



Watershed Restoration Projects

The Lake Tahoe Basin Management Unit (LTBMU) has made significant progress in restoring streams and meadows damaged by past activities such as grazing, mining and logging. Restoration efforts seek to reshape damaged streams to reduce sedimentation to Lake Tahoe, raise ground water locally to bring back wetland and meadow vegetation, and improve habitat for fish and other aquatic life. Southern Nevada Public Land Management Act (SNPLMA) funds, authorized by the Lake Tahoe Restoration Act, have been critical for these projects.

Blackwood Creek

A recently completed effectiveness monitoring report, posted on our website (see website below), indicates that restoration efforts in Blackwood Creek have resulted in positive trends in restoring ecological function. Restored reaches are storing more sediment than they are discharging, which is a reversal of the pre-project conditions. The project was completed last year with the installation of rock weirs, reshaping the channel to a more winding form, and embedding wood logs in floodplain sediments. An additional 30 acres of floodplain were reconnected to the creek, which substantially increased the capacity for retaining sediments that would otherwise be carried to Lake Tahoe. In total, SNPLMA investments restored 1.5 miles of degraded stream in Blackwood Creek, and reconnected it to 76 acres of adjacent floodplain.



Cold Creek in High Meadows

Last year, the LTBMU completed construction of a three-year restoration project on Cold Creek, in High Meadows. The project replaced several deeply eroded channels with shallower, more winding channels that are now hydrologically reconnected to the floodplain and meadow surface. The SNPLMA investment of \$2.5 million resulted in a total length of more than two miles of newly constructed stream channels, and restored the streamside connections to 100 acres of floodplains and meadow. An additional five acres of legacy diversion ditches were decommissioned in 2013.



Cookhouse Meadow

Post-construction monitoring continues at Cookhouse Meadow, near Luther Pass, to document the effectiveness of this \$800,000 restoration, completed in 2006. Research efforts are documenting the improved wet meadow conditions, stream channel stability, and species diversity. The damage to the meadow had been severe, with the channel eroded more than ten feet below its natural level. The restoration created a new properly sized and shaped stream channel, and then effectively plugged the old channel and created a large pond from a portion of it. All active streamflow now occurs in the replacement channel, and the new pond is fed by groundwater. The water table is close to the surface throughout the meadow, and wet meadow flora and fauna have returned.



Upper Truckee River Reach 5

Restoration activities began in 2013 to reposition about 1.3 miles of the Upper Truckee River away from the South Lake Tahoe Airport and onto 70 acres of adjacent floodplain. The project will replace the existing stream channel with a new channel that is more stable and connected to the adjacent floodplain and will provide better aquatic habitat, support a healthier meadow ecosystem, and reduce the amount of fine sediment that reaches Lake Tahoe. About one-third of the reconnected floodplains through which the new channel will meander are public lands managed by the California Tahoe Conservancy and about two-thirds are public lands managed by the Forest Service. Because the new channel will be much shallower than the old channel, the high streamflows that typically course through the area in the spring and fall will readily spread across the adjacent

floodplain. The project will create 7, 400 feet of new channel that will be constructed in two phases over four years.

For more information on these programs and projects, visit www.fs.usda.gov/ltbmu.



Hazardous Fuels and Forest Health Accomplishments

From fiscal years 2008 to 2014, the Lake Tahoe Basin Management Unit (LTBMU) implemented hazardous fuels reduction treatments on approximately 16,145 acres. Treatments included prescribed burning, thinning, piling, and mastication or chipping. Totals for fiscal year 2013 accomplishments include approximately 430 acres of prescribed burning, and implementation of hand-thinning and piling on 520 acres in the South Shore project area. For fiscal year 2014, treatments to date in the South Shore project area include 200 acres of prescribed burning, hand thinning and piling. Treatments planned for contract award and possible implementation later in the year include another 950 acres of both hand and mechanical thinning within the South Shore area, and approximately 1,380 acres in the Carnelian project area.



Planning for more than 5,000 acres of fuels reduction and forest health treatments on the West Shore is underway and will continue through the rest of 2014. Southern Nevada Public Land Management Act funds, authorized by the Lake Tahoe Restoration Act, have provided substantial support for these projects, in addition to federal appropriated funding.

