CARPE DIEM WEST
Our water – Finding solutions together

Carpe Diem West - Healthy Headwaters Project

Convening Summary

Friday, October 28, 2011
Oakland, California

At **Carpe Diem West's** fourth *Healthy Headwaters* convening, an invited leadership group from water utilities, conservation NGOs, government, and the scientific community addressed emerging issues arising in their work to create resilient watersheds and water security in the American West in a time of climate change. The purpose of the convening was to:

- To explore strategies for coordinating the watershed restoration priorities and activities of the U.S. Forest Service and downstream western communities
- To assess opportunities for watershed investment programs, with an emphasis on the Mokelumne watershed, which supplies water to over a million people in the San Francisco Bay Area
- To deepen understanding of the challenges for managing watersheds in the face of climate uncertainty at short, medium, and long-term time horizons

Included in this convening summary:

Additional information and background is available at Carpe Diem West's Healthy Headwaters webpage, including the new *Watershed Investment Programs* report and the partnership success stories referenced in this summary.

1. Report from Carpe Diem West's Healthy Headwaters Working Group

Carpe Diem West's Healthy Headwaters Project is an alliance of upstream land managers, downstream water utilities, and conservation advocates whose goal is to increase the climate resiliency of the headwaters systems that provide the West's drinking water.

John Shepard, Sonoran Institute, and Laura Briefer, Salt Lake Public Utilities, reported on the previous day's strategy meeting of the Healthy Headwaters Working Group. The centerpiece of their report was the Working Group's decision to organize a more formal "Healthy Headwaters Alliance" based on a set of shared principles related to headwaters restoration and policy, for western water decision makers to adopt. This represents a significant evolution from the loose network model that has been the framework of this work to date.

2. The Forest Service's Watershed Condition Framework

"For the Forest Service, the Watershed Condition Framework represents a historic new focus on water. And that focus is already evolving. We realized that we can't just look at water quality or water quantity in isolation; we have to look at things in the context of the whole watershed."
- Anne Zimmermann, U.S. Forest Service

The US Forest Service's Watershed Condition Framework ("WCF") is an ambitious new program that will help set restoration priorities on over 18,000 watersheds nationwide. This session continued the ongoing dialogue between Carpe Diem West and national Forest Service staff on how public land restoration priorities can be coordinated with those of downstream water users in Western communities.

Mike Anderson, The Wilderness Society, introduced the panelists and described the Healthy Headwaters Working Group's work with the WCF to date.

Anne Zimermann, the Forest Service's Director of Watershed, Fish, Wildlife, Air and Rare Plants, delivered an overview of the WCF, which is based on an interactive map depicting the current condition of all 18,000 National Forest System watersheds. Anne emphasized that restoration priorities are not made simply by looking at the physical condition of the watersheds —that is only a starting point. Other factors are also important, including jobs, partners in surrounding communities, and the value of ecosystem services and downstream use.

Laura Briefer, Salt Lake Public Utilities, described the Wasatch Water Legacy Partnership, a broad-based collaborative recently formed in the Salt Lake area around three common goals: (1) restoring ecosystem services, (2) land acquisition, and (3) public engagement. The Partnership emerged around the same time as the WCF, and has similar goals. The Partnership plans to use the WCF not only as a basis for helping the Forest Service set priorities, but also for guiding its own vision for watersheds that are not Forest Service priorities.

Jad Daley, Trust for Public Land, spoke about the role that private land conservation can play in reinforcing the success of restoration guided by the WCF program. He discussed three examples of this principle operating at different scales: (1) The Northern Sierra Partnership (landscape scale); (2) The Martin Meadows acquisition near Sacramento (regional scale); and the Mill Creek Canyon project on the Wasatch Front (project scale).

Karl Morgenstern, Eugene Water & Electric Board ("EWEB"), showed a WCF condition class map of the McKenzie River watershed, which supplies Eugene's drinking water. EWEB's priority is to keep the healthiest (condition class 3) areas healthy, via a variety of actions funded both by the Forest Service and by outside sources. One strategy being considered is forming a non-profit entity that can raise money and spend it on both public and private lands.

