

Proposed Action for the Upper Truckee River (Sunset Reach) Restoration Project

USDA Forest Service Pacific Southwest Region
Lake Tahoe Basin Management Unit

California Tahoe Conservancy

El Dorado County, California

I. PROJECT AREA DESCRIPTION

The Sunset Reach of the Upper Truckee River is located south of Lake Tahoe in El Dorado County, California in the SW ¼ of section 12, T12N, R18E of the USGS South Lake Tahoe Quadrangle map. The Sunset Reach extends from the Hwy 50 river crossing near Elks Club Drive northward to approximately mid-way through the South Lake Tahoe Airport runway. The Sunset Reach includes two separate channel reaches of the Upper Truckee River (Reaches 5 and 6), distinct from one another because of differences in physical channel and floodplain characteristics (Figure 1).

The Sunset Reach is managed by the Forest Service, Lake Tahoe Basin Management Unit (LTBMU) and the California Tahoe Conservancy (CTC). The entire Sunset Reach (Reaches 5 and 6) and the land surrounding the river through this reach encompass the Upper Truckee River Sunset Reach Restoration Project, or the “Sunset Reach Project”. The distribution of land ownership in the Sunset Reach Project area is displayed in Figure 1. The majority of the project area is managed by the CTC (approximately 185 acres; 7,500 linear feet of channel), with the Forest Service, LTBMU, managing the remainder of the project area (approximately 65 acres; 5,000 linear feet of channel).

The LTBMU currently manages about 2/3 of the existing Reach 5 channel, and the CTC manages approximately 1/3 of Reach 5 and the entire Reach 6 portion of the channel and floodplain (Figure 1). The entire length of channel in the Sunset Reach Project area is proposed for restoration under this proposed action.

II. BACKGROUND

The LTBMU and CTC have been working as partners on this project since 2005 and have worked collaboratively for project planning, management and financing. The environmental analysis will be completed jointly for the CTC and LTBMU lands, and will be documented in a combined National Environmental Policy Act (NEPA) / California Environmental Quality Act (CEQA) document for the entire Sunset Reach Project area.

A Technical Advisory Group (TAG) was formed in 2006 to provide technical review and consultation for project development, and includes members from local regulatory and management agencies, and the public. To date, the TAG has participated

in development of the Proposed Action, and has provided comments on the conceptual designs for the channel restoration work.

In addition, immediately downstream of the Sunset Reach Project area, the City of South Lake Tahoe has begun implementation of a separate channel restoration project (Airport Reach). The Airport Reach project began implementation in summer 2008, and will continue through 2010. Because the Sunset Reach Project area shares a boundary with the Airport Reach project, and the construction timing of the 2 projects may coincide, project managers and design teams representing each reach have and will continue to maintain very close coordination.

III. PURPOSE AND NEED

The Upper Truckee River has been identified as one of the largest sources of sediment and nutrients to Lake Tahoe. The need to take action at this time is driven by the development of the Lake Tahoe Total Maximum Daily Load (TMDL). Although the Lake Tahoe TMDL is still under development, at this time stream restoration actions have been identified as a priority for addressing the TMDL, particularly in larger watersheds that are contributing a greater proportionate amount of pollutant loads to Lake Tahoe (such as the Upper Truckee River) (Lake Tahoe TMDL, 2008). In addition, restoration of the Upper Truckee River through this reach has been identified as a priority project under the Lake Tahoe Environmental Improvement Program (EIP #948).

The Sunset Reach of the Upper Truckee River exhibits signs of instability (i.e. active bank failures and channel widening) and degraded aquatic, riparian and meadow habitat. The river has been largely altered by historic and existing land use practices such as urban development, gravel mining, grazing, road building, bridge construction, airport construction, sewer line installation, and timber harvest. As a result of past urban development and other land use activities in this project area and elsewhere in the Upper Truckee River watershed, the channel is over-sized and the river therefore floods onto the adjacent floodplain fairly infrequently. Less frequent overbank flooding has caused more sediment, nutrients, and pollutants which might otherwise have been trapped on adjacent floodplain meadows to be transported to downstream reaches and Lake Tahoe.

