CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

RESOLUTION R6T-2009- 0044

HIGH MEADOWS RESTORATION PROJECT - EXEMPTION TO A WASTE DISCHARGE PROHIBITION CONTAINED IN THE WATER QUALITY CONTROL PLAN FOR THE LAHONTAN REGION

El Dorado County

WHEREAS, the California Water Quality Control Board, Lahontan Region (Water Board) finds:

1. The United States Forest Service, Lake Tahoe Basin Management Unit (Forest Service) submitted the following information for the High Meadows Restoration Project (hereafter referred to as the "Project") to the California Regional Water Quality Control Board, Lahontan Region (Water Board):

   a. Environmental Assessment (EA) which was released for a 30-day public comment period May 23 through June 22, 2009
   b. Project plans (90% design)
   c. Draft Storm Water Pollution Prevention Plan (SWPPP) to comply with Board Order No. R6T-2005-0007, Updated Waste Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) General Permit No. CAG616002 for Discharges of Storm Water Runoff Associated with Construction Activity Involving Land Disturbance in the Lake Tahoe Hydrologic Unit.

2. The Project area is located within the Cold Creek watershed on 1,790 acres, approximately one mile east of South Lake Tahoe in El Dorado County. The Project area includes High Meadow and Cold Creek. Cold Creek flows through the center of the project area in a northwest direction. The Project vicinity is shown in Figure 1 of Attachment A, which is made part of this Resolution.

3. Past activities within the Project area included resource extraction, logging, forest road construction, and livestock grazing. Numerous diversion channels and structures that supported livestock grazing activities remain within High Meadows. Resultant conditions include channelized streams, severe channel incision, hydrologic disconnection between the channel and the meadow, multiple headcuts, severe bank erosion, and conifer encroachment into aspen stands and meadow areas.

4. The purpose of the Project is to improve conditions in the functioning riparian, meadow, and terrestrial ecosystems by reducing sedimentation, restoring and expanding meadow habitat and function, and encouraging long-term sustainability of aspen stands.

5. Implementation of the Project is planned to begin in September 2009 and will be completed in 2011.

6. The purpose of this Resolution is to consider granting waste discharge prohibition exemptions to two waste discharge prohibitions contained in the Water Quality Control Plan for the Lahontan Region (Basin Plan) for activities that will be occurring within Stream Environment Zones (SEZs). Project activities located within SEZs include the following:

   a. constructing approximately 8,700 linear feet of new channels and associated floodplain terrace on the Mainstem, East Fork, and North Fork of Cold Creek within High Meadow
   b. decommissioning approximately 6,660 linear feet of existing stream channel,
   c. removing approximately 8,500 linear feet of "highline" ditches and 15,000 linear feet of other diversion ditches and gullies throughout the High Meadow complex,
   d. harvesting meadow sod from designated salvage areas around Lower, Middle, and East Meadow to stabilize and vegetate new channel bank,
   e. installing temporary roads and stream crossings to facilitate vegetation removal and access to channel restoration areas
   f. construction of grade control (boulder weirs) at the downstream end of High Meadows, and
   g. construction of a low-water crossing with boulder weir at an existing service road crossing on the northern portion of lower High Meadow.

7. The Basin Plan specifies the following discharge prohibitions:

   a) Lake Tahoe Basin:
   The discharge or threatened discharge, attributable to new development or permanent disturbance in Stream Environment Zones, of solid or liquid waste, including soil, silt, sand, clay, rock, metal, plastic, or other organic, mineral or earthen materials, to Stream Environment Zones in the Lake Tahoe Basin is prohibited. (Chapter 5, Waste Discharge Prohibitions, page 5.2 – 4)

   b) Regionwide:
   The discharge of waste which causes violation of any numeric water quality objective contained this Plan is prohibited. (Chapter 5, Waste Discharge Prohibitions, page 5.2 - 1)

   The Water Quality Control Plan for the Lahontan Region (Basin Plan) contains a numeric water quality objective for turbidity:

Increases in turbidity shall not exceed natural levels by more than 10 percent. (Chapter 5, Water Quality Objectives, page 5.1-9)

8. The activities listed in Finding 6 will result in the discharge or threatened discharge of solid or liquid waste to SEZs. Therefore these activities require an exemption to the prohibition stated in Finding 7(a), above.

