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December 5, 2005

Selica Potter, Acting Clerk to the Board
State Water Resources Control Board
Executive Office
1001 I Street, 24th Floor
Sacramento, CA 95814

F O R E S T L A N D
M A N A G E M E N T



W. M. BEATY &
ASSOCIATES, INC.

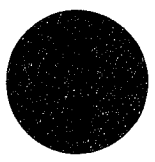
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Dear State Water Resources Control Board Members:

W.M. Beaty & Associates, Inc. respectfully requests that the State Water Resources Control Board remove "silviculture" as one of the sources of impairment for Fall River in Shasta County. Fall River is currently on the 303(d) list of water quality limited segments under the Clean Water Act with "sedimentation/siltation" included as a *Stressor/Pollutant*, and "agriculture-grazing, silviculture, and highway/road/bridge construction" included as *Potential Sources* (see Draft Staff Report Supporting the Recommended Revisions to the Clean Water Act, Section 303(d) List, Volume I, Appendix I). More accurately, the Fall River currently contains a slug of large grained, sand-sized material that began accumulating in the river during the late 1980s and early 1990's prompting local concern. The sources of this material have been identified and multiple restoration efforts have been completed to minimize or eliminate them. This large grained sediment entered the Fall River as the result of several catastrophic events coupled with reduced meadow function following channelization for flood control between the 1950's and 1960. Prior to recent restoration efforts, reduced meadow function contributed to channel bank erosion because meadows were no longer reducing flow velocities during winter peak flows.

W.M. Beaty & Associates, Inc. manages approximately 280,000 acres of private timberland in northeastern California including 19,927 acres in watersheds that are tributary to the Fall River. These forests are managed for long-term objectives under Sustained Yield Plans (SYPs) approved by the California Department of Forestry and Fire Protection (CDF) and under the strict environmental, social, and economic standards of the Forest Stewardship Council (FSC ©). Additionally, we are currently operating under a mutually beneficial Programmatic 1603 Streambed Alteration Agreement (SAA R1-02-0174) with the Department of Fish and Game (DFG) that specifically describes the Best Management Practices we use for watercourse crossings and that are endorsed by DFG. We have proactively developed policies and procedures to manage watershed and wildlife resources through our SYPs and in cooperation with entities such as the Fall River Resource Conservation District (FR-RCD) and the USDA Natural Resource Conservation Service (NRCS) to improve and restore watersheds in the Fall River area. Despite intensive independent investigation to identify sediment sources, there is not now, nor has there ever been substantiated evidence to indicate that modern forestry practices and mitigations are contributing to excessive sediment in the Fall River. In fact, the Draft Staff Report Supporting the Recommended Revisions to the Clean Water Act, Section 303(d) List, Volume I, Appendix II, References for All Data, Information, and Guidelines includes no mention of the Fall River or how or why it was listed as being impaired by silviculture.

The Fall River has been the subject of multiple studies spanning more than a decade that were focused on sediment. These investigations have been conducted or funded by several organizations including the FR-RCD, NRCS, the ecological restoration firm Streamwise, the environmental engineering firm Tetra-Tech, the DFG and others. These



studies have found sources other than silviculture to be the primary cause of sediment in the Fall River. Of these, the Tetra Tech Report prepared for the FR-RCD in cooperation with the NRCS (Tetra Tech Inc. 1998) is the most compelling.

The Tetra Tech Report concluded that existing sediment in the Fall River is coarse grained sand-sized and larger (>0.062 mm) material (not silt) and that bank erosion and altered meadow conditions were the primary factors affecting sediment delivery. Meadow function is critical in the watersheds that drain to the Fall River because naturally functioning low-gradient meadows serve to slow water down and trap sediment. Meadows act to reduce flow velocities, as water meanders through dense riparian vegetation (willows, bulrushes, sedges, and grasses) thereby reducing energy available for channel bank erosion. Without properly functioning meadows, water velocities remain high during peak flows and channel banks erode. Sediment does not settle out and is transported downstream. The Fall River is particularly susceptible to sand-sized sediment accumulation because it is spring fed and has relatively constant flows and thus does not have enough energy to flush this coarse grained material from the system. Again, these findings are most clearly illustrated in the Tetra-Tech report.