Randi Spivak, Geos Institute, described her organization's work with western communities to plan for and adapt to the impacts of climate change. Geos uses a seven-step process, from identifying climate change impacts to monitoring and re-evaluating implemented strategies. The process avoids silos and considers all aspects of the community—not only the condition of the natural landscape, but socio-economic factors, built infrastructure, poverty issues, and other factors.

"*Carpe Diem West is a natural partner for the Forest Service to work with as we figure out how to implement the Watershed Condition Framework. The whole connection with downstream users is a critical piece.*"
- Anne Zimmermann, U.S. Forest Service

"The Watershed Condition Framework program came out at almost exactly the same time as we were putting together the Wasatch Water Legacy Partnership, and by coincidence, we saw that it matched our priorities almost perfectly. To us, that's a huge opportunity."
- Laura Briefer, Salt Lake Public Utilities

"When the Watershed Condition Framework came out, EWEB already had ten years of watershed investment under our belts. The question for us is how can we tie that program into the work that EWEB is already planning to do, so our efforts build on each other?"
- Karl Morgenstern, Eugene Water & Electric Board

"I think the Watershed Condition Framework is like a fast ball down the middle of the plate for Carpe Diem West. If we do things right, we can hit it out of the park."
- Jad Daley, Trust for Public Land

3. Watershed Investment Programs

"*If you're talking to the same people you've been talking to for the last five years, you're talking to the wrong people. We're going to have to build a larger and more diverse network to solve problems.*"
- Holly Hartmann, University of Arizona/ CLIMAS

Matt Clifford, Carpe Diem West, described the concept of watershed investment programs, in which utilities invest ratepayer dollars in protecting and restoring the watersheds they rely upon. He presented the new Carpe Diem West report, *Watershed Investment Programs in the American West*, the most comprehensive look at such programs to date.

Hillary Fishler, graduate student at Oregon State University, and lead researcher for the new report, described four sample investment programs: Boulder, Los Angeles, California, Seattle, and Portland.

Dale Lyons, City of Santa Fe Water Division, described the partnership between the city, The Nature Conservancy, the Santa Fe Watershed Association, and the Forest Service to create a management plan to protect the Santa Fe River watershed, which provides 40% of Santa Fe's water. While the program has been funded by grants to date, there is strong ratepayer support for a 65-cent surcharge to support it in the future.

Mike McHugh, Aurora Water, described Aurora's recent MOU with the National Forest Foundation to help fund Forest Service restoration activities in areas burned by the Hayman Fire. He also described the work of the Front Range Utilities Council to become more involved in headwaters health, based on the principles of shared responsibility and shared accountability.

4. The Mokelumne Watershed - Opportunities

This segment of the meeting focused on the Mokelumne River watershed in the Sierra Nevada, which provides over 90% of the drinking water for 1.3 million residents in Oakland, Berkeley, and other East Bay communities, and which is highly vulnerable to threats from climate change.

Kim Carr, Sierra Nevada Conservancy, described the predicted effects of climate change on the Sierra Nevada, which provide drinking water to some 23 million people in California. Snowpack will decline by 25-50 percent, with more winter precipitation falling as rain rather than snow, and earlier snowmelt. Catastrophic wildfires are expected to continue to increase in number and size.

Bruce Goines, Region 5 of the Forest Service, described the significant increase in catastrophic wildfire in recent years in the upper Mokelumne watershed, where predominant land ownership is by the Forest Service and Sierra Pacific Industries. Region 5 is currently restoring around 150,000 - 170,000 acres per year to re-establish more natural, sustainable fire regimes. To get ahead of the current fire cycle, this number needs to be more like 500,000 acres per year.

Rick Breeze-Martin, Amador-Calaveras Working Group, described the dire economic conditions in the upper watershed, where jobs are badly needed to reduce high poverty rates. Forest thinning projects could both reduce wildfire threats and provide sustainable jobs, particularly if incentives can be adjusted to make the resulting woody biomass an economically viable source of fuel. The partnership is working to secure funding through the Collaborative Forest Landscape Restoration Program ("CFLRP") for large-scale thinning.

Kelli McCune, Sustainable Conservation, described the Mokelumne Watershed Environmental Benefits Program, a three-year project to develop a system to quantify the environmental benefits resulting from investment in the Mokelumne watershed. By demonstrating the benefits in a quantifiable way, the project will create a level of economic certainty that will help attract investors to provide funding for watershed-scale restoration efforts.