9. The Basin Plan contains a provision that the prohibition stated in Finding 7(a), above, shall not apply to any activity the Water Board approves as reasonably necessary for erosion control projects, habitat restoration projects, wetland rehabilitation projects, Stream Environment Zone restoration projects, and similar projects, if all of the following findings can be made:

(a) The project, program, or facility is necessary for environmental protection.

Stream and meadow conditions within High Meadow resulting from historic anthropogenic activities in the watershed (i.e., grazing, installation of irrigation infrastructure, resource extraction, logging, unimproved road and trail construction) have resulted in degraded stream and meadow conditions. These conditions include channelized streams, severe channel incision, hydrologic disconnection between the channel and the meadow, multiple headcuts, severe bank erosion, and conifer encroachment into aspen stands and meadow areas.

The Project will restore this area such that Cold Creek and High Meadow will have improved function as a wet meadow ecosystem thereby improving water quality. The Project is expected to lead to improved conditions of riparian, meadow, and terrestrial ecosystems by reducing sedimentation, restoring and expanding meadow habitat and function, and encouraging long-term sustainability of aspen stands.

(b) There is no reasonable alternative, including relocation, which avoids or reduces the extent of encroachment in the Stream Environment Zone (SEZ).

The project purpose is to restore SEZ areas of High Meadow and Cold Creek. There is no reasonable alternative that would reduce the extent of encroachment in the SEZ.

(c) Impacts are fully mitigated.

Construction Best Management Practices, described within the Project's Storm Water Pollution Protection Plan, Environmental Assessment, and construction plans, will be in place to reduce adverse effects on water quality from construction.

The total area of disturbance proposed within the SEZ is approximately 20.6 acres. This sum includes 8.8 acres of new stream and floodplain terrace construction; 6.5 acres of fill to existing stream channels; 2.5 acres of fill to existing "highline" ditches, diversion ditches, and gullies; 1.7 acres of sod harvest; and 1.1 acres of temporary roads.

Disturbances such as temporary roads will be closed and rehabilitated following completion of restoration activities. Temporary roads and stream crossings within the SEZ will be removed with appropriate BMPs implemented at the end of each construction season. Project will result in overall water quality and riparian improvement.

10. Data collected between March 2003 and September 2007 by staff indicate that Cold Creek's existing level of in-stream turbidity at an upstream station typically varied between 0.07 and 17.70 Nephelometric Turbidity Units (NTUs), with an average of 1.08 NTU. Due to these very low natural levels of turbidity, even a slight increase in fine sediment inputs to the creek during restoration activities could result in a violation of the numeric water quality objective for turbidity stated in Finding 7(b), above. For example, a measured increase in turbidity of only 1.77 to 0.007 NTUs would violate the turbidity objective.

11. The introduction of flow into the newly constructed channel may result in a violation in the numeric water quality objective for turbidity, even after the Forest Service "seasons" the new channels. "Seasoning" the new channels will include isolation of the new channel for a minimum of one season to allow for stabilization and growth of vegetation. Seasoning will also include flood irrigation of the new channels and percolation of introduced flow to facilitate the settling of sediments and channel hardening. This flooding/percolation technique will be conducted a minimum of three times with the goal of incorporating any loose fine sediments into the new channel. The Forest Service will then introduce flow into the constructed channel at approximately 30 percent of bank full capacity, without discharging or connecting to the live channel. This introduced flow will be pumped and sprayed onto the floodplain until the turbidity in the last fast water reach of the new channel is less than or equal to 3 NTUs. At that time, flows in the new channel can be released and connected to the existing channel. If after two full 10-hour days of introducing flows and pumping and spraying on to land, turbidity in the last fast water reach of the new channel is less than or equal to 10 NTUs, flows in the new channel can be released and connected to the existing channel.

