

### **Background**

Many of the Sierra Nevada watersheds are degraded and their forests are designated as high to very high risk of high-severity fire. Despite ongoing efforts to implement forest treatments, there needs to be a substantial increase in the number of acres of forest treatment occurring annually in order to significantly reduce fire threat and improve forest health. However, because of budget crises, state and federal budgets for this are declining. To reach this goal, some regions have been successful in establishing “Forest to Faucet” programs that create investment in upper watershed treatments to improve forest health in key watersheds that are critical to providing water to downstream users. Generally, these programs are established after a catastrophic fire occurs and the region is faced with unanticipated post-fire costs. The primary purpose of this project is to conduct an avoided cost analysis to quantify the potential savings of investing in forest restoration and catastrophic fire prevention practices as opposed to paying for the suppression, restoration, clean up, and maintenance work following a wildfire.

The upper Mokelumne Watershed is managed by a number of land management entities including U.S. Forest Service, Bureau of Land Management, industrial and non-industrial forest landowners, and water and power utilities. Like many forested watersheds, this watershed delivers a significant amount of benefits to downstream users, but its health and resilience have become degraded by decades of fire suppression and disturbances. Because of this, resource managers believe that the chances of catastrophic fire in the watershed are elevated, and if it were to occur there would be significant adverse consequences to the watershed and quality of services it provides.

The first phase of the project will analyze how upper watershed restoration treatments, primarily fuel hazard reduction and forest health management, will benefit downstream beneficiaries and reduce operational costs of energy and water delivery agencies. The project will also analyze how these treatments can benefit socioeconomic and environmental conditions to watershed habitants and local resources. Subsequent work will build the metrics, agreements, and platforms necessary to facilitate actual investments in upper watershed restoration.

The project goals are as follows:

1. Reduce the risk of catastrophic fire in the Mokelumne Watershed.
2. Restore the ecological function of the watershed.
3. Identify strategic investment for restoration of the Upper Mokelumne Watershed.
4. Quantify the costs and benefits of increasing the number of acres treated by identifying costs avoided through watershed restoration efforts.
5. Identify specific areas in the watershed that are most important to restore for water quality and water flow timing.
6. Identify and evaluate other ecosystem services, that, when restored, can improve the socioeconomic and environmental conditions of the area.

### **Current Status**

The work approach has involved the key project partners, including the Sierra Nevada Conservancy, U.S. Forest Service, Bureau of Land Management, East Bay Municipal Utility District, Pacific Gas and Electric, The Nature Conservancy, and local stakeholders conducting an avoided cost analysis. Both a Steering Committee and Technical Committee have been formed with members from all participating organizations. The technical aspect and complexity of this project will require the hiring of at least three consultants: Fire Model Consultant, Sediment Model Consultant, and Project Managing Consultant. This effort is being coordinated with the watershed-wide project referred to as the Environmental Benefits Program. The scope of this project includes both the upper watershed and the Valley portion of the watershed. This effort expands project involvement to include Sustainable Conservation, Environmental Defense Fund and diverse interests from both the Valley and upper watershed. The project approach will be documented in order to export and transfer this approach to other Sierra Nevada watersheds and similar watersheds around the western U.S.

The project cash budget for the first two years totals \$242,000 and includes \$137,000 from the Sierra Nevada Conservancy, \$100,000 from the U.S. Forest Service and \$25,000 from The Nature Conservancy. It also includes an in-kind match of \$672,117 consisting primarily of the Project Management Team, Steering, and Technical Committee's time and technical resources.

### **Next Steps**

The Technical Committee is pioneering the development of this innovative cost benefit analysis. This involves integrating a series of models (fire risk, sediment flow, and insect infestation) and evaluating the impacts of probable wild fire to water and power infrastructure and other assets in the watershed. The models will consider different scenarios including existing forest conditions and treatment scenarios. The cost benefit analysis is scheduled to be completed in December.

### **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.**