



Carpe Diem

WESTERN WATER & CLIMATE CHANGE
A PROJECT OF EXLOCO – PATHFINDING IN THE NEW WEST

Carpe Diem Project - Healthy Headwaters Initiative

Working Group Meeting

Friday, March 19, 2010

Seattle, WA

Meeting Summary (Final 4-19-10)

On March 19, 2010, the **Carpe Diem - Western Water & Climate Change Project** hosted a working group meeting at the Wilburforce Foundation in Seattle to explore and discuss opportunities for a new level of national forest and watershed protection in the era of climate change.

The purpose of this meeting was to further develop policy and management options among a leadership group of western NGOs, scientists, local and regional water agencies, federal agency leads, staff for elected officials, and foundation representatives. The work centered around: common solutions that could create an agenda for change; new responses developing in various western watersheds; key science and analysis questions; and “getting prepared” for climate change.

Meeting Outcomes

- ▶ Identification of immediate opportunities to incorporate water and climate concerns into federal policies.
- ▶ Understanding of the unique set of challenges and opportunities for change in five key urban watersheds in the West.
- ▶ Initial development of a draft suite of potential policy options, including a pilot project for voluntary contributions from downstream urban water users.
- ▶ An increased understanding of the critical science and analysis gaps, along with communications research needs.
- ▶ Further development of a common framework and language.
- ▶ Identification of next steps and formation of a working group.

Background material, including the science presentations and links to items cited in this summary are available at http://www.exloco.org/Headwaters_Seattle/

Why This Meeting

Kimery Wiltshire

Director, Carpe Diem – Western Water & Climate Change Project

Following the welcome and group introductions, Kimery gave the overview of the **Carpe Diem Project's Healthy Headwaters Initiative**:

- ▶ In the American West, the source of the majority of water supply is in the big headwater systems - primarily public lands, but also on private lands. The impacts of climate change on these essential systems are becoming increasingly clear - less snowpack, earlier timing of run-off, more extreme downstream flooding and higher sediment loads.
- ▶ The **Carpe Diem Project** is a network of over 600 decision makers and scientists that brings together key leadership from various sectors across the West who may not ordinarily work together to assess the current and projected impacts, identify potential policy and management responses, and to develop joint actions and new policies.
- ▶ The Carpe Diem *Healthy Headwaters Initiative* is engaging key leadership to both better understand these complex issues and to develop joint best practices, management and policy options.

Panel: Federal government responses to climate change, water & public land management

Jay Jensen

Deputy Undersecretary for Natural Resources & Environment, US Department of Agriculture

- ▶ Jay was excited to learn about the Healthy Headwaters coalition/working group, noting that Secretary Vilsack wants to connect people to the land in rural America, and that the Secretary's vision lines up very well with this group's goals.
- ▶ Climate and water are the highest common denominator - high profile issues for USDA.
- ▶ USDA thinks that the best way to translate to action is via restoration – to reestablish ecosystem resilience.
- ▶ Emphasis was placed on looking across boundaries and collaborating. Think about “lands to protect and lands to manage.” Working with Secretary Salazar, DOI's climate centers and science centers, and NOAA's Climate Bureau, USGS is chairing a regional conference.
- ▶ Several initiatives this group should know about and potentially engage in:
 - Climate action plans
 - Water strategy (condition classes)
 - The new Office of Environmental Markets (headed up by Sally Collins)
 - Forest planning rule – the frame is water and climate
 - FY 11 budget proposal – Integrated Resource Restoration line item - \$694 million total, including \$50 million for watersheds and job stabilization. *How can IRR work in your areas?*

Sara Crumb

Deputy District Director, Congressman Norm Dicks' office

- ▶ Water and climate are important to the Congressman; he will continue as member of Interior Appropriations subcommittee.
- ▶ FY 10 appropriations emphasized EPA drinking water, wastewater treatment, climate adaptation and research, and forest road remediation.
- ▶ “Great Bodies of Water” bill - the Congressman wants funding for Puget Sound comparable to that for the Great Lakes & Chesapeake Bay.
- ▶ Communities need to work together. The Skokomish watershed is a perfect example of collaboration.

