CARPE DIEM WEST

Our water – Finding solutions together

User Contribution Programs:

Linking Upstream Watershed Health to the Hearts, Minds & Wallets of Downstream Water Users

A Carpe Diem West Report
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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.

This **Carpe Diem West** report provides a snapshot look at some leading Western examples of "user contribution programs." These 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 health of the upstream watersheds that supply them with reliable supplies of clean water. We believe that these programs, if thoughtfully developed, replicated, and brought up to scale, offer a promising tool for providing the landscape-level management necessary to make western watersheds more resilient to the long-term effects of the growing climate crisis. Through the work of **Carpe Diem West's** ongoing *Healthy Headwaters Project*, western water managers will be able to use the experience gained from programs like those described in this report to expand the scope of the user contribution model to new geographic areas and types of water use. The goal of this report is to provide examples of what's working and what isn't, and to identify some questions we think merit careful consideration as these programs develop and expand in the future.

325 Pine Street Sausalito, California 94965 T 415.332.2112 F 415.332.4889 www.carpediemwest.org

A Funding Gap:
Who Will Pay the Cost of Protecting Watersheds in the Face of Climate Change?

As the effects of the climate crisis become manifest across the western landscape in the form of more-frequent drought, wildfire, and severe flooding, increasing stress will be placed on the health of high-elevation watersheds – along with their ability to provide reliable supplies of clean water at the times we need it. At the same time, in an era of shrinking federal budgets, it appears increasingly likely that the agencies that manage the major part of these watersheds will be unable to provide the funds necessary to restore and maintain their health, despite a consensus that large portions of them are in less than optimal condition as a result of past management activities such as fire suppression and excessive road density.

Given these realities, an obvious potential source of funding to support watershed management is water users, who currently receive large benefits from the upstream watersheds that collect, store, purify, and deliver usable water to them at little or no cost. The value of these ecosystem services is difficult to estimate, but a recent literature review conducted for **Carpe Diem West** by the Sonoran Institute notes that the annual value of water produced by Forest Service lands alone is in the billions of dollars. The concept of getting water users to help pay the cost of providing the valuable services they are currently getting for little or no cost is an emerging topic among resource economists, who call it the "payment for watershed services" model. The user contribution programs discussed in this report are on-the-ground examples of that model in action.

Sharing the Cost: User Contribution Programs

The term *"User Contribution Programs"* is our working title for programs that raise money from downstream water users to help fund the management of upstream watersheds, primarily on National Forest lands. A number of such programs have emerged around the West in recent years, and the Carpe Diem Network has identified them as an important tool for securing the watershed restoration that will be necessary to provide long-term water security in the face of uncertainties brought on by climate change.

At the initial convening of Carpe Diem West's Healthy Headwaters working group in Seattle in March 2010, the group identified several key facts that must be the starting point for any attempt to provide water security in a warming West: (1) the vast majority of the water used in the West is produced in high-elevation watersheds, mostly on public land; (2) it is crucial to manage the health of these watersheds in order to ensure they continue to provide reliable supplies of clean water in spite of the stressors that climate change will bring; and (3) current federal agency budgets and management priorities are not adequate to properly manage these watersheds. In that context, the working group identified user contribution programs as an important tool for maintaining water security in a time of climate change.

A leading pioneer of developing user contribution programs is the National Forest Foundation ("NFF"), a non-profit partner of the US Forest Service, whose mission is to "engage Americans in

community-based and national programs that promote the health and public enjoyment of the 193-million-acre National Forest System, and to administer private gifts of funds and land for the benefit of the National Forests." Most of the programs discussed in this report were identified by NFF as illustrative of the possibilities in these programs.

User contribution programs were a leading topic at the second Carpe Diem West Healthy Headwaters convening, held in Salt Lake City on September 16, 2010. That meeting was attended by representatives of most of the programs described in this report, who shared their experiences with an eye toward helping other water managers who might want to create or expand similar programs across the West.

