

### **Background**

The Sierra Nevada natural environment provides many benefits that are valuable to society, such as a clean and reliable water sources, carbon storage in soils and trees, sustainable fish populations, and opportunities for recreation. In many cases, these benefits can be achieved at a fraction of the cost of man-made solutions, which typically involve extensive infrastructure investment. Furthermore, infrastructural solutions may only address one benefit, where as restoring or improving environmental functions can provide multiple benefits. For example, meadow restoration projects can improve water quality, increase natural water storage capacity, improve habitat and create local jobs. The Mokelumne River Watershed provides an opportunity to evaluate and quantify the benefits for a particular watershed using a landscape approach. Using this information it is possible to determine if an environmental market or other investment opportunities are feasible. The diverse ecosystems and land uses across the Mokelumne Watershed are representative of many Sierra watersheds, providing a framework that could be used across the Region. The Mokelumne River, whose headwaters begin in the Sierra Nevada mountain range and empty into the Sacramento-San Joaquin Delta, provides 90 percent of East Bay Municipal Utility District's water supply, which serves 1.4 million California residents. Additionally, the Mokelumne Watershed has well-established, inclusive stakeholder groups throughout the watershed.

The proposed goal of the project is to provide private and public land managers in the Mokelumne Watershed incentives and investment to maintain and implement conservation practices that ensure watershed sustainability.

The following objectives are being considered for the Project:

- Educate landowners, decision-makers, watershed beneficiaries and others about the environmental benefits provided by the Mokelumne watershed and the importance of sustaining those benefits. Create new opportunities for public and private investments to restore, protect and enhance the watershed and to support the local economy, job creation and thriving communities.
- Provide a performance-based environmental accounting system so that public and private land managers can consistently track environmental improvements, creating a meaningful understanding of how conservation efforts in the upper and lower watershed benefit local communities, water users, hydroelectric power generators, and the California economy.
- Establish a broad-based collaborative program to ensure a result that is appropriate for local conditions and supported by local communities.
- Consider how this approach is "transferable" to other Sierra watersheds.

The upper Mokelumne watershed faces challenges common in much of the Sierra Nevada Region – high risk of catastrophic fire, potential significant development pressures, and a lack of economic vitality and diversity. Much of the forests consists of dense stands with minimal age and species diversity. These conditions limit necessary habitat, create large fire risk, make the forest susceptible to diseased and dying trees

and use a greater amount of water than healthy forest stands. In addition, many of the meadows are encroached upon by thick stands of trees, the banks are channelized and incised and they have lost much of their capacity to store water.

Below Camanche Dam in the lower watershed, the pressing issues center around the Mokelumne River itself. Similar to other parts of the Central Valley, this area is home to highly viable agriculture lands that face potential loss of land due to flood risk, creating the need for levee and streambank erosion control, prevention of channel incisement and reduction of water allocations. The Mokelumne River is home to one of 18 historical populations of the Central Valley spring-run Chinook salmon and two of 81 historical independent populations of the Central Valley steelhead trout. Habitat and long term sustainability for these species are affected by dams, water diversions, flood control, and hydropower generation. As an inflow tributary to the Sacramento/San Joaquin Delta ecosystem, the Mokelumne River will have to meet the new flow criteria being developed by the State Water Resources Control Board and the California Environmental Protection Agency to protect habitat for listed species.

One kind of payment program that has already been implemented in other parts of the country and will be evaluated for the Mokelumne Watershed is a drinking water protection program. This approach enables downstream beneficiaries to appropriately contribute directly to their source water protection. This investment could eliminate the need to build or retrofit costly treatment facilities that require start-up capital as well as ongoing operations and maintenance costs. Additionally, co-benefits, such as improved wildlife habitat, clean air, and other improvements can result from the types of actions both private and public land managers take to protect the upper watershed. These programs exist in at least three areas of the country as agreements between the public land managers and New York City, Santa Fe, New Mexico and Denver, Colorado.