Angora Fire Area Restoration Project Implementation

The LTBMU began implementing the Angora Fire Restoration Project in July 2011. Fuels reduction and forest health work was completed in 2013, with only some pile burning remaining. Improvements to the road and trail system to protect water quality and improve recreational access began last fall and will be completed during the 2014 field season. Planning and design for stream channel, wetland and meadow restoration projects continue, as does noxious weed control.



South Shore Fuels Reduction and Healthy Forest Restoration Project

The LTBMU began work in July 2012 on more than 10,000 acres of fuels reduction treatments on National Forest System lands from Emerald Bay east to Stateline on Lake Tahoe's South Shore. The Forest Service coordinated extensively with other public land management agencies and local fire protection districts to ensure that the fuels reduction work would complement local Community Wildfire Protection Plans. In addition to providing defensible space and reducing the risk of high intensity fire, the project would create forests better able to resist drought, insects and disease, reduce fuel loading in stream environment zones and restore aspen stands. Treatments will include hand- and mechanical-thinning, biomass removal, and prescribed burning. The project will take at least eight years to complete.



Veterans Green Corps

The LTBMU continues to host the Veterans Green Corps to work on fuels reduction projects into the 2014 season. Veterans Green Corps is a partnership between the Forest Service and the California Conservation Corps. Veterans receive training and gain experience with the two agencies. In addition to the work the veterans complete during the program, the Forest Service gains a pool of skilled applicants for future employment opportunities. The Green Corps veterans will be performing fuels reduction and prescribed fire work on the LTBMU and on nonfederal lands.

Support for local fire protection districts, nonfederal lands

In federal fiscal years 2012-13, the Forest Service provided nearly \$550,000 to fire protection districts for hazardous fuel reduction projects on nonfederal lands, and almost \$500,000 to residents and landowners through the California Fire Safe Council. Approximately \$1.67 million was provided to the South Tahoe Public Utility District to improve public water systems for fire protection. Between fiscal year 2011-2012, the agency provided \$90,711 to volunteer fire departments in the Lake Tahoe Basin to increase their capacity for wildland fire suppression. The Forest Service also supports local fire protection districts by paying their crews to conduct hand-thinning and prescribed fire operations on National Forest System lands.

Exhibit I-1-Tahoe
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Entire exhibit provided.
Meeting Date: 02-20-14

Recreation Facility Improvements and Conservation Education

The Lake Tahoe Basin Management Unit (LTBMU) boasts the highest per-acre visitation of any national forest. Both visitors and year-round residents enjoy the spectacular lake beaches, world-class mountain trails and varied camping opportunities offered on 154,000 acres of National Forest System lands. Forest Service work on these facilities focuses on offering a variety of high quality recreational opportunities to visitors with an array of interests and abilities, while minimizing impacts. The Forest Service also conducts interpretive and educational programs for residents and visitors that teach them to enjoy and care for the Lake Tahoe environment. Both Southern Nevada Public Land Management Act (SNPLMA) funds, authorized by the Lake Tahoe Restoration Act, and federal appropriated funds support these projects.

High Meadows Area Roads and Trails Improvements

The LTBMU is finishing a series of access and water quality upgrades to the road and trail system. The agency reconstructed the four-mile main access road to High Meadows using state of the art techniques to stabilize the steep and incised road and disconnect it from the Cold Creek stream system. Forest Service crews rerouted and reconstructed Cold Creek Trail to meet public needs and completely rerouted the Star Lake Trail to avoid sensitive areas and provide for a desirable trail experience. Trail crews now are constructing the new Monument Pass Trail, which they expect to complete during the 2014 field season. This will offer a formal trail to the top of Monument Pass, instead of the power line access road which is steep and loose. Both the Star Lake and Monument Pass trails connect to the Tahoe Rim National Recreation Trail. The Forest Service removed multiple older roads and trails in the area to offset the impacts of new construction.



Nevada Beach Campground

The LTBMU completed an extensive retrofit of the Nevada Beach Campground and Day Use Area to improve water quality, accessibility and the overall recreational experience at the site. Work included installing extensive water quality best management practices, and constructing accessible restrooms, walkways and camp sites. One of the most visible improvements at the site is the replacement of the day-use pavilion at its historic site, complete with accessible walkway.

Meeks Bay Resort BMP Retrofit

Improving water quality through installation of best management practices was also the focus of SNPLMA-funded work at the Meeks Bay Resort, operated for the Forest Service by the Washoe Tribe of California and Nevada. The historic nature of the Kehlet House required special consideration to ensure that improvements didn't conflict with the visual structure and surrounding areas.