Elements of User Contribution Programs

What all user contribution programs share in common is that they involve some kind of *payment* by a group of *water users* to a *collecting entity*, which then applies those funds to on-the-ground *projects* that restore or maintain the health of the watershed. There are several different permutations of this:

- The *collecting entity* can be either a public agency – e.g., a utility or municipality – or a private entity such as a resort.
- The *water users* in existing programs consist of either municipal customers or guests at resorts in headwater areas
- The *payment* can be either *mandatory* – e.g., an addition to a monthly water bill – or *voluntary* – e.g., an optional "check-off" contribution on a water bill or a charge at a private resort. Voluntary payments come in two types: *opt-in* (where the payment is not collected unless the customer indicates she wants to contribute, e.g. by checking a box on a form), and *opt-out* (where the payment is deducted unless the customer indicates he does not want to contribute).
- *Projects* run the gamut from large-scale thinning and prescribed burning to reduce fire risk on thousands of acres, to tree-planting and other revegetation projects, to smaller-scale trail projects designed to reduce sediment loading, to youth education projects. In the case of smaller programs, projects are often chosen and implemented with the assistance of the NFF, which has good relationships with watershed groups and the US Forest Service. In some of the larger municipal programs, city governments work directly with the Forest Service to develop projects.

Examples of Existing User Contribution Programs

Following are brief snapshot descriptions of some notable user contribution programs from around the West. This is by no means a comprehensive list of such programs, but rather is intended to give a representative cross-section of the types of programs in existence.

Denver Water's Forest to Faucet Initiative – Denver, CO

Denver's is by far the largest example of a user contribution program. It started in the wake of large wildfires in 1996 and 2002, which led to erosion and sedimentation that is forcing Denver Water to spend some $30 million dredging sediments from one water supply reservoir. To prevent a recurrence of this, the agency partnered with the Forest Service to assess and prioritize the threats to watershed health in the key watersheds – encompassing thousands of acres – that supply the city's water. In August 2010, the two agencies signed a memorandum of understanding in which they agreed to equally share the cost of $32 million of on-the ground treatment projects over five years. The vast majority of these projects are aimed at reducing the risk and severity of wildfires, largely by thinning and prescribed burning. The MOU also leaves the door open to more conventional sediment-reducing projects such as road and culvert removal. Projects will take place on both Forest Service land (the majority of the land in the watersheds) and on land owned by Denver Water itself. To date, the projects have not generated significant public opposition, and many have already undergone the NEPA process.

To pay its share of the cost, Denver Water intends to roll the cost into a rate increase at some point in the future. Denver Water does not expect significant customer resistance to such an increase.

More information: www.denverwater.org/supplyplanning/watersupply/partnershipUSFS

Snowbird Resort's Program – Alta, Utah

Snowbird has an opt-out program, in which a one-dollar charge is added to each guest's bill to pay for watershed projects. Since the program's inception in 2006, not a single guest has opted out of the charge. Other area resorts have since picked up the program. Last year the program generated $46,000, which is matched at a rate of 25% by NFF. The program has raised a total of $196,600 to date.

Decisions on how to spend the funds are made by a three-member board consisting of Snowbird, the Forest Service, and NFF. The money is available for use by qualifying non-profit organizations that do work in the Little Cottonwood Canyon watershed. In practice, most funds have gone to the Cottonwood Canyons Foundation. Past projects have included trail work and youth education.

More information on projects: www.cottonwoodcanyons.org/stewardship/

The City of Ashland, OR

Ashland's program is in its infancy. This southwestern Oregon city of about 22,000 is in the process of setting up an opt-in system in partnership with NFF. The city is considering a contribution in the range of $1-$5 per month. Ashland had already been closely working with the Forest Service on watershed protection of its municipal watershed for several years, primarily on the Ashland Forest Resiliency Project, a burning and thinning project designed largely to reduce the threat of catastrophic wildfire in the Ashland area. The city views the prospective opt-in contribution plan, however, as a standalone program that would be used to fund smaller-scale activities. To date, some of the larger challenges to setting up the program have been internal – e.g., finding ways to properly collect, segregate, and account for the revenues under the city's existing accounting system, and persuading city officials and employees of the value of the program. Ashland is working closely with the NFF in setting up the program.

The Sisters/Metolius Program – Sisters, OR

This program is operated by five private lodges in the eastern Cascade region of Oregon. Of the five lodges, two are opt-in, one is added to the base rate, and two are opt-out. Two years into the program, not a single guest has sought to opt out. All guests are asked to donate $1 per night.

The programs raise about $20,000 a year. Funding is directed to the Whychus-Metolius Restoration campaign in the Deschutes National Forest, as agreed between the lodge owners and NFF. The main project to date has been a new trail connecting significant stops in the area. The trail's location and construction results in less sediment delivery to the river than the previous situation.

