



CARPE DIEM WEST

Our water – Finding solutions together

Carpe Diem West - Healthy Headwaters Project

Working Group Meeting

Thursday, September 16, 2010

Salt Lake City, Utah

Meeting Summary

Carpe Diem West's Healthy Headwaters Project working group met in Salt Lake City September 16, 2010. Building on it's March 2010 meeting in Seattle, the working group focused its discussion on specific policy, management, and scientific issues that western water managers and advocates are facing in their work to make watersheds more resilient to climate change. Specific questions for the meeting included:

- ▶ *What policies and management practices are being used to link the protection of upstream watersheds with the long-term water security of water users downstream? What additional policies and practices can be developed to broaden and strengthen the link?*
- ▶ *Where, and how, can Western water interests find common ground to develop and implement such policies and practices?*
- ▶ *What does the science tell us about the connection between healthy watersheds upstream and water security downstream, in the face of the coming stressors brought on by climate change? Where are the gaps, and how can we address them?*

Meeting Outcomes

- ▶ In conversation with Undersecretary Sherman and key Forest Service staff, the group explored options for integrating municipal watershed protection into National Forest management policies, including a potential Municipal Watershed Protection Rule.
- ▶ Via detailed presentations by Salt Lake area officials, the group looked at a leading example of how downstream water users are involved in the management of the watersheds that supply their water.
- ▶ The group discussed other emerging examples of partnerships between the Forest Service and local water managers to jointly manage watersheds -- known as user contribution programs.
- ▶ The group developed a list of questions that merit careful consideration if such user contribution programs are to be exported to other communities and taken to scale.

- ▶ The group engaged in an in-depth discussion of the practical ways in which decision makers can actually use the information provided by climate models in their management decisions, even when those predictions contain a wide range of variability and certainty.

Background material, including slides from the presentations and links to items cited in this summary, are available at www.carpediemwest.org/what-we-do/healthy-headwaters-project

1. Focus on Salt Lake City

“In past decades, Salt Lake City learned the hard way that when you neglect your watersheds, you pay a price in water quality. That’s why we’re so serious about watershed protection today.”

- Laura Briefer, Special Projects Manager, Salt Lake City Public Utilities

Ralph Becker, Salt Lake City Mayor, welcomed the group and talked about the importance of the Wasatch Mountains to the city’s water supply. He gave an overview of the City’s ongoing efforts to promote legislation to preserve more wilderness areas as a defense against development stresses on the watersheds that supply most of the City’s water. He noted that these watersheds are under increasing stress: the local population is expected to double from 1 million to 2 million in the next 30 years, and the Uinta-Wasatch-Cache National Forest is the second most heavily used national forest in the U.S.

The City sees climate change as a threat to its water supply, which is heavily dependent on snow pack for storage. Earlier runoff and increased rainfall (instead of snow) would present huge problems, since the City has very little built storage.

Laura Briefer, Special Projects Manager for Salt Lake Utilities, described the City’s watershed management programs. She noted that 60% of the city’s water comes from a 195-square mile watershed that includes seven canyons, three wilderness areas, and four downhill ski resorts. 62% of the watershed is national forest, 19% city, and 19% private.

Salt Lake has been managing its municipal watersheds for over a century. Under the 1914 and 1934 acts of Congress, and a subsequent MOU with the Forest Service, the City has extra-territorial jurisdiction to make and enforce water protection laws throughout its municipal watersheds. The City also reviews all proposals for new development in the watersheds, monitors water quality, and conducts public education. The City spends about \$1 million annually on land acquisition in the watershed and has purchased a total of 20,000 acres, financed by a surcharge on monthly water bills.

As a means of protecting its watersheds from development, the City supports the Wasatch Wilderness and Watershed Protection Act introduced by Congressman Matheson this year.

Mike Reberg, District Director for Congressman Jim Matheson, discussed the Congressman's proposed Wasatch Wilderness and Watershed Protection Act. He noted that Wilderness protection is controversial in Utah, and that negotiations on the Wasatch bill were complicated and difficult, but that the bill now has strong stakeholder support thanks in large part on the common understanding of the need to protect the area's water supply. Congressman Matheson hopes for a committee mark-up this fall.

