

## Environmental Checklist Form

- 1. Project Title:** Davies/Merril Watershed Restoration Project
- 2. Lead Agency Name and Address:** California Regional Water Quality Control Board, Lahontan Region  
2501 Lake Tahoe Blvd.  
South Lake Tahoe, CA 96150

This proposed project is a discretionary state action subject to the California Environmental Quality Act (CEQA). The Lahontan Regional Water Quality Control Board (Regional Board), is designated Lead Agency. This CEQA Checklist, in conjunction with the information provided in the National Environmental Policy Act (NEPA)-required Environmental Assessment (EA), satisfies the requirement of an Initial Study/Mitigated Negative Declaration (IS/MND). Best Management Practices (BMPs) included in the Project Description serve as mitigation measures to avoid or reduce potential impacts to less than significant levels. The IS/MND will be sent to the State Clearinghouse for a 30-day public review period. The Regional Board will consider the IS/MND, together with any comments received. If the Regional Board determines that there is no substantial evidence that the project, with mitigation measures incorporated to reduce potential impact levels, will have a significant effect on the environment, then a Notice of Determination will be prepared and filed with the State Clearinghouse.

The proposed project is also a discretionary federal action subject to NEPA. To determine whether the proposed action could significantly affect the quality of the human environment, NEPA requires the preparation of an EA. The United States Department of Agriculture, Forest Service (Forest Service), Tahoe National Forest, Sierraville Ranger District, as the NEPA Lead Agency, produced the Davies/Merril Watershed Restoration Project EA in March 2003 (attached). On January 21, 2005, the Forest Service determined that the proposed action would not significantly adversely affect the human environment and prepared a Finding of No Significant Impact (FONSI).

- 3. Contact Person and Phone Number:** George Cella – 530-542-5426
- 4. Project Location:** There are 12 individual sites within the Davies Creek and Merrill Creek watersheds. Davies and Merrill Creeks are tributaries to the Little Truckee River above Stampede Reservoir, Sierra County. Township 19N Range 16 & 17 E

**5. Project Sponsor's Name and Address:** U.S. Forest Service, Tahoe National Forest - Sierraville R.D.  
317 South Lincoln St. (P.O. Box 95)  
Sierraville CA 96126

**6. General Plan Designation:** National Forest

**7. Zoning:** National Forest

### **8. Description of Project:**

Davies and Merrill Creeks drain approximately 16,316 acres of the Tahoe National Forest and incorporated private property into Stampede Reservoir. Failing rock check dams, railroad grades constructed in the 1920s, and existing and abandoned road sections in or immediately adjacent to the channels have caused excessive erosion, headcuts, down-cutting, channel diversion and constriction, and loss or degradation of wetland and riparian habitat, flood plain attenuation and function, and groundwater storage. This project will implement watershed restoration activities within the Davies and Merrill Creek watersheds, centered on approximately 12-15 acres within Sardine Valley, Merrill Valley, Jones Valley Meadows, and along the upper reaches of Davies Creek upstream of Sardine Valley.

Project goals are as follows.

- Reduce active erosion within the watersheds
- Reduce the potential for future erosion
- Improve the quality of surface runoff by improving surface filtration
- Restore flood plain function to portions of Merrill and Davies Creeks
- Increase flood attenuation potential
- Increase seasonal groundwater storage
- Improve and increase the riparian habitat within the area

Project restoration activities include stabilizing headcuts, relocating stream flow to original channels, closing off the existing degraded channels, removing obstructive debris (i.e., the historic railroad grades and abandoned roads) from flood plains, installing interpretive signs to inform the public of the historic railroad system and why it was removed, and revegetating disturbed areas.

The railroad grades constructed for logging in the late 1920s were often built across flat flood plains. The railroad grades were constructed and elevated using adjacent soils, which left excavated ditches. These excavated ditches captured flood flows and created meadow erosion. The creeks became isolated from the original flood plains, and the ditches became the creek channels. The closing off of these degraded channels will be accomplished using a "plug and pond" method. Soils excavated by widening and deepening the degraded stream channels (gullies) and removing portions of the railroad grade will be used to fill alternate

portions of the degraded stream channels, creating a series of ponds and plugs. The streams will be able to access the entire flood plain without being re-captured in degraded channels. This method is further described on pages 10 – 11 in the EA. The new ponds will capture and hold rainfall and runoff, adding to groundwater recharge.

In using the plug and pond technique to close off an entrenched stream section and diverting the stream into an historic channel, installing the top plug in the system creates the stream diversion. When the water does flow (likely to be in the next winter/spring seasons), it will fill up the top pond and flow directly into the historic channel. The water ponds before it enters the channel, and so only “still” water with little or no velocity moves against the plug. The stream is diverted into historic channels that had carried the flow previously. The excavation and filling of the remainder of the abandoned channel is done downstream from the top plug, and so the lower plugs and ponds will not receive flow during or after construction, even after the creek begins to flow. In a few cases, flow from ephemeral/intermittent tributaries are routed through the lower ponds to reconnect to the historic channel. In the case of the top pond and any pond designed to receive any flow, the banks of the plugs will be revegetated with transplanted sod and/or covered with erosion control fabric to prevent any potential bank erosion until the banks are sufficiently vegetated to protect against erosion.

Construction activities will generally occur in dry streambeds. At project sites where water is present at the time of construction and activities cannot be delayed until flow has ceased, flow will be isolated from construction activities with temporary diversion systems. A coffer dam will be constructed to contain flows, which will then be piped through or pumped around the construction site. Diverted flows will be discharged onto a rocky substrate or clean gravel bags such that no sediments will be disturbed. Alternately, if allowed by California Department of Fish and Game, minor diverted flows will be discharged to a stable, upland location in a manner which will allow infiltration into the soil.

Removal of some trees will occur as part of the restoration work. Trees will be removed as needed in conjunction with removing railroad grades and excavating ponds. The work will be done with the same equipment used for the restoration work at the same time using the same access. The trees will be used in the restoration work for habitat or structural elements. This will not require a separate timber harvest plan.

Work will occur within 12 sites within Davies Creek and Merrill Creek Watersheds. A description of work which will occur at each site is provided below.

- a. Site 1: Davies Creek: Existing rock check dams in the stream have failed and the channel is actively eroding around and above the check dams. The railroad grade traverses the flood plain, isolating the creek. Work at this site includes the following.
  1. Reconfigure and lower the four existing check dams, using clean, washed rock 6 inches to 2 feet in diameter. Ground disturbance (approximately 0.02 acres) will be limited to access routes to the check dams and the bank where the rock will be keyed in.

2. Remove 80 feet of railroad grade that crosses the abandoned flood plain upstream from the existing check dams. Ground disturbance (approximately 0.03 acres) will be limited to the access route and the railroad grade footprint.
- b. Site 2: Davies Creek: The railroad grade traverses the channel and flood plain at this site for almost a mile. The construction of the grade rerouted the natural stream flow, disrupted the flood flows on the flood plain, and caused the stream to erode a large gully which is still actively eroding. The railroad grade and an existing County road (Lemon Canyon Road) diverted and channelized the flow across two alluvial fans on tributaries to Davies Creek. Work at this site includes the following.
1. Remove trees along the sections of railroad grade noted below, as needed to complete restoration work. The trees will be utilized in the restoration work.
  2. Remove 1750 feet of railroad grade from the flood plain. Material from the grade will be used for plugs in the down-cut channel. Disturbance will be confined to the location of the existing railroad grade. The railroad grade will be used for access for the plug and pond construction.
  3. Re-direct flow from the current incised eroding channel to a stable remnant channel on the surface that has access to the flood plain; close off approximately 900 feet of the abandoned channel using gully plugs; and excavate small ponds along the side of the down-cut stream segment to generate approximately 1200 cubic yards of material to construct six plugs to close off the gully. Flow will be re-directed into the remnant channel around the plugs and ponds; no active flow will occur next to the plugs or through the ponds. Disturbance will cover from one to 1.5 acres including the railroad grade removal. No disturbance will occur in the remnant channel where the water will flow.
  4. Rebuild alluvial fans in two locations.
    - i) Fan 1: Redesign the County road to return the flow back to its original channel across the fan. The current ditch constructed on the fan will be obliterated and flow returned to its natural position on the fan. Relocate and improve the existing low water crossing on the road and reduce the width of the road to 14 feet.
    - ii) Fan 2: Improve the existing low water crossing in the road by better defining the dip and using clean, washed, angular, cobble-sized rock for the driving surface. Reconstruct the lower portion of the fan so that it is not actively eroding into the roadbed, by creating a step pool system out of clean, washed large rock to lessen the slope and harden the current head cut. Some of the material excavated during railroad grade removal at this location will be used to rebuild the fan.
- c. Site 3: Davies Creek: Multiple railroad grade alignments were constructed within the channel and flood plain in this area. This has diverted the natural flow and has caused the channel to down-cut. The flow is now trapped in the eroded channel. Work at this site includes the following.

