



**California Regional Water Quality Control Board
Lahontan Region**



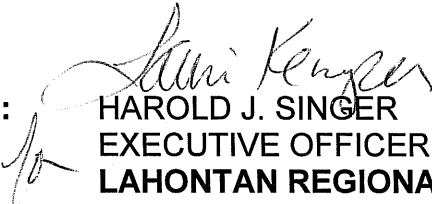
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Arnold Schwarzenegger
Governor

MEMORANDUM

TO: Water Board Members and Interested Public

FROM: 
HAROLD J. SINGER
EXECUTIVE OFFICER
LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD

DATE: APR 13 2010

SUBJECT: EXEMPTION TO THE STREAM ENVIRONMENT ZONE WASTE DISCHARGE PROHIBITION WITHIN THE LAKE TAHOE HYDROLOGIC UNIT, ANGORA FIRE AREA BURN PILE STUDY PROJECT, US FOREST SERVICE LAKE TAHOE BASIN MANAGEMENT UNIT, EL DORADO COUNTY

In ten days, I intend to sign the enclosed letter granting an exemption to the discharge prohibition specified in the *Water Quality Control Plan for the Lahontan Region* for the above-referenced project in El Dorado County.

The US Forest Service – Lake Tahoe Basin Management Unit is proposing to study the effects of pile burning on stream water quality, soil nutrient release, and plant and soil recovery in a stream environment zone (SEZ) within the 2007 Angora Fire area. Because the effects of pile burning on soils and vegetation may last for many years following burning, this type of activity is considered to violate the Basin Plan's SEZ waste discharge prohibition and requires an exemption to proceed.

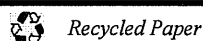
A public notice soliciting comments on the proposed Project will be posted on the Water Board's website for 10 days.

If you have any questions or comments regarding this matter, please contact Anne Holden at (530) 542-5450.

Enclosure: Draft SEZ Waste Discharge Prohibition Exemption

ALH/adwT: Angora Pile Study Memo to Board Members.doc
File under: Angora Hazard Tree Removal Project (WDID 6AT50908027)

California Environmental Protection Agency





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EXEMPTION TO THE STREAM ENVIRONMENT ZONE WASTE DISCHARGE PROHIBITION WITHIN THE LAKE TAHOE HYDROLOGIC UNIT, ANGORA FIRE AREA BURN PILE STUDY WITH THE ANGORA HAZARD TREE PROJECT, US FOREST SERVICE LAKE TAHOE BASIN MANAGEMENT UNIT, EL DORADO COUNTY [WDID# 6AT50908027 HAZARD TREE PROJECT]

The US Forest Service – Lake Tahoe Basin Management Unit (LTBMU) is proposing to study the effects of pile burning on stream water quality, soil nutrient release, and plant and soil recovery in a stream environment zone (SEZ) within the 2007 Angora Fire area. The *Water Quality Control Plan for the Lahontan Region* (Basin Plan) contains a prohibition against the discharge or threatened discharge of waste attributable to permanent disturbance in SEZs unless an exemption is granted. Because the effects of pile burning on soils and vegetation may last for many years following burning, this type of activity is considered to violate the discharge prohibition and requires an exemption to proceed. This letter makes the findings to grant the Angora Fire Burn Pile Study project (Project) an exemption to the SEZ waste discharge prohibition, based on information provided by LTBMU staff.

PROJECT DESCRIPTION

A gradient of slash pile sizes, from eight to sixteen feet in diameter, will be placed within the SEZ but at least 50 feet from a stream channel, located south of Seneca Pond in the Angora Fire burn area. Eighteen to twenty-two piles will be constructed in two locations by LTBMU staff in spring 2010 at locations marked by the research team. Pile locations along the stream reach will be distributed with adequate spacing to isolate the effects of each pile on stream chemistry. Piles will be burned during the spring or fall of 2010.

Project researchers will measure soil heating, post-burn changes in soil chemical, physical, and microbial properties, and stream nitrate, phosphate, and sediment concentrations. Rainfall simulations and soil sampling will be conducted to provide additional data to model erosion in the Lake Tahoe Basin using the Water Erosion Prediction Project (WEPP) model. Measurements will be taken for two years following burning to assess the potential effects on long-term site productivity in the Tahoe Basin. This work complements on-going studies of the ecological effects of pile burning at

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several sites within the Tahoe Basin, and is supported by a Southern Nevada Public Lands Management Act-funded grant.

This Project is a part of LTBMU's Angora Fire Hazard Tree Removal project, and is covered under Category 5 of the 2007 Timber Waiver (Resolution R6T-2007-0009).

WATER QUALITY CONTROL PLAN WASTE DISCHARGE PROHIBITION

To protect beneficial uses and achieve water quality objectives for the waters of Lake Tahoe and its tributaries, the Basin Plan specifies the following discharge prohibition (Basin Plan section 5-2; page 5.2-4):

The discharge or threatened discharge, attributable to new development 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.

PROHIBITION EXEMPTION CRITERIA

The Basin Plan allows exemptions to the above-cited discharge prohibition for certain types of projects, including those which are necessary for public health and safety, and environmental protection. This project is eligible for an exemption because it serves to protect both public safety and the environment. Implementation of this Project will yield valuable information on how to conduct future projects to reduce fuel loads and encroaching conifers in SEZs, both for restoration and fire hazard reduction, in a manner that protects soil and water resources.