Teresa Gray, Manager for Water Quality and Hazardous Waste, Salt Lake Valley Health Department, discussed the city health department's role in protecting drinking water. She said the City and County work closely together to protect drinking water quality, and have dual jurisdiction and permitting authority to enforce drinking water ordinances, especially activities around wells.

Cheryl Probert, Acting Supervisor for the Uinta-Wasatch-Cache National Forest, said that Forest Service's main challenge is recreation, reiterating that the Uinta-Wasatch-Cache is the second most visited Forest in the U.S., while supplying most of the drinking water for hundreds of thousands of people. She pointed out that while Salt Lake residents can simply look east and see where their water comes from, other Westerners live further from the watersheds they rely on. She asked how we can better educate such people about "forest to faucet" concepts.

Claire Runge, Assistant Town Administrator for the Town of Alta, spoke about the Town's water protection programs. The town council and planning department work together on sustainability and developing good land use policy. The Town has enacted recent ordinances that are helping to reduce excavation, digging, and other impacts of land development.

2. Conversation with Undersecretary Harris Sherman

*"When I took this job, I was surprised by the extent to which the National Forest System Lands are in need of attention. And in most cases, it's water resources that stand to benefit from that attention most."
- Harris Sherman, Undersecretary, U.S. Department of Agriculture*

Harris Sherman, Undersecretary of Agriculture for Natural Resources and Environment, noted that the National Forest lands that supply water for 66 million people are in need of a lot of care and attention. The Forest Service doesn't have the resources to do all the watershed work necessary, so it needs to partner with beneficiaries such as water users.

A leading example of this is the recent partnership with Denver Water. In the wake of the Hayman and Buffalo Creek fires, Denver incurred some \$30 million in dredging costs. To prevent a recurrence, last month Denver and the Forest Service signed an MOU agreeing to share \$32 million worth of watershed work over 5 years. The Forest Service is actively looking to expand this model to other cities around the West, in an effort to be led by Rick Cables of Region 2.

Following the Undersecretary's remarks, the working group raised the issue of what legal mechanisms are available to provide more permanent protection of municipal watersheds than can be attained through forest management plans. The group raised the concept of a "municipal watershed protection rule" – akin to the existing roadless area rule. Undersecretary Sherman found this to be an interesting idea, and recommended the group take it up with staff, including Meryl Harrell.

3. Report & Roundtable - User Contribution Programs

We've never had a single guest ask to opt out of paying this fee. It's just not a difficult decision for them. People love their public lands.

- Bob Bonar, CEO, Snowbird Resort

Matt Clifford, Carpe Diem West's Policy Director, summarized Carpe Diem West's overview analysis of different types of "user contribution programs" in the West. User contribution programs are innovative approaches that cities, utilities and resort owners are employing as a means of having downstream water users help pay the cost of managing the upstream watersheds that supply them with reliable supplies of clean water. Following his summary, the group heard overviews of some representative programs around the West:

Claire Harper, Landowner Assistance Program Manager for USFS Region 2, discussed the recently signed MOU between Denver Water and the Forest Service. The two entities developed a joint watershed plan to reduce fuels, recover from past fires, and restore water quality in five priority watersheds. The city and Forest Service will each contribute \$16.5 million for the first five years of work. The MOU has generated a great deal of interest, and the City of Aurora is interested in pursuing a similar agreement.

Jennifer Severeide, Marketing Manager for Lake Creek Lodge, discussed voluntary contribution programs used by seven Oregon resorts and administered by National Forest Foundation. To date, the funds have been used for trail improvement projects. She does not know of a single guest who has objected to the voluntary fee, and attributes this to the direct connection between the fee and tangible things the guests benefit from, like the trout fisheries that the watershed supports.