1. Remove 500 feet of railroad grade from the flood plain. Use soil excavated to construct plugs. Disturbance will be about 0.23 acres.
  2. Divert the flow out of the eroding channel and into stable remnant channels where the stream can access the flood plain surface.
  3. Close off 300 feet of the abandoned eroded channel section using pond and plug construction. Approximately 600 cubic yards of material excavated from ponds along side the abandoned channel will be used to construct plugs. Disturbance will be about one-half to one acre.
- d. *Site 4: Davies Creek:* A new section of the Henness Pass Road (Sierra County Route S860) was reconstructed in the early 1990s and the old section of road abandoned. Work at this site includes the following.
1. Obliterate and rehabilitate approximately 3000 feet of the abandoned road next to the creek and within the flood plain. Remove sidecast material from the flood plain, till compacted areas, re-contour cut and fill sections, and seed and mulch bare areas. Disturbance will be less than one acre.
- e. *Site 5: Davies Creek from the lower end of Sardine Valley to Stampede Reservoir:* Some of the railroad grade constructed in the channel and flood plain has redirected and confined flows of the creek in several places. Additionally, the existing Henness Pass Road at the Davies Creek bridge site has constricted the creek's flood plain. These actions have caused a lowering of the meadow water table, degradation and loss of riparian and meadow habitat, down-cutting of the stream in several places, and the creation of headcuts that have eroded up into the lower end of Sardine Meadow. The channel system is still actively eroding.

The EA, under Proposed Action, Site 5, item e., indicates that culverts will be installed at this bridge location to facilitate flood flow as part of this proposed project's work plan. Sierra County has already installed additional culverts at the proposed location. Work at this site includes the following.

1. Re-direct the flow of Davies Creek from the existing incised, eroding channels in lower Sardine Valley into the stable remnant channels on the meadow surface where the stream can access the flood plain.
2. Remove trees along the sections of railroad grade noted below, as needed to complete restoration work.
3. Close off 1000 feet of the incised channel using six gully plugs at lower end of Sardine Meadow to stop the active erosion and raise the water table. Approximately 1000 cubic yards of material will be excavated alongside the closed stream segment to construct the plugs. Some plug material may be obtained from the railroad grade removal. No disturbance will occur within the remnant channel where the water will

flow. Disturbance will cover from one to 1.5 acres.

4. Remove approximately 150 feet of the railroad grade where it crosses the flood plain at the bottom of Sardine Meadow and rebuild approximately 300 feet of the eroded portion of Davies Creek at the bottom of Sardine Valley. Reconstruct this section of the creek to produce a riffle/pool system which maintains fish passage. Disturbance will be less than 0.5 acres.
  5. Remove seven short sections of railroad grade (1300 feet total) between Sardine Valley and the Davies Creek Bridge which currently confine flows and cause the creek to scour. Disturbance will be approximately one-half acre.
  6. Return Davies Creek to its original channel below the bridge. Use nine earthen plugs to close off the railroad ditch which now carries stream flow below the Davies Creek bridge. Approximately 60 percent of the required 1300 cubic yards of material will come from the railroad grade described in subsection e.7)., below. The remainder of the fill will be removed from Site 6 (see below) or excavated from the abandoned channel, making larger ponds.
  7. Remove 1000 feet of railroad grade below the bridge. Material removed from the grade will be used to create plugs in the channel as described in subsection e.6)., above. Disturbance from subsections e.6). and 7). combined will be approximately one acre.
  8. The existing vault toilet and four campsites in the Davies Creek Campground will be within the reclaimed flood plain after Davies Creek is returned to its original channel. Relocate the toilet vault and affected campsites to a location just above the existing campground and well out of the reestablished flood plain.
  9. Create an interpretative site near the Davies Creek Campground where Henness Pass Road intersects with a historic railroad grade. Signs will describe the historical railroad system and why sections of it have been removed from the flood plain.
- f. Site 6: Merril Creek: An old railroad grade constructed across the flood plain has confined the flows of Merril Creek, immediately adjacent to the Davies Creek crossing noted in Site 5, above. As with Davies Creek at this location, the Henness Pass Road bridge has constricted the flood plain of Merril Creek.

The EA, under Proposed Action, Site 6, item b., indicates that the roadbed will be raised and culverts will be installed at this bridge location to facilitate flood flow as part of this proposed project's work plan. Sierra County has already raised the roadbed and installed additional culverts at the proposed location. Work at this site includes the following.

1. Remove 275 feet of railroad grade from the flood plain to allow water to flow back onto the flood plain during high flow events. Use railroad grade fill material for plug construction on Davies Creek or return fill to the original borrow site. Disturbance will be approximately 0.2 acres.

2. Remove 100 feet of diversion berm above the Merrill Creek Bridge.
  3. Re-contour slope by removing the abandoned road prism in the lower portion of the flood flow channel, south of the main road and east of the main channel of Davies and Merrill Creeks. Disturbance will be approximately 0.2 acres.
- g. Site 7: The railroad grade construction has disrupted the natural slope hydrology by diverting and concentrating water. Work at this site includes the following.
1. Re-contour 250 feet of railroad grade to reestablish the slope hydrology. This is an upland site where the railroad created a through-cut away from any drainages. The berms will be pulled back into the cut and reshaped. Disturbance will be less than 0.5 acres.
  2. Fill in cut banks with native material that was excavated from the site.
- h. Site 8: Merrill Creek: The railroad grade was constructed across the Merrill Creek flood plain, confining and concentrating the natural flows and causing an increase in erosion. Work at this site includes the following.
1. Remove 450 feet of railroad grade in two flood plain locations.
  2. Deposit fill material on upland slopes in old borrow sites.
  3. Trees on the railroad grade will be removed as needed. Total disturbance at this site will be approximately 0.3 acres.
- i. Site 9: Merrill Valley: The railroad grade was constructed across the creek and flood plain, diverting and confining the natural flows, causing the channel to erode. In the upper part of the Valley an old mill site had diverted the creek, initiating a large erosion gully through the meadow. The gully is actively eroding and causing headcuts in tributary channels. Work at this site includes the following.
1. Flag and avoid archaeological site in upper stream reach.
  2. Realign the stream flow out of the gully into the original channel on the meadow surface. Obliterate 2000 feet of the existing down-cut channel using the plug and pond method. Excavate approximately 2,500 cubic yards of plug material from the site, creating ponds along the abandoned channel. Disturbance will be two to three acres.
  3. Remove three sections of railroad grade (totaling 465 feet), within the flood plain at the lower end of the meadow. Removed material will be placed on the old borrow sites out of the flood plain or used to augment plug construction in the abandoned channel. Disturbance will be approximately 0.3 acres.

4. Excavate approximately 100 feet of railroad grade fill from the edge of the flood plain and deposit material on in the slope cut from where it was originally excavated for railroad grade construction.
  5. For all sites within grazing allotments (e.g., 2, 5, 9, 10, etc.), construct temporary fencing to allow revegetation of sites disturbed during restoration work. Temporary fences will be removed after monitoring indicates that the vegetation has recovered at the site. The Forest Service will work with the grazing allotment permittees to develop grazing strategies to meet the restoration goals. Construct permanent fencing around areas where necessary to meet restoration goals.
- j. *Site 10: Merril Creek, Jones Valley*: The stream is down-cut and dropped the water table in Jones Valley below Babbitt Road. This has caused portions of the meadow to dry out. Work at this site includes the following.
1. Relocate stream flow in the middle section of Jones Valley out of the gully and into a remnant channel on the meadow surface. Close off 1500 feet of existing gully where the stream is now flowing using the gully plugs. Plug material will be created by excavating ponds adjacent to the existing gully. Disturbance will cover one to two acres.
  2. Construct a temporary fence around plug and pond sites to eliminate cattle grazing for three to five years, allowing the site to revegetate.
  3. Construct a permanent fence around sensitive areas to exclude grazing.
  4. Flag and avoid two archaeological sites in area.
- k. *Site 11: Seasonal Tributary to Davies Creek*: The railroad grade was constructed across an intermittent tributary creek flowing into Sardine Valley. The grade crosses the stream in four locations causing the creek to be diverted and water flows to concentrate. Work at this site includes the following.
1. Remove a total of 300 feet of railroad grade from intermittent/ephemeral streams and flood plains where the grade crosses the channel and has diverted the flow. Disturbance will be approximately 0.2 acres.
  2. Use grade material to fill in eroded areas where needed and re-contour the borrow site where material was removed.
- l. *Site 12: Davies Creek*: The railroad grade was constructed across and around Upper Sardine Valley causing natural flows to be diverted and concentrated. This has also caused severe erosion in several places. Work at this site includes the following.
1. Re-contour 750 feet of railroad grade that has diverted a seasonal tributary creek and re-connect the flows to the original channels. The railroad grade was cut into the landscape. The excavated material will be put back into place and the natural slope

re-created. This will allow spring runoff to flow across the meadow surface as it did before the grade was constructed. Disturbance will be approximately 0.4 acres.

2. Remove four sections (approximately 300 feet) of railroad grade that cross four small tributary creeks into Sardine Valley in order to reestablish the flood plain function and reconnect original channels. Disturbance will be approximately 0.2 acres.
3. Repair head cut in meadow by diverting flow onto meadow surface. Use plugs to fill existing gully for 600 feet. Use the railroad grade for fill material in the plugs. There will be approximately 0.4 acres (600' long x 30' wide) of fill and/or pond area created by closing off the existing gully using fill from the railroad grade removal.
4. Remove 1000 feet of railroad grade that crosses the meadow. Use material to fill in the eroded ditch which had been created by the adjacent railroad grade construction. Material not needed to fill in the ditch will be used in plug construction within the eroded gully as described above or placed in the original borrow site where it was taken from. Disturbance will cover about 0.5 acre. Removal of the grade should uncover old meadow surface that will revegetate quickly on its own.
5. Construct a temporary fence around disturbed areas and plug sites to eliminate cattle grazing for three to five years, allowing the site to revegetate.