River widening and incision (i.e. lowering of the bed elevation) have also resulted in a lowered groundwater table in the adjacent floodplain. The lowered groundwater table has allowed for vegetation that is adapted to drier site conditions to replace the wet meadow vegetation, and has caused a disconnection between the roots of the streambank vegetation and the water surface level in the channel, leading to unstable streambanks. Channel alterations and the hydraulic impacts of incision have also resulted in a flat, sandy streambed with little value for fisheries habitat (pools, coarse gravel riffles), spawning, and primary aquatic production (i.e. food for fish).

The purpose of this project is to restore natural geomorphic function and floodplain connectivity to the Upper Truckee River within the Sunset Reach, resulting in improved water quality and improved aquatic and terrestrial wildlife habitat in the project area.

IV. PROPOSED ACTION

The proposed action restores the existing channel in the Sunset Reach Project area to a more naturally functional condition by constructing a new, geomorphically stable channel that is hydrologically connected to the adjacent floodplain and exhibits desirable aquatic habitat features. The proposed restoration activities will result in a channel width, depth, and sinuosity pattern more consistent with the current flow and sediment transport needs of the river. This will be accomplished primarily through new channel construction, and will also involve abandoning, filling, and revegetating the existing eroding and incised channel. The newly constructed channel will be smaller than the existing channel and will be designed to be more resilient to erosion by improving streambank stability and incorporating more variable channel bed substrate. The streambanks of the new channel will be stabilized with sod blocks, riparian vegetation planting, and/or large wood and rock placement. As a result, sediment production from streambank erosion will be reduced, thereby decreasing the sediment contributions to Lake Tahoe from this source. Additionally, the restored channel will sustain a gravel substrate in riffles and provide a stream habitat more conducive to the production of native fish species. Some portions of the Sunset Reach channel will stay in their existing location and act as transition zones and/or grade control structures between upstream and downstream reaches.

The reduced channel size (i.e. width and depth) will also result in more frequent overbank flooding (every year or two), depositing more sediment and nutrients onto the floodplain rather than transporting them downstream and to Lake Tahoe. The reduced channel depth will raise the bed elevation, and will in turn allow the groundwater table to rise in the adjacent meadow. This will benefit the wet meadow vegetation and improve the riparian and meadow habitat quality. Several resources will benefit from the proposed channel and floodplain restoration, including; water quality, terrestrial and aquatic wildlife species, and terrestrial (riparian and meadow) and aquatic vegetation.

The proposed restoration project involves:

- ◆ Constructing approximately 12,000 feet of new channel within the Sunset Reach of the Upper Truckee River.
- ◆ Planting and temporarily irrigating native riparian vegetation along both sides of the new channel (approximately 24,000 feet).
- ◆ Creating floodplain features (examples: seasonally wet depressions or willow clump roughness structures) that enhance suitable habitat for key wildlife and plant species (approximately 20 acres distributed across the project area).
- ◆ Removing conifers in and adjacent to the newly constructed channel where conifer encroachment has been identified as a problem for riparian vegetation community composition (approximately 20 acres of conifer removal throughout the project area).
- ◆ Using a combination of excavated soil from the new channel alignment and possibly imported soil to partially fill the existing oversized channel, and

revegetating the disturbed area with native riparian plant species (majority of the 11,000 ft of abandoned channel will be filled and revegetated in this way).

- ◆ Installing grade control structures at the upstream and downstream ends of the reach, redirecting flow into the new channel, and blocking off the existing channel to prevent recapture.

V. DECISIONS TO BE MADE

The Forest Service, LTBMU is the lead agency for the NEPA analysis. The FS decision will apply only to the portions of the Sunset Reach Project in Reach 5 that are on National Forest System (NFS) lands. This totals approximately 4,500 ft of new channel construction within the 65 acres of NFS land (Figure 1). The Responsible Official under NEPA is the LTBMU Forest Supervisor who, based on current resource information, anticipates issuing a Decision Notice / Finding of No Significant Impact (DN/FONSI) once the Environmental Assessment is completed. The decision to be made by the Forest Supervisor is whether to implement the proposed action, modify the proposed action or to take no action at this time.