Comment from meeting participant: For the Congressman’s extraordinary record of support for land, water, and wildlife, “they should retire his number.”

Paula Vanhaagen

Manager, Grants & Strategic Program, Environmental Protection Agency - Region 10

- ▶ EPA has broad interests in wastewater and watersheds, climate adaptation research and communications. EPA has developed a national water program and a regional (multi-program) climate change strategies.
- ▶ Staff work on climate change is an “extra duty” for most.
- ▶ New policies and initiatives related to adaptation are rolling out this fall from the Council on Environmental Quality and other Federal agencies. CEQ is leading a multi-agency adaptation strategy being developed by 12 working groups looking a wide array of adaptation topics.
- ▶ EPA’s Climate Ready Estuary can help designated estuaries with vulnerability assessments.
- ▶ Region 10 has received considerable funding for Puget Sound - used to address Puget Sound’s priority issues. Of current relevance, one recent Request for Proposals targeted water quality impacts from storm water, and encouraged consideration of land use and a watershed perspective. There was a lot of interest and many proposals to address storm water and land use impacts. EPA works closely with the Puget Sound Partnership and other partners in its Puget Sound work.
- ▶ EPA has been an advocate of the watershed approach for many years and has integrated it into most water programs.
- ▶ For follow-up work on climate change and forestry, Dave Powers is the Regional forestry lead. He has been engaged in issues related to carbon offsets.

Panel: Western Cities - Headwaters management and downstream use - What are the key questions?

Dale Lyons

Water Resource Coordinator, City of Santa Fe

- ▶ Santa Fe has adopted a 20-year watershed restoration plan to reduce fire risk through prescribed burns, fuel reduction and monitoring on National Forest lands.
- ▶ Funding costs, equaling about \$8/year for water customers, will be shared by the city and USFS.
- ▶ Funds include additional monitoring, ongoing and maintenance thinning, and vegetative management.
- ▶ For the first five years, the city's contribution will be paid by the state (due to the recent expensive Rio Grande diversion project) and ecosystem services contribution will be shown as a credit on water bills.
- ▶ Over the next five years, Santa Fe will be developing a public relations program to build public acceptance through direct, personal contact with financial statements.

Laura Briefer

Special Projects Manager, Salt Lake City Public Utilities

- ▶ The municipal watershed has four world class ski areas, several different political jurisdictions, and 20% private lands, making management extremely challenging.
- ▶ The city is experiencing challenges with downstream development pressures.
- ▶ The city is participating in the creation of a Wilderness expansion bill (author: Congressman Mathesson) to protect the balance of the watershed (Wasatch Wilderness and Watershed Protection Act). Laura noted that protection of water supply brings a different dynamic to the discussion of a new wilderness bill.

Tom Buschatzke

Water Advisor, City of Phoenix

- ▶ 20% of Phoenix surface water comes from the Verde watershed (the most watered portion is 84% National Forest land).
- ▶ The Verde River is a potential Wild and Scenic river.
- ▶ The water flow impact of wells (and water rights) is a major issue and any call by downstream urban water users to change the flow regime is viewed with great suspicion.
- ▶ The state of Arizona has severe budget problems which puts any discussion for change on hold for the time being.

Paul Fleming

Manager, Climate and Sustainability Group, Seattle Public Utilities

- ▶ The Cedar River watershed is 100% city-owned.
- ▶ A Habitat Conservation Plan is in place.
- ▶ The climate impact analysis projects a 7-21% reduction in water supply.

- ▶ The Water Utility Climate Alliance, which includes Seattle and seven other major cities and water suppliers, is promoting climate change research and adaptation strategies.
- ▶ Downscaling of work already done by other cities (NYC, SF, et al.) is in progress.

Greg Volkhardt

Environmental Programs Manager, City of Tacoma

- ▶ 90% of city water comes from the Howard Hanson reservoir and Green River watershed (40% private timber land, 30% National Forest, and 10% city-owned).
- ▶ Key questions the city is currently considering:
 - Are operational changes in the dam needed?
 - Can we meet water supply and in-stream flow requirements?
 - What investments are needed for future adaptation and resiliency? e.g. reduce erosion from roads that parallel the river.
- ▶ A new filtration plant may be approved this month to deal with increased sediment loads.

