

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD -
LAHONTAN REGION**2092 LAKE TAHOE BOULEVARD
SOUTH LAKE TAHOE, CALIFORNIA 96150
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Ex B4

January 11, 1996

U.S.D.A. Forest Service
Lake Tahoe Basin Management Unit
870 Emerald Bay Road
South Lake Tahoe, CA 96150
Attn: Chris Knopp, Watershed Staff OfficerDear Mr. ^{Chris}Knopp:**BEST MANAGEMENT PRACTICES—RESULTS OF RWQCB MONITORING**

During the rain events in December, 1995, I inspected several LTBMU projects to evaluate the effectiveness of Best Management Practices (BMPs). The purpose of this letter is to document my observations, transmit sampling results, and offer some thoughts with the aim of improving the effectiveness of BMPs on National Forest System (NFS) lands. These comments are intended to provide constructive and cooperative involvement by our agency as envisioned by the Management Agency Agreement (MAA) between the U.S. Forest Service and the State Water Resources Control Board.

My inspections concentrated on the Tahoe Mountain timber sale area. Specifically, I inspected the following sites in the South Shore area:

1. USFS road that begins at the intersection of Gardner Street and Panther Lane in South Lake Tahoe. Excellent work had been accomplished recently to install waterbars on this road, clear culverts, and stabilize roadside drainages (with mulch and netting). All BMPs seemed to be working well, with one exception. Rilling was evident on the road section below the first waterbar, and visibly turbid water was being discharged onto Gardner Street. This drainage runs down the gutter and into the City's erosion control project, eventually into Pope Marsh and Lake Tahoe. The effluent from the road was sampled, and revealed high levels of suspended sediment (490 mg/L) and turbidity (550 NTU). A copy of the laboratory data is enclosed.

My observations and sampling results point to the need for additional BMPs where native surface roads drain into watercourses or onto developed areas (such as roads, parking lots, etc.). One possible BMP would be the application of a layer of wood chips to the road below the first waterbar. This would prevent raindrop impacts, reduce runoff velocities, and trap sediment at its source. Regardless of the method(s) ultimately chosen, this problem site needs to be addressed, and similar sites should be identified for mitigation during future LTBMU projects.

2. Log landing at southeast corner of Fallen Leaf Lake. BMPs applied at this site were insufficient to control sediment, as evidenced by sediment-laden water flowing from the site across the Fallen Leaf Lake road. Some hay appeared to be applied to the landing surface, but it had been scattered by wind. Because effective ground cover was not present, raindrop impacts and runoff velocities detached and transported sediment off the landing. The hay-bale perimeter fencing

was ineffective because it was not in place at the lowest point (where runoff drained from the landing). A log had been placed at this location in lieu of hay bales, and water was running easily under the log. Rilling of the road resulted. While the waterbars on the road appeared to be diverting most of the flow, the high runoff exceeded the capacity of receiving areas to completely absorb the flows, and surface runoff reaching the Fallen Leaf Lake road was visibly turbid. Also, the road had not been blocked as was agreed to at a previous inspection. One pass by an unknowing driver could have breached the waterbars, exacerbating the problems.

Potential problems due to lack of ground cover on landings was discussed at our meeting on December 13. It was agreed at that meeting that effective ground cover would be provided on landings during future projects. The other problems observed at this landing (perimeter fencing, barricading temporary roads) can be remedied in the future by more careful implementation of standard BMPs.

3. Log and service landing at Sawmill Pond. During my inspection, I observed significant quantities of sediment being detached and transported from roads into a swale where a series of hay bale check dams had been installed. The hay bale check dams did not appear to effectively retain sediment, as water on both the upstream and downstream side of the check dams appeared equally turbid. However, because the sandy soils in this area have relatively rapid infiltration, and because it had been raining only a short time prior to my visit of this site, the system was not discharging to surface waters. The significance of this observation was that, while hay bale check dams may capture coarse materials, they pass fine sediments that are a known nutrient source.

The landing was also lacking effective ground cover where hay had been applied. This was because the hay was not tackified or crimped into the soil, and wind blew the hay off of many areas. This will be prevented during future projects as discussed above.

I hope that these comments will help to improve the implementation and effectiveness of BMPs in the Tahoe Basin. Please let me know how you will adjust LTBMU activities to incorporate these findings.

Please call me at (916) 542-5419 if you have any questions regarding this letter.

Sincerely,



Thomas J. Suk
Associate Land and Water Use Analyst

Enclosure

cc: Mike Solt, TRPA

California Regional Water Quality Control Board
Lahontan Region
2082 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150

USFS Road Complaint

Lab Contact: Dr. Bruce T. Warden
Phone: 916-542-5416 (off.); 916-542-5415 (lab); FAX 916-544-2271

Laboratory Report

Analyte: TSS Turbidity
Method: EPA 160.2 EPA 180.1
MDL: Report 5 0.05
units → mg/L NTU

Sample

Date Time I.D. Description
12/11/95 13:30 956MS023 USFS Road @ Gardiner Wy<BMV rd TS

490 550