Bob Bonar, CEO of Snowbird, talked about Snowbird's program, also a partnership with the National Forest Foundation. Under the program, a \$1 contribution is charged to each room and ski pass. To Bob's knowledge, no guest has ever opted out of the fee. The program generated \$46,000 last year, and has raised over \$196,000 to date. These funds are made available to non-profits that do watershed work in the Wasatch Front area, primarily the Cottonwood Canyon Foundation. Funding decisions are made jointly by Snowbird, the Forest Service, and NFF.

Adam Hanks, Project Manager for the City of Ashland, Oregon, described Ashland's ongoing efforts to establish a user contribution program. The idea had its genesis in a "watershed resiliency project" that the city developed with the Forest Service under the 2004 Healthy Forests Restoration Act, and which is being implemented with federal funding. The City is exploring a voluntary user contribution program to build on the federally-funded project with supplemental funding for items such as trails and erosion control. So far, the challenges have mostly been internal - city officials are trying to figure out how to embed a contribution program into its billing process, and some are concerned about the program setting a precedent for other voluntary fees.

Matt Clifford gave a quick synopsis of the Salt River Project's (SRP) program in Phoenix, Arizona, based on information provided by Melissa Burger of SRP. SRP developed its program in response to customers who asked what SRP was doing to address climate change. The utility, which serves about a million people, targeted a subset of 100,000 customers it identified as environmentally aware, and invited them to sign up for an opt-in fee of \$3, \$6, or \$9 on their monthly bills. The program now has about 2,000 participants, generating about \$12,000/month. To date, funds have been used for tree planting on Forest Service Lands in northern and eastern Arizona.

Jeff Niermeyer, Director of the Salt Lake City Public Utility Department, described Salt Lake's land acquisition program, which collects \$1 per customer per month and uses the funds to purchase land in the municipal watersheds. He wondered if other users of the watershed besides the water utilities should be expected to contribute to watershed management costs.

Following these reports, **Kimery Wiltshire**, Carpe Diem West Director, led a discussion of whether and how such programs could be scaled up as a means of improving water security in the West. The group agreed this was a high-priority avenue to pursue.

4. The Forest Service - Water & Climate

"At the Forest Service, we tend to have a pocket full of 'C' words – 'coordinate,' 'cooperate,' 'collaborate.' But we often don't really do those very well unless there's an outside group that can focus our attention on a problem and get us working together."

- Dr. David Cleaves, Climate Change Advisor to the Chief, US Forest Service

Meryl Harrell, Special Assistant to Undersecretary Sherman discussed the Forest Service's current rulemaking process to revise the rule that provides management direction for National Forests under the National Forest Management Act. She said the rule will likely shift the focus of planning away from mitigation of resource extraction toward resource enhancement and restoration. It will address water within a 3-part framework: (1) assess, (2) plan, and (3) monitor.

The rule calls for FS managers to assess the effects of climate change as a major stressor on water resources, and to consider adaptation actions like planting trees to shade streams and reduce water temperatures. A draft rule will be released for public comment by the end of this year.

In follow-up discussion, the group raised the concept of a “Municipal Watershed Conservation Rule,” as was suggested to Undersecretary Sherman this morning. Meryl said that was one possibility to establish longer-term protection for municipal watersheds; another would be a designation akin to existing Research Natural Areas. She was open to further discussion of these ideas.

Dr. David Cleaves, Climate Advisor to the Chief of the Forest Service, talked about how the Forest Service is trying to integrate water, watersheds, and climate change. He began by describing the Forest Service’s Climate Change Roadmap and Implementation Scorecard, which is intended to guide each Forest’s climate change mitigation and adaptation efforts. He noted that we need to think holistically and try to manage the *entire* hydrologic and carbon cycles, not just isolated points in those cycles like water supply and carbon emissions.

He noted that many Forest Service managers don’t think of themselves as working on climate change - instead, they’re focused on dealing with stressors to specific resources such as water, soils, and vegetation. But of course, as he noted, climate change is one of the major factors driving those stressors, and there’s a need for people to get out of their individual silos and come up with ways to address those stressors. Vulnerability assessments will help to tell that story – the Forest Service is doing watershed vulnerability pilot projects on 12 Forests around the country. These assessments will highlight the climate change stressors on individual watersheds, and will lay the foundation for adaptation measures best suited to each one.