The Santa Fe Municipal Watershed Project – Santa Fe, NM

Santa Fe's watershed protection program is the earliest one we studied, predating even Denver's. It had its inception following the disastrous Cerro Grande Fire in 2000, which began as a Park Service prescribed burn that got out of control, caused many millions of dollars of property damage, and made national headlines for several weeks. The fire prompted Santa Fe officials to begin thinking about the vulnerability of the Santa Fe River watershed, which supplies about one-third of the city's water, to a similar event. Using a $50,000 grant from the Forest Service's New Mexico Collaborative Forest Restoration Program, the city developed a comprehensive watershed management plan with four basic components: water management, vegetation management, education, and funding. The plan calls for different treatments in different parts of the watershed, whose forest types range from high-elevation wilderness to mid-elevation ponderosa pine, to lower-elevation pinion/ juniper. Based on the plan, the city was able to obtain $1.2 million in state funds to implement projects in the watershed. The Forest Service is conducting an EIS for the work to be done on public land, which consists primarily of

thinning and prescribed burns in ponderosa pine forests. These projects have attracted opposition from some smaller environmental groups, who may file litigation after a final decision.

Because Santa Fe water customers pay relatively high rates compared to other Western cities, the city is taking a careful approach to funding the work called for in the watershed plan. The city will pay for the initial five years of work with grant funds, but is considering an eventual rate increase to fund long-term implementation of the program, in the range of $4 to $8 per year. To lay the groundwork for the increase, the city is planning a public outreach campaign to be conducted by the Santa Fe Watershed Association.

More information: www.santafenm.gov/documentview.aspx?DID=4354
www.ncsu.edu/project/wildfire/santa_fe/reduction.html

▸ *Salt River Project's Trees for Change Program – Phoenix, AZ*

The Salt River Project, which supplies water to almost a million customers in the Phoenix area, started a targeted opt-in program in 2007. It instigated the program in response to customer inquiries asking what the utility was doing about climate change. In response, the city created a $3 per month opt-in program, which it promoted with a letter sent to a subset of about 100,000 customers (roughly 10% of its customer base) it identified as environmentally aware. The program now raises about $144,000 a year, which goes to projects on Forest Service land in northern and eastern Arizona. After some initial difficulty in identifying appropriate projects, SRP has settled on tree planting projects. The NFF has been of great assistance in helping identify projects.

More information: www.srpnet.com/trees

▸ *Tacoma, WA*

In lieu of considering a voluntary user contribution program to leverage watershed improvements, the city of Tacoma is currently investigating a different tack, the creation of a watershed investment district. The nexus for this idea came out of discussions for leveraging local dollars for salmon recovery, but the district would go well beyond salmon recovery, using a holistic approach to protecting watersheds by establishing payments for broader ecosystem services such as stormwater, and flood control. A key question is whether the district would be established with or without its own taxing authority. The former would provide a more stable funding stream, but would require authorization by the state legislature. The latter could be established at the county or local level, but would rely on inter-local funding arrangements. This approach seems to be gaining some momentum, as interest has been expressed by restoration policy/oversight groups in multiple watersheds and from a state agency, the Puget Sound Partnership.

Salt Lake City, Utah

Perhaps the most established example of the user contribution model can be found in Salt Lake City, Utah, where city residents have been actively involved in the management of the Wasatch Front watersheds that provide most of their municipal water for more than a century. In 1905, Chief Forester Gifford Pinchot came to Utah to discuss the importance of protecting these watersheds, 80% of which lay within the newly-created National Forest System – with city officials. Under state law and an agreement with the Forest Service, the city has extra-territorial jurisdiction to make and enforce ordinances throughout its municipal watersheds, which include City, Parleys, and Big and Little Cottonwood Creeks. Using this authority, the city places carefully-drawn limits on development and recreational use in the 185-square-mile area of these watersheds. In 1988, it adopted a Watershed Master Plan, which includes a dedicated fund financed by a $.50 surcharge on every water bill and earmarked for land acquisition within the watersheds. To date, the city has used this fund to purchase over 1,200 acres. In addition, the city has kept a careful eye on proposals for new development on both private and Forest Service land within the watersheds, and has used federal and state processes to propose solutions that balance reasonable development with watershed protection. These include, most recently, the proposed Wasatch Wilderness and Watershed Protection Act of 2010 (HR 5009), currently pending in Congress. All management and land acquisition programs are financed directly by municipal ratepayers as part of their normal water bills.

More information: www.slcgov.com/utilities/ud_watershed.htm

But Do They Work?
Questions Raised by User Contribution Programs

The above and similar programs have begun to establish a solid base of direct experience among their participants, and have generated a good deal of discussion, both among the public at large and within the Carpe Diem Network. From these discussions have emerged a number of common issues that the water community should keep in mind as it considers how it might expand the reach of the user contribution model, both by scaling up existing programs and establishing new ones. Following are some of the questions that have been identified.