Richard Sykes, East Bay Municipal Utility District ("EBMUD"), described his agency's environmental investments in fish and wildlife projects in the middle and lower Mokelumne watershed, and offered a perspective on how water utilities view watershed investment decisions. Such investments must: (1) provide quantifiable benefits to water quality or quantity; (2) protect facilities or property; (3) involve equitable cost-sharing with other entities who share the benefits; and (4) compete favorably with other utility priorities such as seismic upgrades and water conservation.

"*Place is not so much about forests as about people. It's about local knowledge. The further you get from that local knowledge, the more abstract things become, and the less effective*."
- Rick Breeze-Martin, Amador-Calaveras Consensus Group

"At EBMUD, we deeply feel that the cost of your water should be inclusive—that is, that protecting your water should be part of the price you pay for it."
- Richard Sykes, EBMUD

5. Scenario Planning— Addressing Uncertainty at Short, Medium, and Long Time Horizons

Holly Hartmann, University of Arizona/ CLIMAS, discussed the challenges of managing watersheds in the face of uncertainties at three different time scales:

- At the short-term scale (1-3 years), uncertainty is dominated by year-to-year variability. The challenge is to effectively integrate seasonal and inter-annual forecasts into watershed management planning (not just water supply planning).
- At the medium term scale (3-5 years to decades), uncertainty is dominated by the limitations of climate models. A key question is whether your plans will be sensitive enough to recognize and respond to shifts in the climate regime.
- At the long term scale, uncertainty becomes dominated by the overall level of global emissions—i.e., the degree to which humans will or will not reduce outputs of greenhouse gasses. This uncertainty is not going away, and the only way to deal with it is to plan for a wide range of scenarios.

Tim Brown, Western Regional Climate Center, discussed the short, medium, and long time horizons in a somewhat different context. In the next 20-30 years, natural climate variability will be the dominant factor affecting year-to-year weather patterns. By mid-century, climate variability will still be important, but greenhouse emissions will start to dominate. By the end of the century, emissions will be far and away the most important factor.

These changes will have large effects on fire regimes in the western U.S. Fire seasons will become much longer, and fires will increase in number, intensity, and acres burned. Moreover, emerging research shows that addressing these effects will require much more aggressive forest treatment than is currently being conducted. Treatments will have to extend to more acres, remove more vegetation, and be maintained more frequently than is the current practice.

Fran Spivy-Weber, California State Water Resources Control Board, described the importance of California headwaters to millions of downstream users, and the threats climate change is bringing to them: more frequent and severe droughts and floods, fires, and invasive species outbreaks. In responding to these threats, she described the things government does well: regulation, planning, funding technical assistance, conducting research and pilot programs, and assembling data and information. She described a number of state efforts to deal with impacts at the short, medium, and long time horizons, and stressed that all of them require two elements to function effectively: (1) engagement with stakeholders at the local level, and (2) flexibility that allows for smart implementation.

"*The thing I like about Carpe Diem West is its emphasis on actionable science. It's clear: this group is acting*."
- Holly Hartmann, University of Arizona/ CLIMAS

"*A big challenge is getting people to see that changes have happened. While these impacts are profound, they happen at a very slow time scale—you don't just look out your door and see the changes. Catastrophic events can help."*
- Tim Brown, Western Regional Climate Center

"*If you're doing things collaboratively with both upstream and downstream communities, you don't have much to worry about. If you're sitting there doing nothing, you may have a problem."*
- Fran Spivy-Weber, California State Water Resources Control Board

6. Wrap-up, Next Steps, and Topics for the Spring Meeting

Building on the discussions from throughout the day, and from the previous three Healthy Headwaters leadership meetings, the participants discussed emerging issues and topics that should be on the agenda for consideration at the Spring 2012 leadership convening:

- Report on Watershed Condition Framework - challenges and successes
- Potential partnerships with the Collaborative Forest Landscape Restoration Program
- Further developing the more formal Healthy Headwaters Alliance
- Expanding Carpe Diem West's role as a catalyst for policy and funding activities
- Report on the new USFS Forests to Faucets maps and the overlay between them and the WCF maps, and how this can help guide priorities
- Headwaters restoration in the face of changing fire regimes and climate change
- Developing funding sources—both existing ones (EPA revolving funds, CFLRP funds, and various silos across federal programs) and new ones - e.g., watershed investment programs at water utilities
- Valuation of watershed services
- Avoided costs and developing some basic data and case studies to help make the case to utilities and ratepayers

"*I'm not aware of any collaborative group that has the level of diversity as this one. I think we'd immediately jump to the head of the class if we came together around some basic policy goals."*
- Jad Daley, Trust for Public Land

"*There is currently no collective voice for watershed-based constituencies in the West. That's a huge gap, and a huge opportunity.*"
- Randi Spivak, the Geos Institute

7. Meeting Participants

Mike	**Anderson**	Senior Resources Analyst	The Wilderness Society
Sarah	**Bates**	Senior Fellow, Center for Natural Resources and Environmental Policy	University of Montana
Ross	**Branch**	Field Representative	Congressman Tom McClintock
Rick	**Breeze-Martin**	Project Manager	Amador Calaveras Consensus Partnership
Laura	**Briefer**	Special Projects Manager	Salt Lake City Public Utilities
Tim	**Brown**	Director	Western Regional Climate Center
Kim	**Carr**	Sustainable Initiatives Coordinator	Sierra Nevada Conservancy
Matt	**Clifford**	Policy Director	Carpe Diem West
Jad	**Daley**	Climate Director	Trust for Public Land
Bob	**DenOuden**	Senior Resources Analyst	Eugene Water & Electric Board
Sally	**Duncan**	Policy Research Director	Institute for Natural Resources - Oregon State University
David	**Edelson**	Sierra Nevada Project Director	The Nature Conservancy
Charlie	**Ester**	Manager of Water Resource Operations	Salt River Project
Hillary	**Fishler**	Master's Student - Public Policy	Oregon State University
Nat	**Gillespie**	National Assistant Fish Program Leader	US Forest Service
Bruce	**Goines**	Region 5 Ecosystem Services	USFS
Bruce	**Hamilton**	Deputy Director	Sierra Club
Jen	**Harrison-Cox**	Managing Partner	Earth Economics
Holly	**Hartmann**	Director, Arid Lands Information Center	University of Arizona/CLIMAS
Mark	**Luster**	Community Relations Manager	Sierra Pacific Industries
Dale	**Lyons**	Water Resource Coordinator	City of Santa Fe
Kelli	**McCune**	Project Manager	Sustainable Conservation
Mike	**McHugh**	Environmental Permitting Coordinator	Aurora Water
Mary	**Mitsos**	Vice President	National Forest Foundation
Karl	**Morgenstern**	Drinking Water Source Protection Coordinator	Eugene Water & Electric Board

Christine	**Nota**	Regional Forester's Representative	USFS-Region 5
Brad	**Piehl**	Partner/Hydrologist	JW Associates
Catherine	**Porter**	Consultant	Consultative Group on Biological Diversity/Water Funders Forum
Tim	**Ramirez**	Natural Resources and Lands Management Division Manager	San Francisco Public Utilities Commission
Bruce	**Roll**	Director Watershed Management	Clean Water Services
John	**Shepard**	Senior Advisor	Sonoran Institute
Camilla	**Simon**	Program Association	Hewlett Foundation
Randi	**Spivak**	Vice President Government Affairs	Geos Institute
Frances	**Spivy-Weber**	Vice-Chair	California State Water Resources Control Board
Richard	**Sykes**	Manager of Natural Resources	EBMUD
Claire	**Thorp**	Assistant Director	National Fish & Wildlife Foundation
Eric	**Wesselman**	Executive Director	Tuolumne River Trust
Kimery	**Wiltshire**	CEO & Director	Carpe Diem West
Rebecca	**Wolfe**	National Forest Committee	Washington State Chapter, Sierra Club
Anne	**Zimmermann**	Director of Watershed, Fish, Wildlife, Air & Rare Plants	US Forest Service, USDA

Carpe Diem West leads a network of water decision makers and scientists in the American West that is developing collaborative, innovative actions and policies to create water security for our communities, the food we grow, our economy and our environment.

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