    In the event turbidity levels are not less than 10 NTUs, pumping and spraying flows on to land shall continue until decreases of turbidity greater than 25% of the previously measured turbidity are no longer being achieved and turbidity is less than or equal to 20 NTUs prior to releasing flows to the existing channel.

12. In the Basin Plan the Water Board encourages restoration projects that are intended to reduce or mitigate existing sources of soil erosion, water pollution, or impairment of beneficial uses. The Basin Plan contains provisions for the Water Board to grant exemptions to prohibitions including the discharge of waste which causes violation of any narrative water quality objective contained in the Basin Plan, including the Nondegradation Objective, whenever if finds that a specific restoration project meets all the following criteria:

    (1) The project will eliminate, reduce, or mitigate existing sources of soil erosion, water pollution, and/or impairment of beneficial uses of water.

    The need for the Project was identified following an ecological assessment of the 1,790 acres. The purpose of the Project is to improve the Cold Creek watershed conditions in the function of riparian, meadow, and terrestrial ecosystems by reducing sedimentation, restoring and expanding meadow habitat and function, and encouraging long-term sustainability of aspen stands. Work will include the construction of a new stream channel in order to restore historic meadow conditions and drainage patterns, removal of approximately 8,500 linear feet of "highline" ditches and 15,000 linear feet of other diversion ditches and gullies within high meadow, and restoration/decommissioning of existing roads and trails. Two of the expected outcomes of the Project will be a restored (elevated) groundwater table and reconnection of flood flows back onto the meadow floodplain. The Project is expected to result in a long term reduction in sediment delivery and turbidity and overall improvement in water quality.

    (2) There is no feasible alternative to the project that would comply with the provisions of the Basin Plan, precluding the need for an exemption.

    An existing source of soil erosion and delivery is the result of ongoing incision and bank instability of the existing channel. There is a need to restore the Cold Creek channel in order to increase the potential for High Meadow to store water and sediment and allow it to function as a wet meadow ecosystem thereby improving water quality.

    Any other feasible alternative action that would restore Cold Creek and High Meadow would involve a similar inherent risk of elevated turbidity either during construction or during connection of creek flow to the constructed channel. The Forest Service considered design alternatives in planning the Project, including no action. Forest Service work and design modifications resulted in a reduction in acreage of proposed temporary access roads by 1.8 acres. The 60% plans estimated 2.9 acres, while the 90% plans now propose 1.1 acres.

(3) Land disturbance will be limited to the absolute minimum necessary to correct or mitigate existing sources of soil erosion, water pollution, and/or impairment of beneficial uses of water.

The total area of disturbance proposed within the SEZ is approximately 20.6 acres. This sum includes 8.8 acres of new stream and floodplain terrace construction; 6.5 acres of fill to existing stream channels; 2.5 acres of fill to existing "highline" ditches, diversion ditches, and gullies; 1.7 acres of sod harvest; and 1.1 acres of temporary roads.

These disturbances are the minimum necessary to meet Project objectives of improving the function of the riparian, meadow, and terrestrial ecosystems by reducing existing sources of sedimentation, and restoring and expanding meadow habitat and function.

(4) All applicable Best Management Practices and mitigation measures have been incorporated into the project to minimize soil erosion, surface runoff, and other potential adverse environmental impacts.

The Forest Service has submitted a draft Storm Water Pollution Prevention Plan which describes Best Management Practices and mitigation measures designed to avoid, reduce, and minimize adverse environmental impacts, particularly during phases that include new channel excavation and seasoning, creek flow introduction, and dewatering/fill of existing channels. Specific procedures are outlined for the methods, timing, and monitoring of the following activities.