An excavator, wheeled loader with a three-to-five yard bucket, small tracked loader, and occasionally a dump truck will be used to perform all construction activities at the project sites. Equipment will be staged outside of the flood plain areas. No major disturbance will occur outside the proposed construction areas. Equipment access routes will vary by site, as follows.

- Site 1: Equipment will be on one access route to each check dam located out of the floodplain, on the banks adjacent to the dams, and onto the rock within the channel to reshape the check dams.
- Site 2: The equipment will have one route to access the railroad grade and then operate totally within the area proposed to be disturbed. Equipment will cross the historic channel at one location at the lower end of the project.
- Site 3: One access point and then within the channel proposed for plugs and ponds.
- Site 4: Equipment will only be operating on the road to be obliterated.
- Site 5: Will require three-to-four access points to construction areas. Once at the construction site, the equipment will be constrained to the area proposed to be disturbed. This will be either on a railroad grade or a stream channel proposed for plugs and ponds.
- Site 6: Equipment will operate only on the railroad grade to be removed.
- Site 7: Equipment will be constrained to the area proposed to be re-contoured.
- Site 8: Equipment will be constrained to the railroad grade being removed.
- Site 9: Will require two-to-three access points to the various construction sites. Once at the construction site, the equipment will be constrained to the area proposed to be

disturbed. This will be either on a railroad grade or a stream channel proposed for plugs and ponds.

- Site 10: Will require two-to-three access points to the construction sites. Once at the construction site, the equipment will be constrained to the stream channel proposed for plugs and ponds.
- Site 11: Equipment will be constrained to the railroad section to be removed.
- Site 12: Will require two short access points to the construction sites on existing old road alignments. Once at the construction site, the equipment will be constrained to the area proposed to be disturbed. This will be either on a railroad grade to be removed or a stream channel proposed for plugs and ponds.

The equipment will need to cross the channel on some of the sites to get access to the construction locations. Such crossings will be limited. The channels will not have active flow at the time of crossing, and therefore, the equipment will not be exposed to stream flows. Each site will be evaluated where equipment needs to cross the channel to access the work area. Where needed, the stream crossing bed and banks will be protected with wood, rubber mats, landing mats, or other means of protection to retain bed and bank integrity and not create a source of sediment. In some areas the crossings are rocky and will not need to be protected.

Equipment staging areas and access routes used during construction and abandoned as a result of the proposed project will be restored to natural conditions by loosening or scarifying the soil, restoring natural slope, seeding or planting with native species, and mulching with native and/or weed-free material. Staging areas will be small and existing landings and other areas already impacted will be used when possible.

**9. Surrounding Land Uses and Setting:** The Forest Service owns the majority of surrounding land. This National Forest land is used for motorized and non-motorized recreation and grazing. Private undeveloped land adjacent to two of the sites is used for grazing.

**10. Other Public Agencies whose Approval Is Required:** U. S. Army Corps of Engineers, California Department of Fish and Game, Sierra County Planning Department, Sierra County Department of Public Works.

**Environmental Factors Potentially Affected:**

The environmental factors checked below would potentially be affected by this project (i.e., the project would involve at least one impact that is a “Potentially Significant Impact”), as indicated by the checklist on the following pages.

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Aesthetics                      | <input type="checkbox"/> Agricultural Resources             | <input type="checkbox"/> Air Quality            |
| <input type="checkbox"/> Biological Resources            | <input type="checkbox"/> Cultural Resources                 | <input type="checkbox"/> Geology/Soils          |
| <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality            | <input type="checkbox"/> Land Use/Planning      |
| <input type="checkbox"/> Mineral Resources               | <input type="checkbox"/> Noise                              | <input type="checkbox"/> Population/Housing     |
| <input type="checkbox"/> Public Services                 | <input type="checkbox"/> Recreation                         | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities/Service Systems       | <input type="checkbox"/> Mandatory Findings of Significance |   |

**Determination:** *(to be completed by the lead agency)*

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have an impact on the environment that is “potentially significant” or “potentially significant unless mitigated” but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards and (2) has been addressed by mitigation measures based on the earlier analysis, as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the project, nothing further is required.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
For

## **Evaluation of Environmental Impacts:**

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained if it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. “Negative Declaration: Less than Significant with Mitigation Incorporated” applies when the incorporation of mitigation measures has reduced an effect from a “Potentially Significant Impact” to a “Less-than-Significant Impact”. The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level. (Mitigation measures from Section XVII, “Earlier Analyses”, may be cross-referenced.)
5. Earlier analyses may be used if, pursuant to tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [Section 15063(c)(3)(D)]. In this case, a brief discussion should identify the following:
  - (a) Earlier Analysis Used. Identify and state where earlier analyses are available for review.
  - (b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards and state whether such effects were addressed by mitigation measures based on the earlier analysis.
  - (c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Incorporated,” describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
  - (a) the significance criteria or threshold, if any, used to evaluate each question; and
  - (b) the mitigation measure identified, if any, to reduce the impact to a less-than-significant level.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
<b>I. AESTHETICS.</b>	Would the project:				
a.	Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d.	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Answers to Checklist Questions

The project is not located in or adjacent to a designated scenic vista or along a scenic highway. The project will not result in the development of new sources of light or glare. The project consists of redirecting stream flow from incised eroding channels to stable remnant channels, reconfiguring existing check dams, and obliterating and upgrading Forest Service and Sierra County roads to improve water quality. Although the project sites will be temporarily impacted by construction activities (e.g., installation of BMPs, material transport, removal of old railroad grades, excavating ponds, re-contouring slopes, road contouring, outcropping, tilling, and controlling fugitive dust emissions), the project-required meadow restoration and road decommissioning activities will enhance the area's long-term scenic resources.

The primary impact to aesthetics will be the creation of large areas of soil disturbance within meadow environments. The proposed project includes the implementation and maintenance of numerous site-specific BMPs which are designed to control storm-driven erosion at the sites, as well as the success of the site-specific Revegetation and Monitoring Plans to restore the project sites to natural conditions. The impacts to aesthetics are less than significant with mitigations.

### Mitigation Measures

The mitigation measures required to control storm-driven erosion from the project sites are the same as those listed under Section III, Air Quality:

**AIR-1.** All areas (including unpaved roads) with vehicle traffic must be watered as necessary for stabilization of dust emissions. No dust palliatives will be used in addition to or in lieu of water. Care must be taken to avoid excessive watering that could cause a discharge to surface waters.

**AIR-2.** On-site vehicle speeds will be limited to 15 miles per hour on unpaved surfaces.

- AIR-3.** Inactive soil stockpiles will be watered or covered during windy conditions.
- AIR-4.** Disturbed areas will be revegetated as per the Revegetation Plan immediately after the completion of construction to reduce wind erosion. If immediate permanent revegetation is impractical due to factors such as poor seasonal timing, then temporary measures such as adequate covering with pine needles or jute matting will be implemented.
- AIR-5.** Construction activities will comply with EPA air quality standards on dust and condensed fumes, so that emissions do not exceed hourly levels as regulated per processing weight.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
<b>II. AGRICULTURAL RESOURCES.</b> In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Answers to Checklist Questions

No farmland is located in the project area. There will therefore be no impact to agricultural resources.

### ***Mitigation Measures***

No mitigation is required.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact	
<b>III. AIR QUALITY.</b> When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:					
a.	Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e.	Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Answers to Checklist Questions

The project area is within the Truckee Air Basin & Northern Sierra Air Quality Management District. Air quality impacts associated with the proposed project will be limited to those which typically occur during construction. The proposed project may result in temporary increases in dust and exhaust odor due to equipment use while implementing watershed restoration activities. BMPs improperly implemented to control fugitive dust may also lead to excessive sediment runoff and deposition into surface waters, in violation of Basin Plan water quality objectives and Basin Plan prohibitions. Excessive watering of disturbed soil areas for dust control could create runoff and sediment transport.

Construction activities will generally occur in isolated areas away from concentrations of the general public. Once construction is complete, disturbed areas will be revegetated to ensure soil stabilization. Compliance with the following BMPs and specific permit conditions will ensure compliance with Northern Sierra Air Quality Management District regulations. The proposed project will have a less-than-significant impact on air quality with the following mitigations.

## ***Mitigation Measures***

- AIR-1.** All areas (including unpaved roads) with vehicle traffic must be watered as necessary for stabilization of dust emissions. No dust palliatives will be used in addition to or in lieu of water. Care must be taken to avoid excessive watering that could cause a discharge to surface waters.
- AIR-2.** On-site vehicle speeds will be limited to 15 miles per hour on unpaved surfaces.
- AIR-3.** Inactive soil stockpiles will be watered or covered during windy conditions.
- AIR-4.** Disturbed areas will be revegetated as per the Revegetation Plan immediately after the completion of construction to reduce wind. If immediate permanent revegetation is impractical due to factors such as poor seasonal timing, then temporary measures such as adequate covering with pine needles or jute matting will be implemented.
- AIR-5.** Construction activities will comply with EPA air quality standards on dust and condensed fumes, so that emissions do not exceed hourly levels as regulated per processing weight.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
<b>IV. BIOLOGICAL RESOURCES.</b>	Would the project:				
a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Answers to Checklist Questions a, b, and d

The project is designed to restore and/or improve wetland, aquatic, and riparian habitats. Some existing riparian vegetation will be disturbed and the site rehabilitated. Overall this project will be an improvement of riparian conditions and habitat. See the Revegetation Plan in the attached Appendix A for information on revegetation.