In order to grant the exemption, the following findings must be made (see Basin Plan section 5-8; page 5.8-7):

- a) The project, program, or facility is necessary for public health, safety, or environmental protection.

The Project will provide forest managers with information to more effectively conduct restoration projects and treat hazardous fuels buildup in SEZs by identifying potential ecological risks associated with pile burning in SEZs. To protect or restore SEZ ecosystems, forest managers need expert knowledge of local conditions, supported by peer-reviewed findings from quantitative studies of riparian ecosystems such as this. Current examples of SEZ restoration projects in the Tahoe Basin include areas in which high-severity wildfires have resulted in large accumulations of dead standing trees, such as the Angora Fire, and where conifer encroachment has altered existing aspen stands. In these examples, the preferred option for site restoration may include pile burning of dead woody material. However, the cost and environmental impact to move woody material beyond the SEZ boundary prior to burning may be considerable, which raises the question of whether slash piles can (or should) be burned within a SEZ. Will

burning alter riparian processes such as lateral nutrient movement, plant recovery and growth, recruitment of invasive plants, or stream chemistry? This Project attempts to answer these questions, using an SEZ within the Angora Fire as a case study. Therefore, this project will help achieve both fire behavior objectives and ecosystem health objectives desired by land management agencies.

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

The primary objective of the Project is to determine effects of pile burning in SEZ lands; therefore, the project must be conducted within the SEZ. Reducing the extent of the Project in the SEZ would not allow full evaluation of the Project's effects.

- c) Impacts are fully mitigated.

The following design features will be implemented as a part of the research project.

- *Hand piling and pile burning of slash would not occur within 50 feet of the stream channel.*
- *Fire will be allowed to creep between piles and into this 50-foot buffer, maintaining a burn intensity that would protect soil and water resources. Fire will not be allowed in flagged areas where sensitive plant occurrences and noxious weeds are present (if found).*
- *After initial ignition of piles, but while still burning, each pile will be re-piled once (i.e., place unburned pieces back into the burning pile). Additional re-piling would be allowed if necessary to achieve 80% consumption of the piled material.*
- *In one or more of the study piles (as determined appropriate by the researchers), hot-piling of burn piles will be conducted (feeding one pile with the material from other piles or ground material) to specifically assess the impacts of this pile burn activity.*
- *All runoff from rainfall simulations will be collected from a trough at the base of the pile area to prevent concentrated flow from occurring below the plot area. Upon completion of each rainfall simulation, the steel sampling frame will be removed, and soil indentations from the frame installation will be backfilled to restore the plot area to pre-simulation conditions.*

Because the intent of the study is to determine the impacts of pile burning on soil characteristics, vegetative re-growth and water quality, no mitigation measures such as sediment barriers, mulch, or re-seeding are anticipated during the 2-year research term. However, the small scale and scope of the pile burning activities, as well as the above design features, are intended to limit the scale of short-term



impacts. Also, researchers will conduct and document visual surveys of the study area, twice each year during snowmelt runoff, and after all major rainfall events (storms greater than two inches in 24 hours). If unacceptable rates of erosion are observed, sediment barriers such as mulch, silt fence, coir logs or similar materials will be implemented to reduce sedimentation to water bodies. Visual thresholds for unacceptable rates of erosion include: visual evidence of rill development within pile/creep burn area, or visual evidence of sediment plumes or concentrated flow reaching a water body from the burned area.

If after the two years of the research study, soil and vegetation recovery is determined not to be comparable to adjacent unburned areas, the LTBMU will continue to monitor vegetation and soil recovery at these sites. This monitoring will occur during years three to five after pile burns have been implemented, following protocols documented in the LTBMU Programmatic Soil Quality Monitoring Plan. If after five years the pile-burned area does not exhibit vegetative and soil cover characteristics comparable to adjacent unburned areas, the site will be evaluated to determine if more aggressive soil restoration mitigations are required, such as raking, soil amendment, mulching, and re-seeding.

- d) SEZ lands are restored in an amount 1.5:1 times the area of the SEZ disturbed or developed by the project.

The 1.5:1 restoration requirement does not apply to SEZ restoration projects. Although this project is not of itself an SEZ restoration project, its ultimate use is to facilitate SEZ restoration in the future. Following this project, if burn piles have not recovered vegetative and soil characteristics, they will be fully restored by methods such as raking, mulching, soil amendment, and re-seeding. Therefore, the restoration requirements for this exemption are fulfilled.

CEQA COMPLIANCE

Water Board staff have determined the Project is exempt from the provisions of the California Environmental Quality Act (CEQA). The applicable exemption is found in the California Code of Regulations, title 14, section 15306 – Information Collection, which includes research and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource.

PROHIBITION EXEMPTION GRANTED

Project activities must comply with the requirements of the 2009 Timber Waiver. The Water Board has notified the LTBMU and interested agencies and persons of its intent to grant this prohibition exemption. The Water Board Executive Officer has considered all comments and determined that the Project satisfies all Basin Plan exemption criteria. I hereby grant an exemption.

If you have questions, please contact Douglas Cushman at (530) 542-5416.

HAROLD J. SINGER
EXECUTIVE OFFICER

cc: TRPA/Lyn Barnett

ALH/adw/T: Angora Fire Burn Pile SEZ PE.doc
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