From the Headwaters - Comments

Eric Kuhn

General Manager, Colorado River Water Conservation District

- ▶ Beetle impacts are enormous.
- ▶ Consider the effects of dust on snowpack.
- ▶ We need to connect forest health with the Bureau of Reclamation's new Colorado Basin study to really address long term supply issues.

Anne Mackinnon

Board Member, Wyoming Water Development Commission

- ▶ Consider buffer ownerships just below National Forest lands (important watersheds in WY) and ecosystem services payments to private landowners.

Panel: The Science - What do we already know and what are the biggest unknowns?

Jeremy Littell

Research Scientist, University of Washington Climate Impacts Group

- ▶ It is difficult to model small-scale watersheds and dynamics.
- ▶ There is a major shift in snow/rain proportions and in fire/vegetation interactions.
- ▶ Fire severity vs. fire intensity is an important distinction to make.
- ▶ Fuel buildup on the ground leads to longer duration and higher intensity of fires, which leads to more soil and water impacts.
- ▶ There is a need for small-basin observations and modeling experiments to understand

interactions of snow/water flow and vegetation/disturbance.

Brian Staab

Regional Hydrologist, Pacific Northwest Region, USFS

- ▶ National forests are critically important to aquatic resources in the PNW: almost 50% of total streamflow originates on these lands, they provide important aquatic habitats.
- ▶ Current land management practices have the greatest potential to affect water quality and aquatic ecosystems, both positively and negatively. Limited effects on quantity and timing of streamflows (NRC). These facts guide current management and will need inform strategies for climate change adaptation.
- ▶ The PNW Region is implementing robust, landscape-scale aquatic strategies to protect and restore watersheds (e.g., Northwest Forest Plan Aquatic Conservation Strategy). This is a suite of protection measures for watersheds to passively recover, while allowing a variety of land management activities to occur. Measures include application of integrated, strategically-focused restoration treatments across whole watersheds in priority areas.
- ▶ Watershed protection and restoration actions are jointly implemented in many municipal watersheds, by both land managers and water providers. Objectives typically focus on both water quality and aquatic habitats, not one or the other. (Management of the McKenzie River and Eugene hydroelectric and water supply facilities is a good example.)
- ▶ Climate change studies cooperatively conducted by the USFS and Eugene in this watershed and used to inform a settlement agreement for operation of the hydroelectric facilities. Agreement is based on a flexible, adaptive framework to accommodate increased uncertainty in future streamflows.
- ▶ PNW Region has developed an integrated plan for conserving landscapes in the face of climate change. The water components of the plan focus on increasing watershed resilience by continuing to reduce non-climatic stressors, conducting vulnerability assessments, filling key knowledge gaps (e.g., changes in summer low flows and temperatures in headwater streams), and conducting strategic monitoring (e.g., snowpacks, streamflows, stream temperatures).

Reference: National Research Council. 2008. *Hydrologic Effects of a Changing Forest Landscape*. Water Science and Technology Board, National Academies Press, Washington, DC.

Panel: Policy Options to Promote Healthy Headwaters

Kathleen Dowd-Gailey

Regional Director, Pacific Northwest, National Forest Foundation

- ▶ The National Forest Foundation is developing a voluntary contribution program for cities that rely on National Forest watersheds. A similar program for ski areas has been very successful, and the program can be designed to let customers either opt-in or opt- out.

Mike Anderson

Senior Resource Analyst, The Wilderness Society

- ▶ There is fertile ground for building on current programs and initiatives - e.g. working with USDA.
- ▶ Congressman Dicks recently told a collaborative watershed group: “Give me a 3-year plan.”
- ▶ We need to build long-term policy from the bottom-up; for example, with “climate-water security plans.”
- ▶ Municipal watershed plans could build on USFS regional climate action plans.
- ▶ Need to consider inequities of financial capacity between large and small cities.
- ▶ Private funders could provide seed money to develop watershed plans like Santa Fe’s (which had unique federal funding).
- ▶ FY 11 appropriations opportunity: federal match for National Forest Foundation’s voluntary contribution program as a Healthy Headwaters pilot project.