The Biological Evaluations/Biological Assessments (BEs/BAs) prepared for this project, which are incorporated into the EA by reference, evaluate potential effects of the proposed project on species listed as endangered or threatened, or proposed for listing, under the federal Endangered Species Act of 1973 as amended (ESA); or designated as sensitive by the Regional Forester in Region 5. The BEs/BAs are available for review at the Tahoe National Forest Sierraville District and Regional Board South Lake Tahoe offices. For the purpose of this CEQA Checklist, species included in the BEs/BAs and EA are defined as “special-status species” and included in this analysis.

The following information summarizes potential effects of the proposed action on biological resources, including special-status species, and mitigation measures that are expected to reduce potential adverse effects to a less-than-significant level. Additional detailed information on the known occurrences and status of each special-status species in the project area, and a detailed analysis of potential project effects on each species, is provided in the BEs/BAs and EA.

**Terrestrial Wildlife:**

The following table summarizes the terrestrial wildlife BE/BA for this project. There is no effect to the species listed when implementing the limited operating periods (LOPs) or by verifying non-presence during project implementation.

**EXECUTIVE SUMMARY  
BIOLOGICAL EVALUATION/BIOLOGICAL ASSESSMENT  
DAVIES/MERRIL WATERSHED RESTORATION PROJECT**

<u>Species</u>	<u>Species Status</u>	<u>Present in Analysis Area Habitat &amp;/or Detections</u>	<u>Management Requirements, Standards, Guidelines, Species Specific Project Design Standards</u>	<u>Effects Determination</u>	<u>Recommended Mitigation for No Effect</u>
Valley elderberry longhorn beetle	T*	No	N/A	No Effect	N/A
Bald eagle	T	No	N/A	No Effect	N/A
American peregrine falcon	S**	No	N/A	No Effect	N/A
California spotted owl	S	No	N/A	No Effect	N/A
Great gray owl	S	Yes	LOP Sites #9, 10 March 1-Aug. 31 or survey before implementation	May affect, not likely to lead to a listing under ESA	Survey for species and implement LOP for relative time period, if present
Northern goshawk	S	Yes	LOP Site #2 Feb.15-Sept.15 or survey before implementation	May affect, not likely to lead to a listing under ESA	Survey for species and implement LOP for relative time period, if present
Willow flycatcher	S	Yes	LOP Sites #9, 10 June 1-July 30 or survey before implementation	May affect, not likely to lead to a listing under ESA	Survey for species and implement LOP for relative time period, if present
Greater sandhill crane	S	Yes	LOP Sites #9, 10, 12 April 1-Aug. 1 or survey before implementation	May affect, not likely to lead to a listing under ESA	Survey for species and implement LOP for relative time period, if present
Pacific fisher	S	No	N/A	No Effect	N/A
Marten	S	No	N/A	No Effect	N/A

Sierra Nevada red fox	S	Yes - Habitat	N/A	May affect, not likely to lead to a listing under ESA	N/A
California wolverine	S	Yes - Habitat	N/A	May affect, not likely to lead to a listing under ESA	N/A
Pallid bat	S	Yes - Habitat	N/A	May affect, not likely to lead to a listing under ESA	N/A
Townsend's big-eared bat	S	No	N/A	No Effect	N/A
Western red bat	S	No	N/A	No Effect	N/A

\*T = Threatened Species \*\*S = Sensitive Species

Disturbances to wildlife habitat resulting from watershed restoration work will occur within stream and riparian corridors on a small scale (a combined total of 14 acres spread over 12 separate sites, with the largest site being less than three acres). The plugging and ponding of the existing channel and relocating the flow to an old channel will change the existing habitat structure or composition in the project area. This will be a short-term disturbance. However, the long-term effect is expected to be an overall improvement of the riparian and aquatic habitat. Habitat disturbances will be minimized and disturbed areas will be stabilized and revegetated. These restoration projects will positively affect wildlife habitat by eliminating active erosion and sediment sources and promoting the establishment and succession of native riparian vegetation in those locations. In the long-term, there will be a net increase in available wildlife habitat.

In the short-term, temporary disturbances to foraging, movement, and reproductive activities resulting from noise or other project-related factors could also occur. However, project activities within the action area will be dispersed and localized. Furthermore, project activities at each location will be completed over a short period. Most areas will be done within one week. The largest site will take three to four weeks. Despite this short disturbance period, project-related noise could disturb individuals and possibly disrupt or prevent breeding activities in some locations. However, LOPs will be implemented around nests, dens, roost sites, and other areas of concentrated use of special-status species (see mitigation in table).

Overall, the proposed action is expected to result in long-term benefits to special-status wildlife species including an increase in total habitat. Considered separately from the long-term beneficial effects, any potential short-term effects are less than significant.

### **Aquatic Resources, Riparian Habitats, and Special-Status Fish:**

The following table summarizes the aquatic BE/BA for this project. The Tahoe National Forest Biologist has determined that there are no effects to most special-status species. There will be an unknown but less than significant potential impact to the Great Basin rams-horn snail.

**EXECUTIVE SUMMARY  
OF AQUATIC BIOLOGICAL EVALUATION/ASSESSMENT  
FOR DAVIES/MERRIL WATERSHED RESTORATION PROJECT**

SPECIES	SPECIES STATUS	PRESENT IN PROJECT AREA: Habitat &/or detections	MANAGEMENT REQUIREMENTS, STANDARDS, GUIDELINES, SPECIES SPECIFIC PROJECT DESIGN STANDARDS	EFFECTS DETERMINATION	RECOMMENDED MITIGATION FOR NO EFFECT
California red-legged frog	T*	No	NA	Will not affect	NA
Lahontan cutthroat trout	T	Habitat: yes Population: no	NA	Will not affect	NA
Northwestern pond turtle	S**	No	NA	Will not affect	NA
Foothill yellow-legged frog	S	No	NA	Will not affect	NA
Mountain yellow-legged frog	S	Habitat: yes Population: no	NA	Will not affect	NA
Northern leopard frog	S	Habitat: yes Population: no	NA	Will not affect	NA
Great Basin rams-horn snail	S	Habitat: yes Population: unknown	HFQLG – RHCAs (Herger Feinstein Quincy Library Group - Riparian Habitat Conservation Areas)	May affect, not likely to result in a trend toward Federal listing or a loss of viability of the species	No action
Lahontan Lake tui chub	S	No	NA	Will not affect	NA
Hardhead	S	No	NA	Will not affect	NA

\*T = Threatened Species \*\*S = Sensitive Species

The proposed action is not likely to significantly adversely affect aquatic and riparian habitats which support waterfowl, fish, amphibians, and other aquatic species in the project area. The proposed action is designed to minimize potential adverse effects on aquatic and riparian habitats in the project area. In-stream activities will be conducted only when the streams are dry or during minimum flow (base flow) periods. Any in-stream structural changes are designed to allow for fish passage. The proposed action will result in long-term beneficial effects on aquatic habitat. Erosion and associated runoff of sediment and nutrient inputs will be reduced. Considered separately from the long-term beneficial effects, these potential short-term effects are less than significant.

As described above, the proposed action is expected to result in long-term benefits to biological resources. Any impacts to biological resources will be dispersed and localized; and project activities at each location will be completed within a short period. The mitigation measures provided below are expected to reduce impacts on biological resources to a less-than-significant level.

Based on the analysis in the BE/BA, the proposed action is not likely to adversely affect any species of concern, and is expected to enhance aquatic and riparian habitat in the long-term. Please refer to the BE/BA for a detailed analysis of potential effects of the proposed action.

## Vegetation Communities and Special-Status Plant Species:

The following paragraph summarizes the vegetative BE/BA for this project. The Tahoe National Forest Botanist has determined that the proposed action will not adversely affect vegetation communities or special-status plant species. There will be some short-term disturbance of some riparian areas. All disturbed areas will be revegetated with native plant species. See the Revegetation Plan in the attached Appendix A.

### Summary of the BE Determination for Sensitive Plants

Plant surveys of the Merrill-Davies Restoration Project area were completed in June of 2001. The project area has potential habitat for *Botrychium ascendens*, *B. crenulatum*, *B. lineare*, *B. montanum*, *Clarkia stellata*, *Cypripedium fasciculatum*, *C. montanum*, *Epilobium howellii*, *Ivesia aperta* var. *aperta*, *I. aperta* var. *canina*, *I. sericoleuca*, *I. webberi*, *Meesia triquetra*, *M. uliginosa*, *Pyrrocoma lucida* and *Scheuchzeria palustris* var. *americana*. No new occurrences of Forest Sensitive Plants were found to occur. Only *I. sericoleuca* is known to occur in two locations on the edge of Sardine Valley within the project area. One occurrence is on private land and the other is on Forest Service land. Neither of these occurrences will be directly affected by the implementation of this project. Possible indirect effects to *I. sericoleuca* could result from the watershed restoration, but it is expected that the effects will be beneficial.

### Answers to Checklist Question c

The project proposes to work within some seasonally wet meadow areas. For the purpose of this analysis it is assumed that these areas are wetlands. This project's primary purpose is riparian habitat and water quality improvement, through eliminating active erosion and increasing functionality of hydrologic systems. Where the project proposes to do work in or near wetlands the project is designed to restore and/or enhance the wetland. All of the mitigation measures designed to protect soil resources (see Soil & Geology section), hydrology, and water quality (see Hydrology and Water Quality section) will avoid or minimize potential short-term adverse effects of project activities on aquatic, riparian, and wetland habitats. See the impacts and mitigations table, below, for a list of affected habitat areas and sizes.