5. Climate Change Science – What it Does and Doesn’t Tell Us, and How We Can Use It Even When It’s Uncertain

“Stationarity really is dead. It’s been replaced by volatility, uncertainty, complexity, and ambiguity. The way to deal with these is scenario planning -- thinking strategically about how to respond to different, complex possibilities.”

- Dr. Holly Hartmann, CLIMAS, University of Arizona

Polly Hays, Region 2 Forest Service Regional Hydrologist, presented the Forest Service’s recent report “Water, Climate Change, and Forests.” She emphasized the need to translate climate science into common language and job tasks, to help people understand how adaptation and restoration actions. For example, upgrading or removing roads, one of the biggest stressors on watersheds will result in improved resilience against climate change. She reiterated that watershed vulnerability assessments will be a basis for management plans.

With regard to municipal watersheds, she said we need to better define what they are. For example, under a broad definition, most of the Forest Service watersheds in Colorado could be considered “municipal watersheds,” since they are tributary to the Colorado River that is used by major western cities. But such a definition would fail to recognize that there are certain watersheds that are particularly important to certain municipalities on a more local level.

Dr. Holly Hartman of the University of Arizona gave a presentation on hydrological forecasting for climate change. She emphasized that because the predictions of climate models are so complex, volatile, and uncertain, managers often do not know how to use them. One answer is to avoid trying to plan for a predicted set of conditions, and instead to plan for a range of possible climate scenarios.

Even where the range of the different possible climate scenarios is very wide, decision makers can still make use of them by adopting a decision tree model that identifies decisions that can be made in the short term vs. those that can be postponed. In the short term, managers should identify those actions that will be beneficial under a wide range of scenarios, and focus on getting these done. These can be thought of as “no-regrets” actions, or “low-hanging fruit,” and include things like restoring damaged stream channels to a functioning condition. In the longer term, managers should identify those actions that will only make sense under some scenarios, and postpone the decision to take such actions as long as possible, since forecasts will become more certain over time.

6. Wrap Up and Next Steps

At the end of the meeting, the group reviewed the “parking lot” list of issues developed over the day:

- ▶ Public dollars are shrinking and the cost of restoring watersheds is growing. Where is the new funding going to come from? Could “user contribution programs” be an important revenue source, or will the funds generated by downstream users never go to scale?
- ▶ Could water user contribution programs be expanded beyond municipalities and resorts? How?
- ▶ Smaller cities (like Ashland) have huge and expensive watershed restoration needs, and much smaller ratepayer bases than cities like Denver. How can this be addressed?
- ▶ We are probably underestimating the public interest in funding watershed restoration. To be effective, we need to communicate the overall restoration goal.
- ▶ How can we place an economic value on the water produced by headwater systems (bearing in mind that value does not necessarily equal payment)?
- ▶ Since watershed protection is part of the central mission for which the Forest Service was established, is it appropriate to ask users to help pay the cost of managing these watersheds?

- ▶ How do we best communicate these complex issues to the general public? Can scenario planning help tell the story?
- ▶ What constitutes a good watershed management plan? Do its goals differ from fire management and vegetation management plans? For example, does bark beetle infestation increase the risk of fire in all areas? Is there a difference between alleviating short-term vulnerability and creating sustainable watershed processes over the long term? How do we ensure that communities and federal land managers develop plans that will meet the goal of providing resilient, healthy, functioning watersheds and therefore long-term water security?

After this discussion, the group agreed that the next meeting will be held in Denver in February or March 2011 and focus on the Denver-Forest Service MOU and whether it can be a model for other cities. The group also discussed the possibility of expanding the next meeting to include more mayors or city officials from other western municipalities, which led to a discussion of size of the next meeting – i.e., should it be a “large meeting” or more of a “mini-conference.” These issues will be followed up in the next working group conference calls.

About Carpe Diem West

Carpe Diem West is a broad-based network of experts, advocates, decision makers and scientists addressing the unprecedented impacts the growing climate crisis is having on water in the American West. Facing this challenge requires us to move beyond historic conflicts and develop sustainable practices and policies to better manage water in a time of increasing uncertainty. Because no one interest group or constituency can, by itself, make the necessary changes, **Carpe Diem West** connects leaders across previously un-bridged boundaries to create solutions that provide water security for people, the economy, the environment, and food production in the American West.

