

Narrative Descriptions: Upper Stevens Meadow Restoration (EGID #721)

Detailed Project Description

Project Description: The Upper Stevens Meadow Restoration project is designed to protect a Sierra montane meadow that is threatened by lodgepole pine encroachment. This property, located in western Lassen County, is privately owned and is leased for cattle grazing and actively managed for timber resources, and has a conservation easement held by Lassen Land and Trails Trust (LLTT). This restoration project will improve water quality in the Eagle Lake Watershed through the protection of this working landscape on upper Pine Creek, the primary tributary to Eagle Lake, while also preserving valuable wildlife habitat of the Sierra Nevada.

This project will provide a public benefit through watershed restoration and protection of wildlife habitat. In addition, the property is a private inholding surrounded by US Forest Service land, and this project will provide increased opportunities for tourism by protecting the primary tributary to Eagle Lake, which provides many recreational opportunities. This restoration project will enhance public use and enjoyment of lands owned by the public on Pine Creek and Eagle Lake, while preserving the natural resources of the property. The deliverables from this project will be improvement of one mile of Pine Creek, improvement and protection of 100 acres of montane meadow, and protection of critical habitat for the Eagle Lake Rainbow Trout, which is currently under review for federal listing under the Endangered Species Act. Sierra Nevada Conservancy Project Funds will go toward the removal of encroaching lodgepole pine in conjunction with funds secured for this purpose from the Lassen County Resource Advisory Committee, US Fish and Wildlife Service-Partners Program, and the private landowner.

The Upper Stevens Meadow Restoration Project will support the goals of Proposition 84 and the mission of the Sierra Nevada Conservancy to improve the environmental, economic, and social well-being of the Sierra Nevada Region, its communities, and the citizens of California through the improvement of watershed health, protection of critical wildlife habitat, and enhancement of valuable recreational opportunities.

Lassen Land and Trails Trust believes that this project is critical due to its water resources and wildlife habitat. Although the project will occur on private land, there will be a public benefit due to numerous watershed benefits to the Eagle Lake watershed, which is a crucial environmental, economic and cultural resource to the citizens of Lassen County and the northern Sierra Nevada. Encroaching conifer threatens to eliminate these resource services, which will spread beyond the private property boundary. With the support of the Sierra Nevada Conservancy, we will work with

partners from the private and public sectors and the landowner to remove encroaching lodgepole pine which threatens to alter the hydrology of the meadow, conduct a thorough habitat inventory of this section of Pine Creek, survey fish populations, and enhance the meadow through riparian plantings.

This project will fit in well with on-going efforts in the region, along Pine Creek, and in this area of the Sierra Nevada. The US Forest Service-Eagle Lake Ranger District has had several successful lodgepole removal projects along Pine Creek, and these projects have not shown any negative impacts to water quality, including sedimentation and water temperature. In addition, efforts to reintroduce and re-establish a native population of Eagle Lake Rainbow Trout are on-going, and California DFG has expressed interest in spawning and rearing studies on this property. Their contributions of the instream habitat inventory and fish surveys will determine the feasibility of future studies.

Maintaining the native meadow plant community is critical to the proper functioning of a montane meadow, however, encroaching lodgepole pine threatens to impair the plant community through altered hydrology, shade and changing soil composition. In a properly functioning meadow, the native sedges, willows and other species stabilize the stream bank and act as sponges to keep water available late into the season. The loss of streamside vegetation leads to stream incisions, which in turn leads to a lower water table, further altering the vegetative community. Some bank incision has already occurred in the project area, and this process will accelerate as lodgepole pine outcompetes the willows and sedges. The loss of this meadow near the headwaters of Pine Creek could have drastic consequences on the stream all the way into Eagle Lake. These effects include increased water speed, increased erosion and sedimentation into Eagle Lake, more drastic flooding events, and increased effects of drought, which will lead to the alteration of native plant communities along the length of the stream. After the conifer removal project, we will include this project in our education program to educate citizens about the importance of water and natural resources in the Sierra Nevada.