Group Comments and Next Steps

- ▶ The Environmental Law Institute could analyze relevant laws and policies, including funding mechanisms.
- ▶ Chequamegon-Nicolet (Wisconsin) is an excellent example of an integrated response to climate change.
- ▶ “Stitching our sails” (i.e. getting ready for bad weather) is a better message than “adaptation.”
- ▶ We need to consider groundwater interactions and include foothills as well as headwaters.
- ▶ It is important to emphasize the multiple-use values of public land headwaters, not just water or carbon offsets.
- ▶ Examine management flexibility in Wilderness areas (e.g. Santa Fe prescribed burning).
- ▶ Section 319 (Clean Water Act non-point source) is a potential funding source that states could use to catalyze and integrate watershed protection.
- ▶ The next Farm Bill could provide more incentives for private land owners to manage for healthy headwaters.
- ▶ Land acquisition should be part of plans and policies.
- ▶ Ecosystem service payments are not appropriate to fund actions that public agencies are already obligated to do – we need to have a more robust conversation about this issue.
- ▶ Connect headwaters to people’s health for maximum impact in shaping public perceptions.
- ▶ For a positive change on water and climate protection, public education and outreach must be adequate to produce a “tipping point.”
- ▶ This working group has many of the skills and talents necessary to improve headwaters management and climate change resilience.

Healthy Headwaters Meeting Participants

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Mike Anderson, Senior Resources Analyst, The Wilderness Society
Liz Bell, Program Officer, Wilburforce Foundation
Laura Briefer, Special Project Manager, Salt Lake City Public Utilities *(tele)*
Tom Buschatzke, Water Resources Management Advisor, City of Phoenix *(tele)*
Sara Crumb, Deputy District Director, Congressman Norm Dicks
Jad Daley, Climate Director, Trust for Public Land
Kathleen Dowd-Gailey, Regional Director, Pacific Northwest, National Forest Foundation
Paul Fleming, Manager, Climate and Sustainability Group, Seattle Public Utilities
Pat Ford, Executive Director, Save Our Wild Salmon
Kara Gillon, Senior Staff Attorney, Defenders of Wildlife
Tim Greyhavens, Executive Director, Wilburforce Foundation
Holly Hartmann**, Director, Arid Lands Information Center, University of Arizona/CLIMAS *(tele)*
Polly Hays, Water Program Manager, USFS Rocky Mountain Region *(tele)*
Jay Jensen, Deputy Undersecretary, Natural Resources & Environment, U.S. Department of Agriculture *(tele)*
Eric Kuhn, General Manager, Colorado River Water Conservation District *(tele)*
Jeremy Littell, Research Scientist, University of Washington Climate Impacts Group
Dale Lyons, City Water Resources Coordinator, City of Santa Fe *(tele)*
Anne Mackinnon, Chairwoman, Wyoming Water Development Commission *(tele)*
Nicholas MacPhee, Managing Director, Laird Norton Family Foundation
Steve Malloch**, Senior Western Water Program Manager, National Wildlife Federation
Rob Masonis, Vice-President, Western Programs, Trout Unlimited
Bill Mitchell**, President, Flatcoat Consulting
Spencer Reeder, Lead Policy Strategist, Climate Change, Washington State Department of Ecology
Zoe Rothchild, Foundation Director, NW Fund for the Environment
Adam Schempp, Director, Western Water Program, Environmental Law Institute
Brian Staab, Regional Hydrologist, U.S. Forest Service
Chris Townsend, Special Assistant to the Executive Director, Puget Sound Partnership
Paula Vanhaagen, Manager, Grants and Strategic Planning Unit, Environmental Protection Agency Region 10
Greg Volkhardt, Environmental Programs Manager, City of Tacoma
Steve Whitney**, Program Officer, Bullitt Foundation
Kimery Wiltshire**, President & CEO, Exloco; Director, Carpe Diem - Western Water & Climate Change Project
Rebecca Wolfe, Water and Salmon Committee, Sierra Club Cascade Chapter

** indicates Carpe Diem Project Team member