About Carpe Diem’s Healthy Headwaters Project

Carpe Diem West’s Healthy Headwaters Project was started in Fall 2009, with the formation of the project’s working group. The purpose of this project is to re-think western watershed management priorities and policies, and to link protection and restoration of headwater systems with downstream water security. The working group includes key leadership from various sectors across the West. Its role is to assess current and projected impacts, identify potential policy and management responses, and to help foster joint, collaborative actions.

Healthy Headwaters Meeting Participants

September 16, 2010, Salt Lake City, UT

Mike Anderson, Senior Resources Analyst, The Wilderness Society
Sarah Bates**, Senior Fellow, Center for Natural Resources and Environmental Policy, University of Montana
Ralph Becker, Mayor, Salt Lake City
Vicki Bennett, Director, Salt Lake City Sustainability Division
Bob Bonar, President, Snowbird Resort
Laura Briefer, Special Projects Manager, Salt Lake City Public Utilities
Ann Chan, California Program Director, Center for Clean Air Policy
David Cleaves, Climate Change Advisor to the Chief, USDA Forest Service
Matt Clifford**, Policy Director, Carpe Diem Project
Joan Degiorgio, Director, Northern Rockies Region, The Nature Conservancy
Kathleen Dowd-Gailey, Regional Director, Pacific Northwest, National Forest Foundation
Carl Fisher, Executive Director, Save Our Canyons
Merritt Frey, Western Clean Water Act Program Manager, River Network
Kara Gillon, Senior Staff Attorney, Defenders of Wildlife
Katrina Grantz, Hydraulic Engineer, Bureau of Reclamation
Teresa Gray, Manager for Water Quality and Hazardous Waste, Salt Lake Valley Health Department
Adam Hanks, Project Manager, City of Ashland, Administration Dept.
Claire Harper, Landowner Assistance Program Manager, USFS Rocky Mountain Region
Meryl Harrell, Special Assistant to the Undersecretary, Natural Resources & Environment Department of Agriculture
Holly Hartmann**, Director, Arid Lands Information Center, University of Arizona/CLIMAS
Tim Hawkes, Utah Director, Trout Unlimited
Polly Hays, Water Program Manager, USFS Rocky Mountain Region
Marc Heileson, Western Regional Representative, Sierra Club
Steve Jester, Southwest Wyoming Program Director, The Nature Conservancy
Anne Mackinnon, Chairwoman, Wyoming Water Development Commission
Rich McIntyre, Climate Campaigns Director, Sierra Nevada Alliance
Jeff Niermeyer, Director, Salt Lake City Public Utility Department
David Nimkin, Southwest Regional Director, National Parks Conservation Association
Fred Noack, Project Manager, USFS Region Four
John Nordgren, Senior Program Officer, Environment Program, The Kresge Foundation
Ann Ober, Intergovernmental Relations Specialist, Salt Lake County Mayor's Office
Jeff Olson, Vice President, Development, National Forest Foundation
Catherine Porter, Consultant, Carpe Diem Project

Cheryl Probert, Deputy Forest Supervisor, Uinta-Wasatch-Cache National Forest, US Forest Service

Mike Reberg, District Director, Congressman Matheson

Claire Runge, Assistant Town Administrator, Town of Alta

Adam Schempp, Director, Western Water Program, Environmental Law Institute

Jennifer Severeide, Marketing Manager, Lake Creek Lodge

John Shepard**, Senior Advisor, Sonoran Institute

Harris Sherman, Undersecretary, Department of Agriculture

Jennifer Sokolove**, Program Officer, Compton Foundation

Kevin Werner, Service Coordination Hydrologist, CO Basin River Forecast Center, NOAA

Kimery Wiltshire**, Director, Carpe Diem Project

Rebecca Wolfe, National Forest Committee, Sierra Club

** indicates Carpe Diem West Team Members