate climate change into Growth Management Act (GMA) plans.
- Provide technical assistance for SMAs, State Wildlife Management Plans, and SEPA.
- Enforcement of illegal uses (non-permitted uses).
- Explore whether or not there could be energy savings in wastewater treatment including the creation of standards for whether or not wastewater plants can conserve water.
- Engage the public about climate change impacts.
- Create incentives for communities to use less energy and water.
- Examine options for watershed/salmon planning groups to consider climate change.

**NEXT STEPS AND AGREEMENTS:**

1. The adaptation strategies created by the PAWG will be organized and distributed to PAWG members via e-mail for comments.
2. Comments will be incorporated and a spreadsheet developed with the actions and various criteria to categorize. PAWG members will complete and return for compilation prior to the Aug 9<sup>th</sup> meeting.
3. Denise Clifford, Paul Fleming, Carl Samuelson, James Schroeder, John Stuhlmiller, Jon Culp, and Mike Peterson agreed to participate in the scenario team. A meeting will be set up prior to the Aug 9<sup>th</sup> PAWG meeting.

**NEXT MEETING:**

The Water PAWG will meet via conference call on Thursday, August 9, 2007 10AM-12PM.

**MEETING SCHEDULE:**

September 14 (Conference Call)

October 9 (Face to face)

November 7 (Conference Call)

December 4 (Conference Call)