(a) Construction and decommissioning of temporary access roads
(b) Installation and removal of temporary stream crossings
(c) Sod salvage and sod borrow
(d) Excavation of new channels and floodplain areas
(e) Construction of connecting channel segments
(f) Phased introduction of flow into new (constructed) channel, including post-construction channel seasoning and phased flow re-initiation with monitoring to ensure low turbidity levels (see Finding 11)
(g) Dewater, fill, and revegetation of existing channel

The flow of Cold Creek will remain in the existing channel until the new channel construction is complete, channels are seasoned, and turbidity levels within the constructed channels are reduced to the maximum extent practicable in accordance with plan and criteria described in Finding 11.

(5) The project complies with all applicable laws, regulations, plans, and policies.

Prior to Project implementation (anticipated September 2009), the Forest Service must obtain the following permits from the Water Board:

a) Water Quality Certification pursuant to Clean Water Act section 401
b) Notice of Applicability of Board Order No. R6T-2005-0007, Updated Waste Discharge Requirements and NPDES General Permit No. CAG616002 for Discharges of Storm Water Runoff Associated with Construction Activity Involving Land Disturbance in the Lake Tahoe Hydrologic Unit

(6) Additional exemption criteria apply to restoration projects proposed within the Lake Tahoe Basin. To the extent that they are more stringent, the Lake Tahoe Basin criteria supersede the regionwide criteria, above.

As described in Findings 8 and 9, above, disturbances within the SEZ resulting from Project activities requires an exemption to a waste discharge prohibition against the discharge or threatened discharge to SEZs attributable to new development or permanent disturbance within an SEZ. This exemption is also part of this resolution.

13. In May 2003, the Water Board certified a Mitigated Negative Declaration (2003 MND) for Certain Types of Projects Conducted on Lands Administered by the United States Forest Service – Lake Tahoe Basin Management Unit (LTBMU). This Project qualifies as a Water Quality Improvement Project and therefore the provisions of the California Environmental Quality Act (CEQA) for this Project have been met.

14. The Water Board has notified the Project proponents and interested agencies and persons of its intent to adopt this Resolution.

15. The Water Board, in a public meeting, heard and considered all comments pertaining to the proposed activities and a proposed exemption to a prohibition in the Basin Plan.

THEREFORE, BE IT RESOLVED THAT:

1. The High Meadows Restoration Project is reasonably necessary for habitat restoration, wetland rehabilitation, and SEZ restoration, as outlined in Finding 9, above.

2. The Water Board hereby grants an exemption to the Basin Plan prohibition stated in Finding 7(a), above.

3. The High Meadows Restoration Project is a restoration project that is intended to reduce or mitigate existing sources of soil erosion, water pollution, or impairment of beneficial uses, and meets the eligibility criteria for an exemption to the Basin Plan waste discharge prohibition as outlined in Finding 12, above.

4. The Water Board hereby grants an exemption to the Basin Plan prohibition stated in Finding 7(b), above. This exemption is limited to the water quality objective for turbidity and to the specific turbidity limits described in Finding No. 11, above.

5. Prior to construction commencing, the Executive Officer must issue a Water Quality Certification (WQC) pursuant to Clean Water Act section 401 and a Notice of Applicability (NOA) of Board Order No. R6T-2005-0007, Updated Waste Discharge Requirements and NPDES General Permit No. CAG616002 for Discharges of Storm Water Runoff Associated with Construction Activity Involving Land Disturbance in the Lake Tahoe Hydrologic Unit. The Executive Officer will not issue an NOA or WQC until the Forest Service submits a complete WQC application, Notice of Intent, and Storm Water Pollution Prevention Plan (SWPPP) that is accepted by the Executive Officer.

I, Harold J. Singer, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Lahontan Region, on July 8, 2009.