The CTC is the lead agency for the CEQA analysis, and will be making the decision for the lands they manage within the Sunset Reach Project area. The CTC is proposing to complete a Mitigated Negative Declaration (MND) for this project. The MND will be submitted to the CTC Board for approval and certification. In addition, the CTC Board will determine and give direction to the staff to proceed with final design and implementation of the project. The CTC Board decision will include the restoration actions proposed for lands the CTC manages, including approximately 7,500 ft of new channel construction, of which approximately 2,500 ft are within Reach 5.

VI. PROJECT DESIGN FEATURES

Project design features are elements of the project design that are applied in treatment areas. These features were developed to reduce or avoid environmental effects of the proposed action on forest resources. The following design features apply to the entire Sunset Reach Project area.

- Public notices explaining the purpose, need, and benefits of the action, will be posted along trails at the meadows edge, where adjacent to construction zones, for the protection of public health and safety. Additionally, notices to local residents will be provided prior to implementation to inform these groups of construction activities in the project area.
- Temporary area closure will be implemented to restrict the public from accessing the project site during construction.
- The heritage resource sites identified during cultural surveys will be recorded according to the State Historic Preservation Office (SHPO) standards and, where located on National Forest System lands, reviewed by LTBMU heritage resource staff.

- Mitigation measures have been developed for cultural resource sites found in the Area of Potential Effects (APE); any identified sites or resources would be flagged and avoided during construction activities.
- BMPs and construction restrictions associated with potential water quality impacts will be implemented. BMPs will include measures to control onsite erosion and sediment transport, including appropriate water diversion structures.
 - A list of project specific BMPs will be developed as an appendix for the preliminary environmental document.
 - A storm water pollution prevention plan will be developed for this project.
- No permanent roads or trails will be constructed for this project. Temporary roads within the project area will not be constructed on slopes greater than 30%, and will be designed to minimize soil erosion, compaction, and stream bank deterioration. Temporary roads will be restored following project activities.
- All onsite fuels and hazardous materials will be stored outside of stream environment zones (SEZs) in Occupational Safety and Health Administration (OSHA) certified containers. All equipment will be serviced at a suitable staging area outside of project area SEZs.
- The spread of invasive weeds (Lake Tahoe Basin Weed Coordinating Group invasive species list, 2008) will be avoided by treating known occurrences prior to implementation and by flagging and avoiding those that cannot be treated. The introduction of new invasive weeds will be avoided by ensuring that all imported materials are certified weed free, that all construction equipment be cleaned before entering the project site, and that all materials be stockpiled in designated areas as specified in the construction plans and specifications.
- Only native vegetation will be planted in areas needing revegetation to eliminate the need for long term irrigation.

Additional design features have been developed for the NFS lands only. The following design features apply only to the NFS lands within the Sunset Reach Project area.

- Two sensitive plant species (*Meesia triquetra* and *Meesia uliginosa*) were detected on NFS lands in the project area during botanical surveys completed in 2008. For protection, their locations will be buffered and flagged for avoidance during operations (USFS, 2006).
- A willow flycatcher limited operating period (June 1-August 31) will be implemented unless surveys determine absence.
- Any sightings of threatened, endangered, sensitive, management indicator, or special interest species, or of nests or dens of these species will be reported to the Forest Biologist. These species will be protected in accordance with management direction for the Lake Tahoe Basin Management Unit.

References Cited

Lake Tahoe TMDL Pollutant Reduction Opportunity Report, Volume 2. March 2008. CA Water Boards and Nevada Division of Environmental Protection.

US Forest Service. 1998 Sensitive Species List for the Pacific Southwest Region. USDA Forest Service, Pacific Southwest Region, Vallejo, CA. *Forest Service Manual 267*. Updated October 1, 2006.).

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