### Summary of Impacts and Mitigation for the Davies/Merrill Project

		Water Body Type			
		Wetland	Streambed	Riparian	Pond
Water Body Impact					
1. Fill & Excavation	Permanent Impact	3.76 acres of incised channel with wetland characteristics converted to plug and pond. Of this, 1.45 acres will be converted to plugs.	7896 linear feet of incised channel will be closed off using plug and pond technique	0.2 acre of check dams in upland flood plain reconfigured.	None
	Temporary Impacts	4.61 acres of ground will have either disturbed vegetation or no vegetation temporarily after the project due to either RR grade removal or plug creation.	700 ft <sup>2</sup> of un-vegetated remnant channels will result from removing RR grades that cross them. This will reconnect the natural flow path which has been disrupted.	5.05 acres of ground will have either disturbed vegetation or no vegetation temporarily after the project due to either RR or road grade removal or plug creation.	None
				0.2 acre of upland road re-contoured to match meadow slope	

<b>2. Dredging Volume</b>	None			
	<b>Water Body Type</b>			
	<b>Wetland</b>	<b>Streambed</b>	<b>Riparian</b>	<b>Ponds</b>
<b>Compensatory Mitigation</b>				
<b>1. Created</b>	3.76 acres of wetland flood plain will be created by the removal of RR grades and by closing off incised channels using the plug and pond technique that will allow the water table to rise.	None	3.23 acre of upland flood plain created by the removal of RR grades and the creation of plugs.	3.15 acres of ponds created.
<b>2. Restored</b>	9.8 acres of degraded wetland will be restored.	Flow will be returned to 17,315 linear feet of remnant channels	5.05 acres of ground with disturbed vegetation or no vegetation will be treated, as needed, as per the SWPPP.	None
	4.61 acres of ground with disturbed vegetation or no vegetation will be treated, as needed, as per the SWPPP.	19 remnant and ephemeral channels will be reconnected with their natural flow paths by either the removal of RR grades or improving drainage across roads. In 15 of these locations 700 ft <sup>2</sup> of un-vegetated remnant channels will be stabilized, as needed, as per the SWPPP.		
<b>3. Enhanced</b>	Flood flows will have enhanced access to 43.4 acres of wetland flood plain.	None	Flood flows will have enhanced access to 11.3 acres of upland flood plain.	None
<b>4. Set Aside for Protection</b>	Restoration areas may be fenced to stop grazing after the project to promote revegetation if grazing allotments in the area are active in the years following the project.			

The above tables indicate that the permanent impacts in the 100-year flood plain will be significantly less than the positive benefits. In the wetland category 3.76 acres of wetland floodplain area will be converted to plug and pond, however the same amount of wetland flood plain area will be created, an additional 9.8 acres will be restored, and another 43.4 acres will be enhanced by allowing flood flows better access. Approximately 7900 linear feet of existing incised stream channel will be closed off using the plug and pond technique, allowing flow to be restored to 17,315 linear feet of the existing remnant channels which had been cut off by the railroad grades. Less than a half an acre of riparian upland flood plain will be permanently impacted by reconfiguring checkdams and recontouring a road grade. The project has the benefit of creating 3.23 acres of upland flood plain in the riparian area. Additionally, 3.15 acres of ponds will be created, offering groundwater recharge and waterfowl habitat.

***Mitigation Measures for Questions a, b, and c: See also App. B – Monitoring Plan***

**BIO-1. Avoid or Minimize Impacts to Threatened, Endangered, Sensitive, or Special Interest Wildlife Species.** Any detection of threatened, endangered, sensitive, or special interest wildlife species or of nests, dens, roost sites, and other areas of concentrated use of these species, before or during project implementation will be reported to the Forest Service wildlife biologist. Areas of concentrated use, particularly those that are important for reproductive activities (e.g., nest or den sites), will be protected in accordance with the Land and Resource Management Plan (LRMP).

- BIO-2. Conduct pre-project surveys for and avoid Threatened, Endangered, Sensitive, or Special Interest plant species.** Prior to implementation of the proposed action, surveys will be conducted in suitable habitat where project activities will occur to determine if any threatened, endangered, sensitive, or special interest plant species occur there. Any sighting of these species before or during project implementation will be reported to the Forest Service botanist. Where these plants are detected, they will be delineated and avoided during project activities.
- BIO-3. Conduct pre-project surveys for selected wildlife species.** Prior to implementation of the proposed action, protocol surveys for nesting California Spotted Owls and northern goshawks will be conducted in suitable habitat in the action area. Some locations in the action area have been surveyed for willow flycatcher in previous years. Additional pre-project surveys for willow flycatcher may be conducted in these and other areas of suitable riparian habitat where project activities will occur. Results of these surveys will be used to implement some of the measures described below.
- BIO-4. Implement Limited Operating Periods.** To avoid disturbances to breeding activities and habitat of special-status wildlife species, LOPs will be implemented around nests, dens, roost sites, and other areas of concentrated use of these species. An LOP constitutes a period during which project activities will not occur and is enforced in project implementation contracts. Implementation of LOPs for certain species is described in the table above, in the BE/BA, and in the EA.
- BIO-5. Control noxious and invasive weeds.** Measures to control the introduction and spread of noxious weeds in the action area will be implemented during the project. The Sierra Nevada Forest Plan Amendment (SNFPA) to the LRMP, which includes direction regarding actions to control the spread of noxious weeds, will be followed. Prior to ground disturbance, project activity sites will be surveyed to determine if a noxious or invasive species is present. Any species found will be removed and disposed of in a manner appropriate for that species' biology. Herbicide use to control noxious or invasive weeds will only be considered as a last resort, and only after receiving written permission from the Regional Board first. Other actions include off site equipment inspection and cleaning, use of pine needles or certified weed-free straw/hay for ground cover, and post-project inspections.
- BIO-6.** Soil erosion mitigations listed under the Geology/Soils and Hydrology/Water Quality sections will also help to avoid or minimize potential short-term adverse effects of project activities on aquatic and riparian habitats that support waterfowl, fish, amphibians, and other aquatic species.

### **Answers to Checklist Questions e and f**

There are no conflicts with any local policies or ordinances protecting biological resources, including the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

### ***Mitigation Measures***

No mitigation is required.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
<b>V. CULTURAL RESOURCES.</b> Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Answers to Checklist Questions

Historic railroad grades in the project area will be directly affected by the project. The Tahoe National Forest Sierraville Ranger District archeologist evaluated the grades for eligibility to the National Register of Historic Places (NRHP) and has determined that they are not eligible. The Forest Service has received concurrence from the State Historic Preservation Office (SHPO) that the grades are not eligible. There are several other archaeological sites located near the proposed project's Area of Potential Effect (APE) that are of unknown eligibility for listing on the NRHP. Therefore, mitigation measures must be implemented to protect any archaeological value of these sites.

The mitigation measures provided below are expected to reduce impacts on cultural resources to a less-than-significant level.

### ***Mitigation Measures***

**CULT-1.** The project shall implement Standard Resource Protection Measures as outlined in the Programmatic Agreement among the Forest Service, Pacific Southwest Region, California SHPO, and the Advisory Council on Historic Preservation for the known sites. The Standard Resource Protection Measures will include flagging or fencing the sites prior to commencement of work. Tahoe National Forest Sierraville Ranger District Heritage Resources staff must be notified in advance of project initiation so that these measures can be implemented.

**CULT-2.** If the design of the proposed project is altered or changed, additional review by Tahoe National Forest Sierraville Ranger District Historic Resources staff will be required before work in the affected area can commence. Furthermore, if any previously

unrecorded cultural resources are discovered during project activities, these activities must cease immediately and the consultation process as outlined in Section 800.13 of the Advisory Council on Historic Preservation's regulations 36 CFR 800 must be initiated.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
<b>VI. GEOLOGY AND SOILS.</b> Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Strong seismic groundshaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Answers to Checklist Questions a, c, d, and e

The proposed project is not located in an Alquist-Priolo Earthquake Fault Zone, on a geologic unit which is unstable, or a geologic unit which could become unstable as a result of the project. The project is not located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code. Question e. is irrelevant to the majority of the proposed project area, with the exception of Site 5, where the existing vault toilet (a contained system) in the Davies Creek Campground will

be adjacent to the reclaimed flood plain after Davies Creek is returned to its original channel. If, after post project assessment, it is determined that the current location is a problem, the toilet vault will be relocated to a location just above the existing campground road and well out of the influence of the flood plain. The Tahoe National Forest Hydrologist has determined that the soils at the new location are suitable for this function.

## **Answers to Checklist Question b**

Soils in the project area include shallow to deep, moderately well to excessively drained loams, loamy coarse sands, and coarse sands underlain by andesite and andesitic tuff rock. Surface runoff is slow to very rapid and the erosion hazard is slight to high. The areas proposed for treatment are mostly alluvial soils developed from the material washed in from the watershed above. Some portions of channels and flood plains being treated are actively eroding. There is also a risk of erosion during and following construction unless disturbed areas are effectively stabilized with erosion control and revegetation methods. The mitigation measures provided below are expected to reduce impacts on geology/soils to a less-than-significant level.