Isn't this the Forest Service's job?

Some have questioned whether it is appropriate or necessary to ask water users to help pay for the proper management of watersheds on National Forest lands. They point out that proper watershed management has always been a central element of the Forest Service's mission, going all the way back to the original 1897 Organic Act, which stated that a primary purpose for establishing the National Forest System was to "secure favorable conditions of water flows" for downstream use. An argument can be made that it is Congress' responsibility to appropriate sufficient funds to allow the agency to properly manage its lands to meet this mandate, and soliciting monies from users only helps Congress avoid this responsibility. A countervailing view is that fundamental reform of the current Forest Service budgeting process is unlikely in the

foreseeable future, while at the same time there are vast acreages of land in need of urgent attention in the near term. Many believe that, as a practical matter, getting watershed restoration done in the near term will require large sources of money outside the Forest Service budget.

Another view is that user contribution programs provide an additional benefit by getting water users to think about the huge value of the services they are being provided – essentially for free - by upstream watersheds. Getting downstream users to support the cost of managing those watersheds gets them to acknowledge this link, and gives them a more vested interest in the health of the watersheds. Many see this as a good in and of itself.

Are the projects undertaken by these programs truly aimed at long-term watershed health?

Many of the large-scale programs that municipalities have undertaken in conjunction with the Forest Service – for example, the Denver and Santa Fe programs – are aimed primarily at reducing the immediate risk of catastrophic wildfire. This is understandable. The huge flushes of sediment that sometimes follow a severe fire can force cities to spend millions of dollars dredging reservoirs and constructing filtration plants, and wildfire has the ability to galvanize public support for projects as nothing else can. But the prevalence of fire-related projects raises a number of complex questions. Is managing fire risk (i.e., vegetation management) really the same thing as long-term watershed management? Aren't such projects just one component of watershed management? Should the management plans supported by user contribution programs make greater use of projects to reduce other sources of sediment – for example, reclaiming and upgrading road networks that are poorly constructed and/or too dense? And finally, does the science even support the notion that thinning and prescribed burns can mitigate fire risk and restore a regime of more-frequent, less-severe fires? In some forest types (ponderosa pine), the science appears relatively strong. But in others (lodgepole pine), evidence suggests that catastrophic fires are actually part of the natural system. Even if one is able to reduce fire risk in these forests, is that really providing long-term watershed management?

On a different note, one could ask whether the type of projects funded by the smaller programs can ever be a viable means of maintaining or restoring watershed health on the scale necessary to provide resilience against the effects of climate change. Trail construction, education, and tree planting programs have on-the-ground benefits, and can help get users thinking about where their water comes from and the importance of keeping watersheds healthy. But where those watersheds are in need of landscape-scale management, the on-the-ground work will likely remain beyond the capability of small-scale programs, and other funding sources will be necessary.

Can the user contribution program model be extended to other types of water users?

In order to work, the user contribution model requires that there be a customer who receives a bill for some activity related to the use of water, so that a charge may be added to that bill and applied to watershed management. In the case of municipal residents and resort guests, that link is obvious: the resident gets a monthly water bill, and the guest is presented with a hotel bill

at checkout. But if limited to these types of contributors, the geographic reach of user contribution programs will remain small in relation to the total area of western public land watersheds, the vast majority of which lie outside of municipal watershed boundaries. While user contribution programs appear capable of accomplishing a great deal of important work – particularly in terms of increasing the water security of urban populations – expanding their reach will require some means of extending the model to water users in non-municipal watersheds.

Have we underestimated the public's willingness to pay for managing the watersheds that supply its water?

Some municipalities have been quite cautious in introducing their customers to the concept of paying for watershed management. Santa Fe, for example, contemplates asking for a rather small rate increase some five years into its program, and only after a public campaign to convince users of the need. Other cities such as Phoenix and Ashland have limited their consideration to voluntary opt-in programs. There is some suggestion, however, that the willingness of users to pay for watershed health has been underestimated – particularly when users become educated about the link between the water from their faucets and upland watersheds.

About Carpe Diem West

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About Carpe Diem's Healthy Headwaters Project

The 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.

For additional information, please contact:

Kimery Wiltshire, Director, Carpe Diem West: 415.332.2112; kimery@carpediemwest.org
Matt Clifford, Policy Director, Carpe Diem West: 415.332.2112; matt@carpediemwest.org