



Cal/EPA

**Lahontan
Regional Water
Quality Control
Board**

**South Lake Tahoe
Office**

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South Lake Tahoe, CA
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Ex B1.



Pete Wilson
Governor

April 15, 1997

Acting Forest Supervisor
Lake Tahoe Basin Management Unit
870 Emerald Bay Road
South Lake Tahoe, CA 96150

Dear Forest Supervisor:

**NOTICE OF VIOLATIONS; BEST MANAGEMENT PRACTICES FOR
NONPOINT SOURCE CONTROL**

This letter is to notify you of violations of State water quality standards which have been documented recently by my staff on National Forest System lands within the Lake Tahoe Basin. The violations occurred at the log landing adjacent to the U.S. Forest Service (USFS) road 12N19, near Panther Lane in South Lake Tahoe.

The violations were documented during water quality sampling conducted at the above-referenced site on December 5, 1996. I have enclosed a copy of the sampling results, and an analysis of the data completed recently by my staff.

Pursuant to the Management Agency Agreement (MAA) between the U.S. Forest Service and the California State Water Resources Control Board, it is my desire to work with you and your staff to identify improved management practices and/or procedures that will be necessary in order to avoid similar violations in the future. It is my belief that the next step should be for your agency to review this information and to propose improved management practices and/or procedures to address these violations.

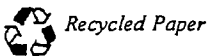
Please call me at (916) 542-5400, or Tom Suk of my staff at (916) 542-5419, if you have any questions regarding this letter.

Sincerely,

Ranjit S. Gill, Ph.D., Chief
Planning and Toxics Unit

Enclosure

TS/shT:ltbmu.bmp
[USFS-LTBMU]



Our mission is to preserve and enhance the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations.

California Regional Water Quality Control Board, Lahontan Region
2510 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150

STAFF REPORT

**VIOLATION OF STATE WATER QUALITY STANDARDS AT A U.S. FOREST
SERVICE TIMBER SALE IN THE LAKE TAHOE BASIN**

April 11, 1997

Prepared by

Thomas J. Suk
Environmental Specialist III

Reviewed by

Ranjit S. Gill, Ph.D., Chief
Planning and Toxics Unit

Background

The U.S. Forest Service, Lake Tahoe Basin Management Unit (USFS), conducted the Tahoe Mountain timber sale in South Lake Tahoe, California, during 1994-1996. The objectives of the timber sale included decreasing fuel loads and improving forest health. Yarding methods included over-snow and aerial (i.e., helicopter) removal. Staff of the California Regional Water Quality Control Board, Lahontan Region (RWQCB), reviewed the project environmental documents during the planning phases, and monitored on-the-ground activities during project implementation.

Implementation monitoring

During 1995, RWQCB staff monitored timber sale activities, and informed USFS staff about concerns related to USFS system road 12N19 and a log landing along that road.

Road 12N19. Staff observed sediment from this unsurfaced forest road discharging to conveyances of an erosion control project owned by the City of South Lake Tahoe. USFS staff replied that the road at this location was not being used for the timber sale, and therefore the logging contractor was not using that road segment and not responsible for implementing Best Management Practices (BMPs) for erosion control. However, staff observed both light and heavy-duty trucks (passenger vehicles and loaded watering trucks) belonging to the logging contractor using that road segment during timber harvest activities. The road use by the logging contractor contributed to the degradation of waterbars and detachment of sediment from road cuts.

Staff conducted monitoring of road runoff and sent a letter (dated 1/11/96) to the USFS documenting the discharge of sediment in excess of State standards from the USFS road to the City's conveyance structures (which are tributary to Lake Tahoe). The USFS responded in a letter dated 2/9/96 that the road would be repaired during the summer of 1996. Staff observed in September of 1996 that the road had not yet been repaired, and again expressed concerns to the USFS. Shortly thereafter, the USFS applied rock and gravel to the road section, which appeared to work well during the light storms of October-December 1996. (However, the material applied to the road surface contained a high percentage of finer sands and gravels, and became severely gullied during the storms of January 1997. Significant repair work is now needed.)

Log landing on USFS Road 12N19 near Panther Lane. This landing is in a location of high ground water, and was not intended to process large volumes of timber. The environmental assessment indicated that the landing would be used for limited over-snow logging, but not for helicopter yarding. In contrast, the contractor was allowed by the USFS to yard significant volume to this landing via helicopter.