### ***Mitigation Measures***

**SOIL-1. Limit timing of activities.** Watershed restoration activities will occur between May 1 and October 15 each year to avoid the period of highest precipitation, stream flows, and erosion potential. During periods of inclement weather, operations will be shut down until stream flows are sufficiently low and soil/channel conditions are sufficiently dry and stable to allow for construction to continue without the threat of substantial soil compaction, erosion, sedimentation, and offsite sediment transport.

**SOIL-2. Stabilize construction spoils and topsoil.** Earthen spoils generated during construction will be temporarily stockpiled in stable areas located outside of subject wetlands and flood plain areas or immediately used in streambed plugs. Plugs will be constructed with the subsoil materials excavated from the adjacent pond sites. Plug material will be excavated and placed at the same time and therefore will not be staged. Topsoil, however, removed from the pond area to be excavated, will be temporarily staged and stabilized adjacent to the adjacent plug location. Once the subsoil is placed, the topsoil will be used to cap the plug. Most plug/pond sites will be disturbed and construction completed within one to two days.

Pine needles, straw wattles, silt fences, or straw/hay bales will be installed around the base of temporary stockpiles to intercept runoff and sediment transport. Pine needle coverage and/or wattles have proven to be extremely effective in controlling sediment transport on local soils. Pine needles will therefore be the preferred method of erosion control. If a sufficient source of pine needles is unavailable, then the other forms of erosion control can be used. Stockpiles will be further stabilized with mulch, using available forest materials (i.e., slash and needles) or an appropriate geotextile material, immediately prior to forecast storm events. Although no unused construction spoils are anticipated, any remaining spoils will be hauled offsite and deposited in stable areas once construction is complete.

After completion, permanent BMPs, such as revegetation and mulching with native or imported weed-free materials, will be installed where needed. Erosion control fabric will be used to protect bare areas until revegetation is successful. Revegetation work will be planned when five days or more of good weather is predicted.

**SOIL-3. Implement erosion and sediment control BMPs on temporarily delayed project elements.** Appropriate erosion and sediment control BMPs will be applied to all disturbed ground during temporary construction delays caused by inclement weather or other circumstances. Applied measures will vary with conditions, but will include (1) the placement of readily available mulch materials (e.g., pine needles, branches, coarse woody debris) and/or imported mulch materials (e.g., certified weed-free rice straw) to protect disturbed surfaces from raindrop impact, reduce runoff velocity, and reduce erosion, and (2) the installation of pine needles or straw wattles, silt fences, and/or certified weed-free straw/hay bales to reduce runoff velocity and intercept sediment.

**SOIL-4. Minimize ground and vegetation disturbance.** Ground and vegetation disturbance will be minimized and disturbed areas will be rehabilitated as quickly as possible during project implementation. To minimize disturbance each project area and access route will be carefully laid out including in advance of any construction activity. Boundaries for equipment will be flagged, equipment operators will be instructed on expectations of minimizing impacts, and the project manager will be on site at all times during work within the 100-year flood plain. The contractor and all on-site personnel will be trained on the importance of not disturbing anything not necessary to meet project goals.

**SOIL-5. Mulch and revegetate disturbed areas.** Soils lacking adequate ground cover because of exposure or other disturbances caused by the proposed action will be mulched with available forest materials such as pine needles, tree bark, and branches, or with imported mulch such as certified weed-free straw or tub-ground wood chips. Additionally, construction-disturbed areas denuded will be actively revegetated. To ensure fastest possible site stabilization any disturbed sites will be treated for erosion control and revegetated as the work is done. Revegetation measures will include transplanting vegetation that has been excavated as a result of construction work, mulching bare areas as the work is completed, seeding native species as recommended by the Tahoe National Forest botanist, monitoring for soil stability and revegetation success, and taking other appropriate actions to meet the goals of site rehabilitation (see Revegetation Plan, Appendix A). Slash and logs from the site may also be distributed over the disturbed area to provide additional soil cover, retain sediment, provide a microclimate to speed up the soil development and revegetation process, and discourage motorized vehicle use in the restored flood plains.

**SOIL-6. Control concentrated runoff from modified access road surfaces to reduce erosion.** Methods to reduce erosion and disperse drainage include properly spaced water bars, cross drains, outsloping (10–12%), tilling the road prism to break up the impervious surface and enable water infiltration, mulching bare areas, and revegetation (see Revegetation Plan, Appendix A).

- SOIL-7. Decommission abandoned staging areas.** Equipment staging areas used during construction and abandoned as a result of the proposed work will be restored to natural conditions by loosening or scarifying the soil, planting with native species, and mulching with native and/or weed-free material or seeding. (see Revegetation Plan, Appendix A).
- SOIL-8. Properly dispose of wastes and petroleum products.** Wastes and petroleum products used during construction will be collected and removed from the project site in accordance with the Resource Conservation and Recovery Act regulations and federal Occupational Safety and Health Administration (OSHA) standards.
- SOIL-9. Remediate contaminated soil.** If contaminated or suspected contaminated soil and/or groundwater are encountered or created during project construction, work will be halted in the area and the type and extent of the contamination shall be identified. A qualified professional, in consultation with the appropriate federal, state, and local regulatory agencies, will then develop an appropriate method to remediate the contamination before work will continue in this area.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
<b>VII.</b>	<b>HAZARDS AND HAZARDOUS MATERIALS.</b>				
	Would the project:				
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.	Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e.	Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h.	Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## **Answer to Checklist Question b**

The proposed project is not expected to result in the creation of health hazards, potential health hazards, or expose people to potential health hazards since the proposed project is watershed restoration in remote areas. During construction, the use of construction equipment may have the potential to release hazardous substances, such as oil and diesel, or may expose contaminated soil. However, the following precautionary mitigation measures will result in a less-than-significant risk of upset.

### ***Mitigation Measures***

- HAZ-1. Properly dispose of wastes and petroleum products.** Wastes and petroleum products used during construction will be collected and removed from the project site in accordance with the Resource Conservation and Recovery Act regulations and federal Occupational Safety and Health Administration (OSHA) standards.
- HAZ-2. Remediate contaminated Soil.** If contaminated soil and/or groundwater is encountered, or if suspected contamination is encountered during project construction, work will be halted in the area, and the type and extent of the contamination will be identified. A qualified professional, in consultation with the appropriate federal, state, and local regulatory agencies, will then develop an appropriate method to remediate the contamination.
- HAZ-3. Prevent discharges of hazardous substances from refueling and maintenance.** All equipment refueling and maintenance activities will occur in designated, secure locations outside wetlands and 100-year flood plain areas to minimize the potential to impact water quality. Equipment will be required to be in good operational condition (e.g., no leaky hoses, etc.), with daily inspections to check for new leaks.
- HAZ-4. Contain spills.** The Forest Service will require on-site equipment operators to contain and clean up any spills. Materials kept on site will be properly packaged and contained, and spills will be immediately cleaned up. Strict onsite handling rules will be implemented to minimize spills and keep potentially contaminated materials out of the waterways.

## **Answer to Checklist Question h**

The project area is undeveloped Forest Service land. The project site is located in an area of moderate wildfire threat. The watershed restoration work in the project area could have an initial impact on potential ignitions of wildfire because of construction equipment. However, the work will be mostly within flood plain/meadow areas where there is less fire hazard. The following mitigations will reduce the risk to less than significant.

## ***Mitigation Measures***

**FIRE-1. Keep fire tools onsite.** Fire extinguishers and tools shall be required to be kept onsite and in proper working order during project activities.

**FIRE-2. Monitor fire weather.** Daily monitoring of fire weather and Fire Activity Level will occur during construction. If Fire Activity Levels thresholds are reached, construction will be shut down. The contractor will be required to sign and follow a fire plan developed by the district fire management staff.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
<b>VIII. HYDROLOGY AND WATER QUALITY.</b>					
Would the project:					
a.	Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e.	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
g.	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h.	Place within a 100-year flood hazard area structures that would impede or redirect floodflows?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i.	Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j.	Contribute to inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## **Answers to Checklist Questions a and f**

The primary goal of the proposed project is to improve the water quality and watershed function by restoring the watercourse to its original channel. Construction work within the 100-year flood plain and the stream channel has the potential to discharge sediment, violate water quality standards, and degrade water quality. However, Davies and Merrill Creeks are intermittent streams and cease to flow by mid-summer. Construction work will occur only during the dry period. Every effort will be made to prevent possible contamination from equipment working within the flood plain. The mitigations below will reduce the risk of degrading water quality and violating water quality standards to less than significant.

## **Answers to Checklist Question b**

The project, as designed, will improve groundwater recharge and supplies in some of the meadows (sites 2, 3, 5, 9, 10, and 12). Vegetative response will be monitored to verify these changes. The possibility of a piezometer study is currently being investigated. If performed, piezometers may be installed within Sites 2, 5 (upper end), 9, 10, and 12 to provide tangible data on changes in groundwater levels. See Monitoring Plan in the attached Appendix B.

## **Answers to Checklist Questions c and d**

The project is designed to alter the existing drainage pattern in some places by diverting the stream from the existing degraded channel system into stable remnant or historic channels. The logging railroad system of the 1920s and 1930s had diverted and/or confined the flows and caused the stream to erode in many areas encompassed by the project. These sites are still actively eroding. The project will decrease current sources of siltation and will improve the drainage patterns. In sites 2, 3, 5, 9, and 10 the project will re-direct the flows to correct problems created in the past. The result will eliminate the current stream erosion and stabilize the stream. The project will once again give the stream access to the flood plain. This will allow the spring runoff to spread out, reducing the stream's energy and erosive power and also allowing more infiltration, helping to filter upstream runoff.