Generation Green and Conservation Education

After six years, the Generation Green of Lake Tahoe program continues to be a successful model for teaching high school students how to take care of the forest through work and volunteer opportunities. From 2008 through 2013, 120 local students from communities around Lake Tahoe have participated in the summer work program, which supports many SNPLMA funded projects. Over one-third of these students are pursuing higher education or careers in natural resource management. Students have placed third in the world for the International Junior

Forestry competition in Russia and gained recognition as leaders at the Outdoor Nation Youth Summit. Forest Service staff also promote environmental literacy and stewardship by connecting K-12 students to their outdoor surroundings. Through in-class presentations and field trips, children learn about the beautiful Tahoe environment and how to take care of it.



Generation Green club member at South Tahoe Earth Day teaching about tree planting



Wildlife Habitat Restoration and Erosion Control

The Lake Tahoe Basin Management Unit (LTBMU) works with many partners to protect and restore plant and wildlife habitat and to prevent the spread of invasive plants and animals. Both Southern Nevada Public Land Management Act (SNPLMA) funds, authorized by the Lake Tahoe Restoration Act, and federal appropriated funds support these projects. SNPLMA funds also support erosion control grants to local governments.

Lahontan Cutthroat Trout Restoration

The Forest Service works closely with the U.S. Fish and Wildlife Service (USFWS) on efforts to restore Lahontan cutthroat trout (LCT) in the Lake Tahoe Basin. USFWS lists the species as threatened under the Endangered Species Act (ESA). In 2013, Forest Service biologists removed non-native brook and rainbow trout from four miles of the Upper Truckee River, downstream from the only self-sustaining population of LCT in the Lake Tahoe Basin and in 18 acres of adjacent lakes. The Forest Service is conducting LCT assessments in Fallen Leaf Lake and working with other agencies on recovery planning.



Lahontan Cutthroat Trout at the water's edge

Sierra Nevada Yellow-Legged Frog (SNYLF) Restoration

Coordinating with USFWS and California Department of Fish and Wildlife, biologists from the LTBMU and the Eldorado National Forest implemented a project to restore habitat for Sierra Nevada yellow-legged frogs in the Desolation Wilderness. The frog is currently a candidate species for ESA listing. By removing introduced, non-native brook trout from seven high alpine lakes and their associated ponds, the project reclaimed 70 acres of SNYLF habitat.



Crews use electro-shock equipment to remove non-native and invasive species of fish

Aspen and Meadow Restoration

Forest Service aspen and meadow restoration projects seek to restore these important yet declining habitats by removing pine and fir trees that consume water and compete with other vegetation. Implementation to date has included 61 acres of uplands and meadow at Big Meadow in the Meiss Country and 44 acres of aspen stands at multiple locations around the Lake Tahoe Basin.

Aquatic Invasive Species (AIS)

The Forest Service manages a number of recreation sites that provide access to Lake Tahoe and strives to prevent the introduction of AIS at these sites, training attendants to screen and educate visitors. LTBMU staff also works to restore aquatic habitat by removing or controlling invasive species, such as Eurasian water milfoil removal from Taylor and Tallac creeks last fall. The LTBMU actively participates in the AIS coordination committee for the Lake Tahoe Basin, collaborating on prevention, treatment and research.



An erosion control project in Incline Village

Noxious Weeds

The LTBMU works with partners to prevent, detect, control and restore noxious weed infestations. In 2012, the LTBMU treated or monitored 311 sites. Approved pesticides were applied to resistant patches, under strictly controlled application methods.

Erosion Control Grants

The LTBMU administers a \$10 million per year Erosion Control Grants program for local governments. The funding for this program is authorized by the Lake Tahoe Restoration Act and is an example of how the Lake Tahoe Basin has benefited from SNPLMA. The grants are competitive and have helped communities around the lake plan, design, implement and monitor erosion and sediment control projects that benefit

federal lands and water quality. In many cases, the Forest Service has authorized the use of National Forest System lands for stormwater retention and infiltration basins, as well as easements for stormwater pipelines. One example of an erosion control project is the Country Club Basins project, which is a series of 5 tiered infiltration basins paralleling Country Club Drive and the Incline Village Golf Course. The project uses both county road right of way and Incline Village General Improvement District land and receives stormwater runoff from roads. The result is a more attractive storm water feature that reduces the levels of fine sediment reaching the lake.