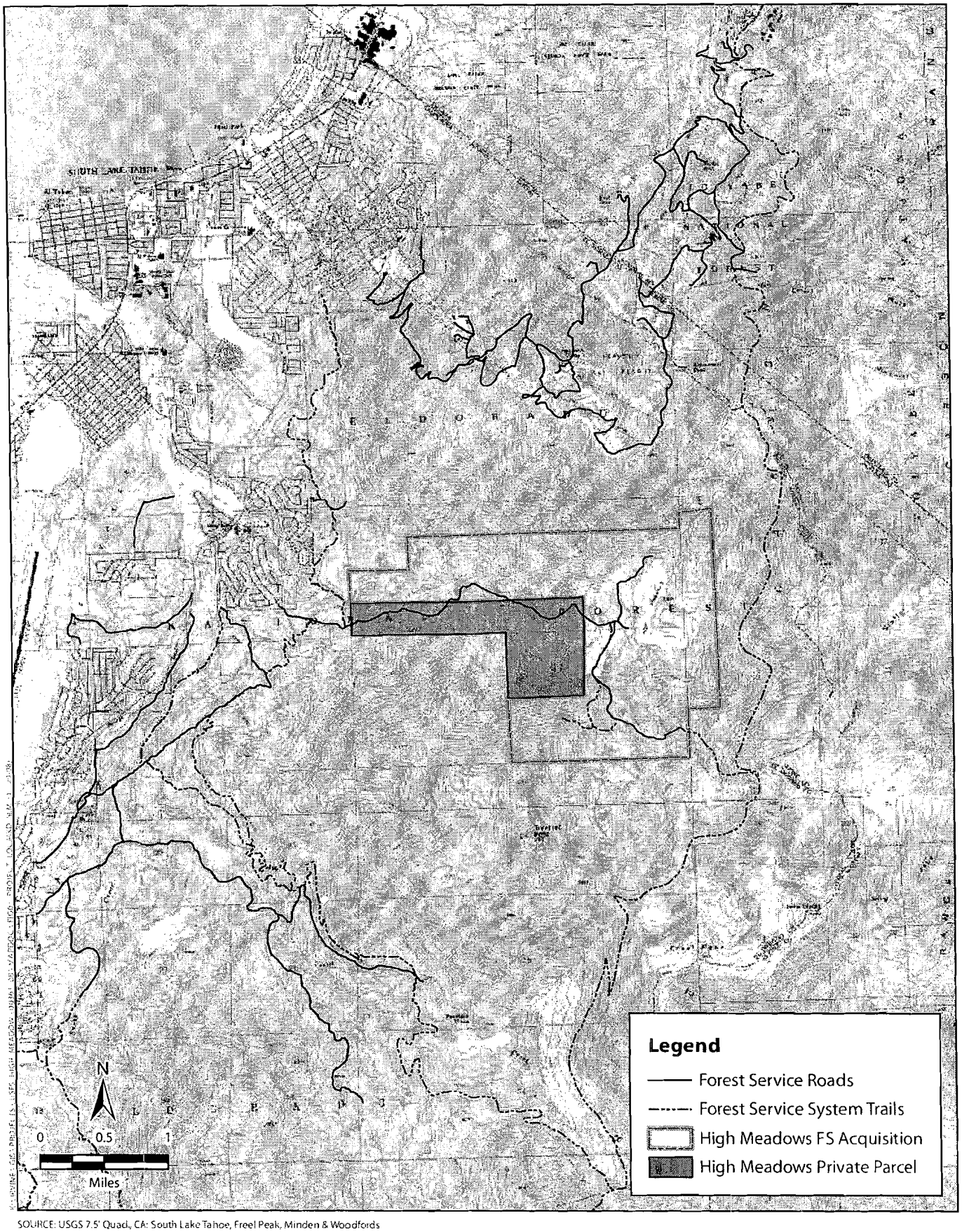
Harold J. Singer

HAROLD J. SINGER
EXECUTIVE OFFICER

Attachments: A. Project Vicinity Map

ATTACHMENT A

Attachment A



SOURCE: USGS 7.5' Quad, CA: South Lake Tahoe, Freel Peak, Minden & Woodfords

Figure 1
General Project Location
High Meadow Project