Montane meadows are considered a keystone habitat in the Sierra Nevada because they offer water during the dry season, provide higher plant productivity, and other resources. A wide variety of wildlife including fish, migrating waterfowl, sandhill cranes and deer take advantage of this property and the meadow system. This project will restore key habitat for the Eagle Lake Rainbow Trout as part of the larger effort toward the recovery of this population. This fish is the only rainbow trout native to the Eastern Sierra Nevada, and is endemic to Eagle Lake and its tributaries. The California

Department of Fish and Game has identified this species as a “Species of Special Concern” and a “Heritage Trout Species” and is also under review for federal listing under the Endangered Species Act.

Project Summary:

The proposed project will restore 100 acres of montane meadow and riparian habitat along the upper reach of Pine Creek, a Class I watercourse and main tributary to Eagle Lake. Planned activities will remove encroaching lodgepole in Upper Stephens Meadow, plant willow and other native riparian species to stabilize streambanks and enhance aquatic habitat for Eagle Lake rainbow trout (ELRT), and remove competing brook trout. An instream habitat inventory and fish survey are also planned. The project area is located within 640 acres of private property owned by the Rosenberg family that is surrounded by national forest land. The property is managed under a conservation easement held by Lassen Land & Trails Trust since 1992. The proposed project complements community and interagency goals to rehabilitate the upper reach of Pine Creek and establish natural spawning and rearing of ELRT. Public outreach and education programs are planned through field tours, local news releases, LLTT newsletters, and internet postings to increase awareness of native trout issues and watershed conservation efforts in Lassen County and the Sierra Nevada region.

Environmental Setting:

This 640-acre property is located near the headwaters of Pine Creek on the eastern slope of the Sierra Nevada. It is privately-owned, with a conservation easement held by Lassen Land & Trails trust, and is currently grazed and actively managed for timber. Lassen Volcanic National Park boundary is five miles west of the property, and the boundary of the USFS-managed Caribou Wilderness is located two miles west of the property.

Pine Creek is the primary watercourse on the property. Two branches converge in the center of the property. The northern branch enters the property from the west and is perennial and is a Class I waterway. The southern branch may become intermittent late in the summer, and is a Class I waterway which becomes a Class III watercourse in the extreme southern portion of the property. In addition, there are two springs located in the western portion of the property which feed Pine Creek. Stream grade is a gentle 4% and the channel bottom is basalt boulders, cobbles and sand.

The property has mature stands of lodgepole pine and Jeffrey pine, along with an aspen stand in a rugged rocky basalt flow, and a large native grass meadow lies in the center portion of the property, which is the project area.

This property is zoned UC-2, or Upland Conservation, with an 80-acre minimum. Under the terms of the conservation easement, this property cannot be subdivided. In the Lassen County General Plan, the property is designated as Prime Recreation, which is consistent with this project. This project will enhance the recreational values of surrounding Forest Service land, and the watershed of Eagle Lake. Although there is not public access to the property, Lassen Land and Trails Trust will lead educational trips on the property, providing public access in a controlled manner.

Workplan and Schedule

Project Deliverables	Responsible Parties	Timeline
Instream Habitat Inventory	California DFG	June-July 2013
Fish Surveys/Brook Trout Removal	California DFG, LLTT	June-July 2013
Lodgepole removal (phase I, non-saw logs)	Contractor	July-September 2013
Follow-up Instream Habitat Inventory	California DFG, LLTT	June-July 2014
Lodgepole removal (Phase II, saw logs)	Contractor	July-September 2014
Riparian Plantings, final cleanup	LLTT, volunteers	June-August 2015

Restrictions, Technical/Environmental Documents and Agreements

We have received several of the documents and agreements necessary for project completion, and anticipate completing the remainder by March 2013. Many of these are part of the active Non-Industrial Timber Management Plan (NTMP) for the property. There is a timber waiver for water quality from the California State Water Resources Control Board which covers the property. The application for a 1603 permit from the California Department of Fish and Game, and permits from US Army Corps of Engineers will be secured by US FWS-Partners Program funds as part of the project. In

addition, the update of the Non-industrial Timber Management Plan is on-going, which will include specific provisions for the meadow area. The NTMP serves as a Certified Regulatory Program under CEQA, so the Upper Stevens Meadow Restoration is not considered a project under CEQA.