### **Current Status**

The Sierra Nevada Conservancy, Environmental Defense Fund, and Sustainable Conservation are the project organizers, with consultant support, to develop the project. Environmental Defense Fund, a non-profit organization, runs the Center for Conservation Incentives, which focuses on increasing environmental stewardship on working lands through leveraging market-based incentives and other innovative financial tools. Sustainable Conservation, another non-profit works closely with private land owners in the Central Valley to incentivize sustainable land practices.

The core group is convening a working group of diverse, local decision-makers to develop this initiative. Together the core group brings a rare combination of knowledge of the existing conditions and restoration needs in the Mokelumne watershed and expertise of environmental markets and other financial tools used to incentivize sustainable land management practices.

Watershed stakeholders are engaged each step of the way by utilizing representatives from existing watershed stakeholder groups that will be dedicated to providing feedback on products in development, as well as act as liaisons to other interested groups for information exchange and progress reports. The working group, consisting

of about 20 members, is convening every 6 – 8 weeks and will continue this over the next two years. The working group consists of representatives from the Forest Service (Region 5 and local forest representatives), local governments, PG&E, East Bay Municipal Utility District, local watershed groups and environmental interests, private land owners, the Resource Conservation District, and the larger municipalities.

The project has secured about \$45,000 for consulting services to support the program plan development, compile watershed conditions information and facilitate the working group to identify watershed needs and opportunities. EDF has been the primary funder to date with the Nature Conservancy contributing as well. The National Fish and Wildlife Foundation (NFWF) convened a two-day workshop with working group members to develop a business plan identifying key components of the project that NFWF could fund. NFWF staff intend to present a funding recommendation to their Board in later March.

In December, the Core Group submitted a funding pre-application to the Natural Resource Conservation Service's Conservation Innovation Grants Program. The pre-application was accepted and the group has been invited to submit a full application in early March. If this request is awarded, the project will have most of the funds needed to complete the program design by developing the tools necessary to support the program.

Conservancy staff has committed a considerable amount of time to the project by identifying representation for the upper watershed on the working group, helping to identify primary issues and opportunities, conducting presentations to key groups around the watershed and helping to identify project funders. The Conservancy will provide funds to support the development of a communications strategy and implementation of the strategy to continue to build support for the project to ensure successful implementation.

The process for creating a pilot incentive program consists of four stages: (1) resource analysis and program scope decisions; (2) program design; (3) program launch; and (4) ongoing program operation. The project is currently in the resource analysis and program scope stage and will conclude this in the next few months. Feasibility of the future stages will be evaluated after each phase.

The working group has evaluated the current watershed conditions and major environmental issues facing the communities. The group has decided to focus on water quality and water quantity and reliability since so many of the environmental issues impact and are impacted by water. The group is now evaluating existing data to identify areas and producers of resources/benefits, resource distribution and opportunities to increase and/or improve resources through financial investment. For example, fuels treatment projects reduce catastrophic fire risk and high levels of sedimentation that occur following large, damaging fires. Furthermore, water conservation and meadow restoration increase water supply. A performance-based incentive system needs to be developed to incentivize and fund these resource management practices.

### Next Steps

The primary steps of this first project phase that are underway or have been completed include:

- Forming the working group and identifying other key partners and funders;
- Utilizing the stakeholder-driven process to decide which benefits provided by the watershed are best suited for a performance-based incentive system (water quality and water quantity);
- Preliminary review of existing data to identify areas and producers of resources/benefits, resource distribution and opportunities to increase and/or improve resources through financial investment; and
- Engaging the potential payers for the benefits, identifying investment opportunities to improve and restore the watershed and working to solidify the payers commitment to participate in the program design.

The second phase involves detailed program design and this is scheduled to occur in the next few months. The primary work will involve designing a work plan that guides the program development, including:

- Tools to calculate the benefits from implementation of conservation practices
- Specific entity roles for the ongoing operations of the program
- Verification, monitoring and adaptive management protocols
- Training sessions for the program managers in order to ensure a strong program launch

The third phase is the program launch and finally phase four involves the on-going program operation and reporting. The program launch is scheduled for 2012 but this will depend on securing the community and funding support for the project.

### Recommendation

**This is an informational item only; no formal action is needed by the Board at this time, although Boardmembers are encouraged to share their thoughts and comments.**