## **Answers to Checklist Question h**

The project will redirect flow in a positive way by reconnecting the channels with the flood plains and restoring flow to original channels where they had been diverted. This will be accomplished by closing off the degraded section of stream channel by constructing a series of plugs and ponds. These structures will not impede flood flows and will become part of the functioning flood plain.

## ***Mitigation Measures to Protect Hydrology and Water Quality***

In addition to the mitigation measures for prevention of erosion and sedimentation listed in the soil and geology section, the following mitigation measures should assure a less-than-significant impact on water quality.

- WQ-1. Prevent discharges of hazardous substances from refueling and maintenance.**  
All equipment refueling and maintenance activities will occur in designated, secure

locations outside wetlands and flood plain areas to minimize the potential to negatively affect water quality.

- WQ-2. Control sediment and revegetate within wetlands and flood plains.** Ground disturbance will be minimized and confined within the designated project area. All disturbed areas will be mulched with native material (e.g., pine needles) or weed-free straw (e.g., rice straw) and seeded with native grass species. Excavation sites will have perimeter containment installed around the site's lower perimeter, as necessary, to contain any eroded material. Native vegetation such as willows and sedges will be transplanted if they need to be removed as part of the project. All disturbed areas will be revegetated with approved native vegetation (see Revegetation Plan, Appendix A).
- WQ-3. Stabilize subject stream banks.** Stream banks on the top plug where the stream will be diverted and any plug that will be exposed to flowing water will be stabilized and protected from erosion using a combination of structural and biotechnical methods. The specific methods used will vary depending on site conditions, but at a minimum will include one or more of the following: adjustment of stream bank slopes; installation of rock slope protection (rip-rap); installation of biodegradable erosion control blankets; installation of willow wattles (live fascines); and/or the use of pole cuttings, container stock, and seed collected from local sources to reestablish native stream zone vegetation.
- WQ-4. Achieve zero discharge during in-channel excavation work.** Most of the proposed excavation work will occur within the channel to be obliterated. In a few cases excavation will occur within those areas which will receive flow during the following runoff season. The following practices will be used to achieve zero discharge: (1) wherever possible, delay activities until flow has ceased or is at lowest flow; (2) if flow is present, convey flow around the construction site and discharge in a stable upland location; (3) install a coffer dam below the site to trap sediment and detain any turbid water; (4) dispose of any sediment from behind the dam in a stable upland location; and (5) remove turbid water by pumping and sprinkling it in an upland location and manner to allow infiltration into the soil.
- WQ-5. Contain spills.** Strict on-site handling rules will be implemented to minimize spills and keep potentially contaminated materials out of the drainage waterways.
- WQ-6. Limit staging of materials and equipment.** Staging of materials and equipment will be limited to existing disturbed areas outside of wetlands and flood plain areas, where soils are already compacted and vegetation has been cleared. No new disturbance will be created for staging and stockpile areas, and no trees or other vegetation will be removed. Following project completion, these areas will be tilled, seeded, and mulched (see Revegetation Plan in the attached Appendix A).

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
<b>IX. LAND USE AND PLANNING.</b> Would the project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Answers to Checklist Questions

Proposed watershed restoration work will not change any land use allocations or conflict with any applicable habitat or natural community conservation plans. Some of the areas proposed for treatment are part of a Forest Service grazing allotment permitted for use by a permittee. There are two permitted allotments within the project area. The Payen Allotment contains restoration sites 1-9 and is 11,793 acres. The Smithneck Allotment contains restoration sites 10-12 and is 26,889 acres. The proposed restoration sites cover a total of less than 15 acres and represent only a small impact overall to these two allotments. Some areas of the allotment where restoration work is proposed will be temporarily fenced until revegetation is complete and stable. A few small areas may be permanently closed if needed to protect sensitive watershed areas. These areas will be less than one acre per site.

The decision to allow livestock back into a treated area will be based on site conditions, evaluated on an annual basis. The site must be stable and well vegetated before livestock will be allowed back into the treated area. Once grazing is allowed, the area will be monitored regularly (see Monitoring Plan in Appendix B) to determine the impacts caused by the grazing. The Forest Service will work with the allotment permittee to develop a grazing strategy to meet the restoration goals. The grazing allotment operating plan is updated annually.

### **Mitigation Measures**

No mitigation is required.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
<b>X. MINERAL RESOURCES.</b>	Would the project:				
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Answers to Checklist Questions

There are no known mineral resources of regional or state importance in the project area. The project area does not contain any designated mineral resource recovery sites.

### ***Mitigation Measures***

No mitigation is required.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
<b>XI.</b>	<b>NOISE.</b> Would the project:				
a.	Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e.	Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Answers to Checklist Questions

During construction, project-related noise could disturb individuals, however, the additional noise will be a temporary disturbance and most areas proposed for treatment currently experience noise and other disturbances associated with road use, maintenance, and logging activities. The proposed project sites are remote. Therefore, although project construction activities could be disruptive, the impact to noise is less than significant.

### Mitigation Measures

No mitigation is required.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
<b>XII. POPULATION AND HOUSING.</b> Would the project:				
a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Answers to Checklist Questions

Population and housing will not be impacted. There are no growth-inducing impacts associated with this project.

### ***Mitigation Measures***

No mitigation is required.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
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**XIII. PUBLIC SERVICES.** Would the project:

a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Answers to Checklist Questions**

Because of the project’s remote location, construction activities are not expected to interfere with police and fire access. In addition, the project will have no effect on schools or other public facilities, since none are located in the project area.

**Mitigation Measures**

No mitigation is required.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
<b>XIV. RECREATION.</b>	Would the project:				
a.	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Answers to Checklist Questions

The lower portion of Site 5 will move the stream and its flood plain closer to the existing Davies Creek Campground. An existing vault toilet and four campsites will be adjacent to the reclaimed flood plain after restoration. One of the four campsites may need to be closed because of its proximity to the flood plain. The proposed project will enhance the non-motorized recreational experience by restoring degraded riparian area. Overall, potential impacts of the proposed project on recreation are considered less-than-significant.

### **Mitigation Measures**

No mitigation is required.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
<b>XV. TRANSPORTATION/TRAFFIC.</b> Would the project:				
a. Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause, either individually or cumulatively, exceedance of a level-of-service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Answers to Checklist Questions

Transportation and traffic resources will not be impacted. Traffic would have been temporarily slowed by the installation of culverts at the Davies and Merrill Creek bridges on Henness Pass Road, but the County has already reconstructed this portion of the road.

### Mitigation Measures

No mitigation is required.

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
<b>XVI. UTILITIES AND SERVICE SYSTEMS.</b>	Would the project:				
a.	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e.	Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f.	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g.	Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Answers to Checklist Questions

The project consists of restoring degraded stream and riparian area and will not add capacity to the roadways or generate additional vehicle trips. Therefore, the project will not result in the need for new communications systems, sewer or septic tanks, storm water drainage, or solid waste disposal.

### Mitigation Measures

No mitigation is required.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
<b>XVII. MANDATORY FINDINGS OF SIGNIFICANCE</b>				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Does the project have impacts that are individually limited but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Answers to Checklist Question a

The project, with the previously discussed mitigations incorporated, will not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below a self-sustaining level or reduce the number or restrict the range of a rare or endangered plant or animal. See the EA and BE/BA for a complete discussion. Both of these documents are incorporated in the EA by reference.

### Answers to Checklist Question b

The project will not contribute to any cumulative impacts since mitigation measures described in this document reduce impacts to a less-than-significant level.

### Answers to Checklist Question c

The project will not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly.

**XVIII. EARLIER ANALYSIS.** Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, one or more effects have been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a discussion should identify the following on attached sheets:

- a. **Earlier analyses used.** Identify earlier analyses and state where they are available for review.

A complete Environmental Assessment was completed for this project by the Forest Service to meet the federal NEPA requirements for project environmental assessment. This project is being possessed through the State Clearinghouse to also meet the CEQA requirements of the State of California for environmental assessment.

- b. **Impact adequately addressed.** Identify which effects from the above checklist were within the scope of and adequately analyzed in the earlier document pursuant to applicable legal standards and state whether such effects were addressed by mitigation measures based on the earlier analysis.

Potential impacts have been analyzed under the Davies/Merril Watershed Restoration Environmental Assessment

- c. **Mitigation measures.** For effects that are “potentially significant unless mitigated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

**Authority:** Public Resources Code Sections 21083 and 21087.

**Reference:** Public Resources Code Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.3, 21093, 21094, 21151; Sundstrom v. County of Mendocino, 202 Cal. App. 3d 296 (1988); Leonoff v. Board of Supervisors, 222 Cal. App. 3d 1337(1990).

## APPENDIX A

### REVEGETATION PLAN Davies/Merril Watershed Restoration Project

Areas denuded during construction will be actively revegetated with appropriate native plant materials (i.e., seed, container stock, transplant plugs, pole cuttings) collected from local sources. Slash and logs from the site may also be distributed over the disturbed area to provide additional soil cover, retain sediment, provide a microclimate to speed up the soil development and revegetation process, and discourage motorized vehicle use. In addition, soils lacking adequate ground cover because of exposure or other disturbances caused by the proposed action will be mulched with available forest materials such as pine needles, tree bark, and branches. Where native materials are not available or unpractical, imported mulch such as certified weed-free straw may be used.