During 1995, staff observed potential problems at this site. The landing drained into an un-armored channel. Staff brought this concern to the attention of USFS staff, who rapidly installed BMPs (synthetic erosion control netting) to prevent downcutting in the channel. Staff also observed that drainage from the landing might reach surface waters tributary to

Lake Tahoe. This was evidenced by sediment deposited on the forest floor for long distances downstream from the landing.

On June 6 and December 5, 1996, staff conducted monitoring at the site. On December 5, staff visited the site after a considerable amount of rain had fallen (during the falling limb of the hydrograph), took photographs, and collected water samples. The perimeter hay bales around the log landing had been breached (see photo), and drainage from the landing was visibly turbid. Staff observed that only a trace amount of overland flow was trickling onto the landing from the surrounding forest, and that surface runoff flowing onto the landing was clear. The runoff from the landing was apparently generated by rain falling directly on the compacted surface, and from subsurface flow emerging at the landing site. Staff had been informed by USFS staff that the timber sale was completed, and ~~that~~ therefore, the logging contractor was no longer responsible for implementing BMPs.



Staff collected a sample of drainage from the landing (sample no. 967MS245), and followed the drainage downhill to the point where it entered a surface water channel (ephemeral stream) that is tributary to Lake Tahoe. Staff collected a sample of the landing drainage just above the point where it entered the flowing ephemeral stream, in order to document the quality of drainage from the USFS log landing where it entered surface waters ultimately headed for Lake Tahoe (sample no. 967MS246). It is at this latter location that the effluent standards in the Basin Plan apply (Table 5.6-1). (The difference between the two samples can be interpreted as indicating of the level of treatment received by the effluent as it ran over the forest floor between the landing site and the receiving water.)

Results of sampling, 12/5/96

sample no.	TKN (mg/L)	NO ₃ +NO ₂ (mg/L)	Total N (mg/L)	ortho-P (mg/L)	Total P (mg/L)	TSS (mg/L)	turbidity (NTU)
967MS245	1.2	ND	1.2	0.32	0.32	25	375
967MS246	0.84	ND	0.84	ND	0.14	4	175

Violations

The data (sample 967MS246) show that: (1) turbidity of runoff from the log landing exceeded State standards by approximately 775% ($[175 - 20] \div 20$), (2) total nitrogen in the runoff from the log landing exceeded State standards by approximately 68% ($[0.84 - 0.5] \div 0.5$), and (3) total phosphorus in the runoff from the log landing exceeded State standards by approximately 40% ($[0.14 - 0.1] \div 0.1$). The violations are displayed in the table below:

analyte	concentration	standard
turbidity	175 NTU	20 NTU
total nitrogen	0.84 mg/L	0.5 mg/L
total phosphorus	0.14 mg/L	0.1 mg/L

Discussion

It is important to note that fertilizer was applied to this landing during the autumn of 1996 in order to facilitate revegetation of the landing. However, there is insufficient evidence to support a conclusion that the fertilizer was fully responsible for the violations noted on 12/5/96. This is because high turbidity was noted in addition to dissolved nutrients, and a sample of runoff from this same landing collected on 6/6/96 (prior to fertilization) showed even higher concentrations of sediment and nutrients:

6/6/96 (sample no. 956MS349)

turbidity = 260 NTU

total suspended sediment (TSS) = 297 mg/l

nitrate + nitrite (NO₃+NO₂) = nd

total kjeldahl nitrogen (TKN) = 3.66 mg/l

total nitrogen (TN) = 3.66 mg/l

total phosphorus (TP) = 1.63 mg/l

While the concentrations of sediment and nutrients on 6/6/96 were higher than samples collected on 12/5/96, the 6/6/96 results are not reported as violations of State standards because the runoff from the landing on 6/6/96 was infiltrating before reaching surface waters tributary to Lake Tahoe.

Conclusions

1. Sediment generated at the USFS log landing reached surface waters tributary to Lake Tahoe.
2. The data demonstrate that USFS BMPs applied at this location were not fully effective in meeting State water quality standards.
3. These data indicate that fertilization of disturbed sites may contribute nutrients to surface waters, however, this is not confirmed. Further studies appear warranted.