Our Water Supplies Depend on a Healthy Headwaters Forest

Understanding that our water supplies depend upon a healthy headwaters forest, the Sacramento region is taking a “supershed” approach to water resiliency that stretches from the lower American River near Sacramento to the upper reaches of the American River watershed. There, in the Tahoe and El Dorado National Forests, all of the region’s and much of California’s surface water supplies originate as rain or snow.

Headwater forests in our watershed capture, use, and release precipitation into streams, which gradually converge into the South, Middle, and North Forks of the American River. Eventually, these waterways continue into Folsom Reservoir and the lower American River, providing essential drinking water for the Sacramento region’s 2 million people. Rivers flowing out of our headwater forests also generate hydropower, grow fruit, vegetables, wine, and grain enjoyed in the region and beyond, sustain our environment, including endangered and threatened salmon and steelhead, and support our water-based recreation industry.

Over the years, however, these forests have become increasingly vulnerable to major wildfires, droughts, and pests brought about by past management practices, decades of fire suppression, overgrown young-growth forests, and hotter and drier weather conditions year-round. Climate change is expected to amplify these threats with more intense droughts and increased wildfire activity over time. In their current condition, some forests may not recover from these catastrophic events, changing the landscape indefinitely.

The good news is that we can change the way that headwater forests are managed to reduce these vulnerabilities and improve their health and resilience. Healthier forests can:

- **Increase water supplies** by increasing streamflow, snowpack accumulation, and snowpack retention.
- **Protect water quality** by preventing erosion and landslides that often come after severe wildfires, threatening public safety, the environment, and operation of reservoirs and hydropower facilities.
- **Sustain our environment** by increasing the amount and reliability of cold water flowing from the headwaters, improving conditions for fish and other aquatic species in rivers and streams.
- **Support hydropower production** for meeting peak demands—a low-carbon alternative to burning fossil fuels.
- **Support recreation** and water-dependent businesses through increased and more reliable water supplies.
- **Support the well-being of rural communities** by reducing wildfire threats, preserving landscapes on which local economies rely, and increasing economic opportunities in forest management.

The 2014 King Fire resulted in significant post-fire erosion as seen at the confluence of the North and Middle Forks of the American River.
Taking Action

The Public Policy Institute of California (PPIC) and the Association of California Water Agencies (ACWA) have identified improved headwaters management as a top priority in the state. Priority activities identified by PPIC and ACWA include among other things:

- Implementing evidence-based forest management practices that reestablish and maintain lower density of trees.
- Streamlining environmental review of forest improvement and restoration projects.
- Nurturing partnerships among federal, state, local, Tribal, and private entities.
- Securing state and federal funding to improve forests.
- Establishing a standard methodology for preventing catastrophic wildfire.

Collaborative partnerships are coming together throughout California to address these challenges, with the Sierra Nevada Conservancy and U.S. Department of Agriculture leading the way. Together, these agencies launched the Sierra Nevada Watershed Improvement Program (WIP), a large-scale restoration program designed to increase the pace and scale of forestry restoration efforts in California's primary watersheds and create resilient Sierra Nevada communities.

Recognized in state policy and planning documents as a model for addressing the growing challenges facing the Sierra Nevada region in a changing climate, Sacramento-area water providers are now putting the program to work in our region’s headwater forests.

LOCAL SUCCESS: FRENCH MEADOWS FOREST AND WATERSHED RESTORATION PROJECT
A SHARED APPROACH TO HEADWATER FOREST STEWARDSHIP

The innovative French Meadows Project located near the Middle Fork of the American River is aimed at increasing the resiliency of this headwaters forest to wildfire, insects, and disease.

Forests in this headwaters area are unhealthy and at risk of uncharacteristic, high-severity wildfire due to past management, fire suppression, increased drought severity, and a warming climate. Severe wildfires in recent years have burned thousands of forested acres in the American River watershed, causing hundreds of thousands of tons of topsoil to erode into the river system, clogging infrastructure, and degrading wildlife habitat, water quality, and watershed health.

Developed as a public-private partnership between Placer County Water Agency, Placer County, The Nature Conservancy, American River Conservancy, Sierra Nevada Conservancy, University of California Merced, and U.S. Forest Service, the 28,000-acre project uses prescribed burns and mechanical thinning to clear underbrush, thin smaller trees, clear biomass for use as renewable energy, and restore forests and meadows.

The project is taking a shared stewardship approach to research, manage, implement, and fund the work underway, which will continue through 2021, in hopes of providing a model for others to follow statewide.