Three catastrophic events, exacerbated by the condition of the meadows and the natural hydraulics of the Fall River, allowed sediment to accumulate. Chronologically, the first event was the 23,400 acre Pondsosa Fire of 1977. This stand replacing wildfire resulted in a near complete loss of vegetative filtering capacity and increased peak flows during snow melt the following spring. This area has now been reforested and little, if any overland erosion is occurring. The next 2 events involved the failure of undersized culverts at a McCloud River Railroad line crossing of Bear Creek in the upper watershed during severe winter storms in 1986 and again in 1997. On both occasions, the culverts plugged and backed up large volumes of water. During both storms, the fill eventually blew out and washed an estimated 30,000 cubic yards of material downstream in a surge likely causing additional bank erosion. These events coupled with the non-functioning meadows of the Bear Creek watershed allowed sediment to enter the Fall River in volumes that were greater than would have been possible if the hydrological integrity of the meadows had been intact.

The simplification of the natural meadow systems that normally function to reduce flow velocities, dissipate stream energy, and allow suspended sediment and bedload to deposit in natural sediment traps (naturally functioning meadows) was the reason the sand sized sediment reached the Fall River. Since 1995 a series of complex and costly efforts to restore watershed integrity, now largely completed, has greatly reduced the potential for future sediment delivery.

Fortunately, based on the findings of the studies referenced above numerous corrective and restorative actions have been completed with the aide of cooperative landowners and the sources of sediment in the Fall River have been largely eliminated. These efforts have been aimed at correcting existing problems and restoring the hydrologic function of the watersheds that provide source flows to the Fall River. Since May of 1998 the FR-RCD has successfully sought funding with the help of DFG, NRCS, the Central Valley Regional Water Quality Control Board (CVRWQCB) and other agencies, and received excellent cooperation from landowners to complete many of the sediment control projects recommended in Tetra Tech's action plan. The following are some of the key cooperative projects completed:

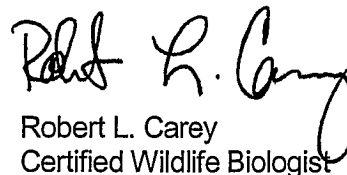
1. Restoration of the channelized portion of Bear Creek Meadow on Thousand Springs Ranch to function as a sediment sink instead of a sediment source*.
2. The McCloud River Railroad Company crossing of Bear Creek has been replaced with a much more failure resistant crossing structure and the stream channels restored to eliminate erosion of the crossing fills.
3. The area burned in the 1977 Pondosa Fire has been reforested.
4. Exclusionary fencing has been installed along much of the Fall River and in meadows along its main tributary, Bear Creek to reduce bank erosion caused by livestock.
5. Off-channel water sources for livestock have been developed so that cattle do not need to access natural stream banks.
6. Control treatments and bank stabilization projects have been conducted to reduce bank erosion caused by muskrats.
7. Two smaller meadows in the upper watersheds have been stabilized and restored.
8. W.M. Beaty & Associates, Inc. and other forest landowners have significantly reduced dangerous fuel loads in the upper watersheds by biomass thinning densely overstocked stands of small diameter trees. This greatly reduces the risk of future catastrophic wildfire and the resultant watershed impacts.
9. W.M. Beaty & Associates, Inc. has decommissioned and stabilized approximately 7 miles of historic logging roads that had the potential to allow sediment delivery to watercourses.
10. Plans are under development for restoration of the Big Bear Meadow. At this time the critical components of the action plan for controlling sediment sources are nearing completion.

(* The Tetra-Tech report and sediment budget developed by the NRCS determined that >50% of the sediment in Fall River originated from this site which had been channelized in the 1950s and '60s for flood control).

Given the extensive and cooperative work in restoring the integrity of these meadows and watersheds, the State Water Board should remove "silviculture" from the list of potential sources and revise the information relative to the Fall River and the 303(d) list to more accurately reflect current conditions. Further, we encourage the Board to revise the 303(d) list and reduce regulatory disincentives to cooperative landowners committed to restoring watershed integrity.

Sincerely,

W.M. Beaty & Associates, Inc.



Robert L. Carey
Certified Wildlife Biologist

Analysis of sediment and action plan development for the upper Fall River, Shasta County, California. Final draft – May 20, 1998. Prepared for Fall River Resource Conservation District by Tetra-Tech, Inc. 180 Howard Street, Suite 250. San Francisco, CA 94105-1617