The revegetation strategy will be to establish the appropriate type and density of vegetation and/or ground cover on all areas disturbed during project implementation. This includes all access routes, staging areas, and construction areas. There will be three basic types of areas: wetland sites, moist meadow sites, and upland (drier) sites. Each site within each type has a specific set of plant species and plant density associated with it. The detailed plans for revegetation at each site (exact number and type of plants) will be tailored to each site and done immediately as the construction activities are completed. The first effort of revegetation will be to transplant as much of any vegetation that is disturbed during construction activities. When done with construction and transplanting, each site will be evaluated for further revegetation needs and capabilities and a plan will be developed to fully revegetate the site.

Following is a list of potential plant species to be used at each type of site:

<b>Type of Site</b>	<b>Name of Plant</b>	<b>Scientific Name</b>	<b>Planting Method</b>
<b>Wetland sites</b>	Baltic Rushes	<i>Juncus balticus</i>	Seed, Plugs
	Sedges	<i>Carex nebrascensis</i> , <i>Carex anthrostachya</i>	Seed, Plugs
	Willows	<i>Salix sp.</i>	Cuttings, Rooted Cuttings
	Cottonwoods	<i>Populus sp.</i>	Rooted Cuttings
<b>Moist sites</b>	Wild Rose	<i>Rosa woodsii</i>	Rooted Cutting
	Tufted Hair Grass	<i>Deschampsia cespitosa</i>	Seed
	Meadow Barley	<i>Hodeum brachyantherum</i>	Seed
	Kentucky Blue Grass	<i>Poa pratensis</i>	Seed
<b>Upland sites</b>	Sagebrush	<i>Artemisia tridentata</i> var. <i>vassayana</i>	Seed, Super Cell
	Bitterbrush	<i>Purshia tridentata</i>	Seed, Super Cell
	Rabbitbrush	<i>Chrysothamnus</i> <i>vicidiflorus</i>	Seed, Super Cell
	Bottlebrush Squirreltail	<i>Elymus elymioides</i>	Seed

	Snowberry	<i>Symphoricarpos mollis</i>	Seed, Super Cell
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## APPENDIX B

### MONITORING PLAN

#### Davies/Merril Watershed Restoration Project

#### **INTRODUCTION**

The purpose of the Monitoring Plan is to ensure that the management requirements and mitigation measures will be properly implemented and to document that the project has the desired outcomes. Monitoring will not only evaluate the success of both construction-related BMPs and revegetation efforts, but also the overall success of the project.

#### **Reporting Structure and Procedure**

The Tahoe National Forest Project Manager will be the primary contact and be responsible for ensuring that management requirements and mitigations are implemented and monitoring is correctly completed. During construction, the Project Manager will complete a daily log documenting activities on site, including the following.

- On-the-ground weather conditions
- Status of implementation schedule
- Implementation of mitigation measures
- Condition of site BMPs
- Corrective measures recommended for failed BMPs
- Date corrective measures implemented
- Detailed reports of any environmentally related construction site incidents

Revegetation efforts will be documented on data collection sheets, which will include the following: site location; photo point location and direction; date, time, and weather (all of which can affect interpretation of the photographs); slope; aspect; elevation; vegetation type; soil type; and a description of the general health of the vegetation.

#### **Mitigation Monitoring Plan**

Two types of monitoring, implementation and project effectiveness monitoring will be conducted. Implementation monitoring will be conducted to assess whether activities were carried out as planned, i.e., whether the mitigation measures outlined under the IS/MND were employed as stated. Project effectiveness monitoring will be conducted to assess: 1) the success of the project implementation in meeting performance measures, and 2) the success of the project and the mitigation measures and management requirements to improve bank stability, reduce active erosion sources, improve riparian and aquatic habitat conditions, and meet revegetation objectives.

## 1. Implementation Monitoring

Implementation monitoring will be carried out as an administrative review during construction activities and does not involve water quality measurements. Documentation of implementation monitoring observations and resulting actions will be a part of the Project Manager's daily activity logs.

A qualified Forest Service Tahoe National Forest hydrologist and/or soil scientist will conduct implementation monitoring during and after project construction, assuring that applicable mitigation measures are implemented.

Implementation monitoring will consist of observations and documentation of the effectiveness of mitigation measures and BMPs used for protection of soils, stream environment zones, and water quality. These measures include, but are not limited to, the following.

- Proper timing of activities
- Effective stabilization, mulching, and/or revegetation of disturbed areas
- Effective control of concentrated runoff onto and from work sites, to reduce erosion
- Timely implementation of proper erosion control measures
- Avoidance of unnecessary disturbance to existing vegetation in and around project area
- Proper staging of materials and equipment within the project area
- Control hazardous substance discharges during refueling, fuels storage, and potential equipment leaks
- Effective sediment control in wetlands and flood plain areas
- Channel restoration work

Implementation monitoring will also consist of observations and documentation of the effectiveness of mitigation measures and BMPs used for protection of vegetation and wildlife. These measures include, but are not limited to, the following.

- Minimization of active and post-construction effects on the vegetation community
- Protection of special status plant species
- Off-site equipment washing to control spreading noxious weeds
- Use of pine needles or certified weed-free rice straw to prevent introduction of noxious weeds.
- Protection of special-status wildlife species

Implementation monitoring will also consist of observations and documentation of the effectiveness of mitigation measures and BMPs used for protection of Heritage Resources. These measures include, but are not limited to, the following.

- Flag and avoid known sites

## 2. Project Effectiveness Monitoring

Project effectiveness monitoring will include stream cross sections, visual inspections, and utilization of photo points for pre- and post-project comparisons of vegetation success and stream bank stability, as well as to assess the effectiveness of BMPs in controlling sediment transport. Monitoring efforts will serve to determine the need for additional erosion control measures, supplemental planting or seeding, or implementation of additional management measures to restore functionality and soil stability.

Overall project success will be accomplished by achieving and maintaining stability of stream banks and disturbed soils. Slight adjustments of the channel morphology are to be expected and will be allowed. Bank cover consists of natural channel components such as boulders, cobbles, gravels, woody debris, and vegetation. Revegetation success of the stream banks and disturbed sites will be determined by achieving 75 percent plant survival/coverage, after the five-year monitoring period. Overall project effectiveness monitoring will include the following elements.

- Pre- and post-project photo points will be established at key locations within each project site to provide a gross visual documentation of existing conditions, immediate post-project conditions, and success or failure of bank stabilization and revegetation efforts. Specific photo point protocol will be developed and incorporated as an amendment in the SWPPP. This protocol will include specifics on delineating the area of concern, developing site maps with landmarks and photo point locations, pinpointing photo point locations, marking the photo point site in the field, development and use of site data forms, locating and framing the area to be evaluated, and identifying plant species. In addition to photo points, volunteers will be organized during the annual Truckee River Day to collect quantifiable data, including vegetative counts to measure vegetation success. Volunteers will be trained to produce comparable data. Percent total cover, mulch cover, plant cover, and bare ground will be measured along transects and recorded on data forms. Annual monitoring will occur in spring and fall for a minimum of five years. In addition, event-based monitoring will occur after all high flow (flood) events.
- Each site will be visually evaluated each spring and fall (annually, for five years) to locate and document (photograph, measure, and record) new large-scale erosional features, such as rills, gullies, and mass movement of soils. Specific locations of interest will include areas where temporary and permanent BMPs had been established, where stream diversions were employed, along restored access routes, and in revegetation plots. When problems are noted, the Tahoe National Forest Project Manager will develop recommendations for repair or amelioration, set time lines, and implement and monitor corrections.
- Stream channel cross sections have been established and measured within all sites where channel re-configuration and/or channel relocation have been proposed. These cross section measurements will be repeated again immediately after the project work is completed, in the second year following the first winter, and again in five years. These pre- and post-construction measurements will provide documentation of existing and improved conditions. A certain amount of channel adjustment will be expected as the

hydrologic environment equilibrates. Future measurements of the cross section locations will provide documentation of these post-project channel adjustments.

- Primary goals of this project include returning flood plain functions and stabilizing stream banks. A benefit of this type of project as proposed is that gullies, which are currently draining the seasonal meadow water table, will be closed off. Therefore, a secondary goal of this project is to restore the groundwater table in key locations. Vegetative response, indicative of changes in the ground water table in these regions, will therefore be monitored as described above. Additionally, a piezometer study is being investigated to augment the vegetation monitoring program. Grants and partnership funding for a potential piezometer study are currently being planned. Piezometers will likely be installed at site #5, the first project site to be implemented, for the 2005 field season. Currently, sites #2 and #12 are funded and are tentatively scheduled for the 2006 field season. Groundwater monitoring will be incorporated into these projects, although piezometer placement and sampling frequency details are still in the planning stage. As funding is acquired for sites #9 & #10, Tahoe National Forest personnel will continue to develop groundwater monitoring plans for these projects.
- As grazing is re-introduced into project sites the effects of grazing on the vegetation and stability of the site will be monitored. The sites will be monitored throughout the grazing season each year to evaluate the impacts of grazing on the vegetation and stability of the site: vegetation coverage, soil erosion, and stream bank stability will be noted, photographed, and evaluated annually, for a minimum of five years. Any necessary adjustments to the grazing strategy to insure vegetative and overall project success will be incorporated into the grazing permit annual operating plan.