Organizational Capacity

Lassen Land and Trails Trust is a 501 (c)(3), member-supported organization whose mission is to conserve significant natural lands and agricultural landscapes; to promote and enhance a regional recreational trails network. Over its 25-year history, the Trust has conserved over 4,000 acres in northeastern California and currently partners to develop, enhance and promote over 135 miles of recreational trails. The Trust has succeeded in its achievements through support from its partners, including the Bureau of Land Management Eagle Lake and Alturas Field Offices, USFS Lassen National Forest, California Department of Fish and Game, California Wildlife Conservation Board, Lassen County and the City of Susanville along with a number of private foundations and individual donors.

The Trust's annual budget is just under \$300,000 and supports a professional staff including an executive director and lands manager, as well as its programs in conservation, trails and education.

An all-volunteer Board of Directors governs the Trust, which adheres to the standards and policies of the Land Trust Alliance. In addition, the Trust looks to volunteer committees to provide guidance and insight into its programs in conservation, trails and education, as well as in its governance and fundraising. A broad base of community volunteers assist in restoration projects, educational programs, trail activities and maintenance, as well as fundraising events.

Cooperation and Community Support

One major opportunity that we will take advantage of is the increased interest in Pine Creek and Eagle Lake Rainbow Trout (ELRT) by a variety of groups. These include CalDFG, US Forest Service, US Fish and Wildlife Service, the Pine Creek Coordinated Resource Management Planning Group, Susanville Rancheria, Trout Unlimited, and CalTrout, among others. The focus of these groups is to return the ELRT to a naturally stable state through habitat restoration along the length of Pine Creek, brook trout removal, and the release of ELRT in upper reaches of the stream. In addition, Eagle Lake is a critical environmental and economic resource to Lassen County and the Sierra

Nevada region, and protecting the water sources to this lake are a priority to many groups. This project would protect the water quality and quantity of Eagle Lake, as well as protecting critical habitat necessary to the rehabilitation of the Eagle Lake Rainbow Trout.

Our project will fit in with ongoing efforts on Pine Creek and with the Eagle Lake Rainbow Trout. CalDFG is the lead agency in charge of the hatchery production of ELRT, and any releases of the fish. They will be providing in-kind services for this project to help with a habitat inventory and fish surveys. This will put Lassen Land and Trails Trust in a good position to learn about reintroduction plans and stay current with any updates on the fish. Our meadow restoration project will also fit in with USFS efforts along Pine Creek. The subject property is completely surrounded by USFS land, so it is important that this project relate to USFS projects. *Upper Stevens Meadow Restoration* project methods have taken into account lodgepole removal projects conducted by USFS-Eagle Lake Ranger District staff, which have shown positive results in terms of aspen growth, and have not shown any negative water quality effects. Lassen Land and Trails Trust will also participate in Pine Creek Coordinated Resource Management Planning Group meetings, associated Technical Review Team for Fisheries, and the Eagle Lake Working Group organized by Trout Unlimited and CalTrout. This will keep partners updated on the project progress and will ensure that we stay current on other ELRT/Pine Creek projects. We believe that this project will work well within overall efforts to restore the Pine Creek/Eagle Lake watershed and rehabilitate the Eagle Lake Rainbow Trout population.

We have received formal letters of support for this project from Cassandra Roeder, US Fish & Wildlife Service; Ann Carlson, US Forest Service-Eagle Lake Ranger District; David Lile, University of California Cooperative Extension- Lassen County; Paul Divine, California Department of Fish and Game; and Jane Rosenberg, the property landowner.

Long-term Management and Sustainability

This property is currently protected from development and subdivision under terms of the conservation easement held by Lassen Land and Trails Trust. This easement is held in perpetuity, ensuring that the environmental values of the property cannot be lost. However, the lodgepole pine threatens the long-term sustainability of the meadow habitat, which is why this project is so important. Because both saw-logs (diameter > 11 inches) and non-saw logs will be removed from the meadow, regrowth of lodgepole pine will be slow. This means that the effort to remove lodgepole will not have to be repeated

for another 20-30 years. At that point, it would not be as large of an area as is included in this project, and higher timber prices for lodgepole may allow the continuation of the project to be cost effective for the family.

Lassen Land and Trails Trust conducts annual monitoring under the terms of the conservation easement and will establish specific photopoints in the project area to ensure that changes can be tracked. In addition, US Forest Service has a temperature monitor in Pine Creek downstream of the project area which continually records water temperature, and will continue to do so for the foreseeable future. This continual monitoring of conditions on the subject property and Pine Creek will ensure that any issues that arise can be swiftly addressed.

Performance Measures

This project will include performance measures which will be used to track progress toward project goals and desired outcomes. Performance measures for this project include number of people reached; dollar value of resources leveraged for the Sierra Nevada; linear feet of stream bank protected or restored; and acres of land improved or restored. We have chosen these performance measures because we believe they will effectively document the ways that this project will advance the goals of the Sierra Nevada Conservancy, including the environmental, economic and social well-being of the Sierra Nevada Region, its communities and the citizens of California.

We expect to reach approximately 15,000 people through a variety of means. Lassen Land and Trails Trust will include at least three articles about the project throughout the grant period. This will include an introduction to the project when funds are secured, an update after Phase I of lodgepole removal, and a final report on project achievements. This newsletter is distributed to about 800 people through print and email versions, most of whom are residents of Lassen County or the Sierra Nevada region. In addition, we will submit press releases to the Lassen County Times (distribution: 10,495), Chester Progressive (distribution: 2,975), and Westwood Pine Press (distribution: 1,175), for a total of 14,645 Sierra Nevada residents reached. We will also directly reach 15-20 people through an educational trip as part of our Discover Lassen series, where we discuss the project in terms of fish habitat and watershed benefits.

We expect to leverage \$35,000 of Sierra Nevada Conservancy funds for an additional \$59,770 of project funds for a total budget of \$94,770. These funds are from a variety of state and federal agencies, as well as the private landowner.

The Upper Stevens Meadow Restoration Project will protect and restore approximately 5,000 linear feet of Pine Creek stream bank. The removal of lodgepole pine, which is growing right along the stream bank in many places, will help ensure that the valuable meadow habitat is not lost.

This project will improve 70 acres of land directly through lodgepole removal, and will protect the remainder of the meadow area, which is an additional 30 acres through protection of the hydrologic function of the meadow.

Budget Narrative

We have carefully developed a budget which we feel will effectively achieve project goals and ensure successful completion of the project. There are 120 hours of staff time (at \$65/hr) included to manage the project, which will ensure that the project stays on track and is carefully and accurately implemented. The majority of the remaining project funds will go to on the ground work and the actual removal of lodgepole. This portion of the project will be through a contractor, and will be managed by the landowner's private forester. In addition, we have included a total of 20 staff hours to effectively monitor the project effectiveness. This will be spread over 3 years in order to monitor changes throughout the project. Administrative costs for this project will be minimal, with a total of \$2,600, which is just over 7% of the total project costs. This brings the total project budget to \$34,950.

We will leverage these funds from Sierra Nevada Conservancy to secure additional funds to complete the project. We have already received \$5,000 toward the project from the landowner, as well as \$15,770 from the Lassen County Resource Advisory Committee. In addition, we are awaiting project funds of \$10,000 from US Fish & Wildlife Service- Partners for Fish and Wildlife Program (Partners), and we will apply for additional funds from this source for 2014. Partners will also complete permitting from US Army Corp of Engineers and California DFG, botanical surveys and archaeological surveys, and these costs will be in addition to the \$10,000 of allocated funds for this project. We will receive in-kind donations from California Department of Fish and Game totaling \$9,000, which have been secured barring unforeseen budget changes.