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*Enclosures for 254 - comments*

State of California  
Regional Water Quality Control Board  
North Coast Region

Holly Lundborg  
November 20, 1998

EXECUTIVE OFFICER'S SUMMARY REPORT  
8:30 a.m., December 10, 1998  
Eureka City Council Chambers  
531 K Street  
Eureka, CA 95421

ITEM: 9.c.

SUBJECT: Cumulative Watershed Effects Assessment on North Coast Timberlands

#### Background

During the 1980s, cumulative watershed effects (CWE) resulting from timber harvest became a major issue in California. Lawsuits were successfully brought against the California Department of Forestry and Fire Protection (CDF), including *EPIC v. Johnson (1985)* and *Lauphetmer v. State of California (1988)*, for failing to comply with the California Environmental Quality Act's (CEQA) requirements to consider the cumulative environmental effects of the approval of timber harvesting. As a result, in 1988 the Board of Forestry (BOF) began developing rule language to require evaluation of CWE as part of the timber harvest plan (THP) process. Final rule language, adopted in 1991, has remained basically unchanged since that time.

#### Discussion

Regional Water Board staff have participated throughout the development and adoption phases of the CWE rule language. Comments submitted by staff to the BOF were intended to ensure development and adoption of a CWE analysis which would:

1. provide a reproducible system, based on quantitative rather than qualitative information,
2. establish baseline watershed conditions,
3. facilitate development of a reliable database containing watershed specific information, and
4. be a predictive model to aid in the recognition of additive effects.

Contrary to Regional Water Board staff recommendations, the BOF adopted language that relies on a subjective, qualitative approach to CWE analysis. This approach, described as Technical Rule Addendum No. 2 (Attachment 1), limits CWE analysis to "information that is *reasonably available* before submission" of a timber harvest plan (THP), and states that "*no actual measurements are intended*" [emphasis added]. It further states that sufficient information to

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support the CWE conclusion is only required if significant issues are raised during CDF's review of the THP. This approach limits the type and scope of data that is submitted or can be requested during THP review.

In 1991, after adoption of the CWE rule language, CDF retained LSA Associates to conduct a program evaluation to assess the adequacy of the rule making process. The report, referred to as "Forest Practices Rulemaking: Procedural Adequacy in a Dynamic Environment," states that "Despite adverse court rulings beginning with *EPIC v. Johnson* and the continuing input from other resources agencies and the general public, the Board of Forestry has failed to develop adequate cumulative impact analysis regulation." It further states that the cumulative impacts assessment direction adopted by the BOF:

- places an inappropriate burden of proof on reviewing agencies to request additional information and/or voice non-concurrence with an approval recommendation, and
- narrowly defines the scope of analysis to "closely related past, present and reasonably foreseeable future projects within the same ownership and to matters of public record," and to information that can be gathered within the relatively short time frame allowed for THP review.

Since adoption of Technical Rule No. 2 in 1991, the evaluation of CWE has remained a subjective analysis based primarily on personal and anecdotal observations. The level of science-based, reproducible data needed to address the needs outlined under 1 through 4 above is not required and is rarely supplied under the existing rule. The lack of adequate data has prevented recognition of adverse CWE only until after significant impairment has occurred. For example, shortly after significant timber harvesting in five watersheds occurred under approved THPs, CDF recognized those watersheds in Humboldt County (Bear, Jordan, Stitz, and Freshwater Creeks, and the North Fork of Elk River) as being "significantly adversely and cumulatively impaired by sediment." Recognition of adverse CWE only after water quality is impaired does not provide for the effective protection and restoration of beneficial uses of water. Nor does it facilitate the development of baseline data needed to allow adaptive management of forest practices that will avoid adverse impacts from CWE.

The existing approach allows approval of THPs based on a plan-by-plan approach, rather than evaluating potential impacts over the entire watershed over time. This leads to approval of THPs that contain practices that can cause significant impacts when implemented. These practices include allowing entire watersheds to be approved for harvest in multiple THPs before approaching CWE thresholds are recognized. For example, approximately 89% of the Bridge Creek watershed, a 1479 acre watershed located in Humboldt County, was approved for timber harvest from 1993 to 1997 (Attachment 2).

In testimony to the Little Hoover Commission in 1994, the State Water Resources Control Board made the following recommendations to improve CWE assessments:

1. Independent CWE assessments should be done for watershed areas of 3,000 to 10,000 acres in size.

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2. CWE assessments may be prioritized based on the amount of disturbance in a watershed but should be done independently of any specific THP.
3. CWE assessments should be performed by the State. CDF should be the lead agency, but other agencies should fully participate in the assessment.
4. CWE assessments should be based on: (a) consultation with landowners in the watershed and other interested parties, (b) information obtained from such parties and from other State agencies, and (c) current scientific and professional knowledge regarding CWE assessment techniques and cumulative environmental impacts.
5. Once a CWE assessment is completed:
  - a. The assessment should be updated only every five to ten years unless a critical event (e.g., wildfire, flood, major road construction, or a rapid rate of harvest) occurs, and
  - b. For subsequent THPs within a watershed for which the State has completed a CWE assessment, the assessment should be deemed to satisfy any THP-specific CWE assessment requirements, and the CWE mitigation measures which it specifies should be incorporated into the THP.
6. CDF and Regional Water Boards should more fully utilize and develop GIS technology for doing CWE assessments, using information derived from all available reliable sources, including THPs, agency files and reports, and inspection reports.
  - a. CDF should use GIS to "collect" information regarding past, present and future timber operations within a watershed; the duration, extent, and intensity of impacts of such timber operations, other land use activities or natural disasters; and the location and extent of sensitive environmental conditions.
  - b. Regional Water Boards should use GIS to collect information regarding the type and location of beneficial uses of water, their condition, their sensitivity to changes in water body conditions, and the location and extent of sensitive instream and nearstream conditions. This information should be shared with CDF.

As a result of the recent recognition of the significant adverse CWE evident in Bear Creek, a report was produced by Pacific Watershed Associates which indicates that 82% of sediment delivered to streams in the Bear Creek watershed is generated from debris landslides associated with silviculture on unstable hillslopes while 8% of the sediment is road-related. Previous studies, such as the state-wide Critical Sites Erosion Study (1989), indicated that the majority of sediment from timber operations is generated from roads, rather than harvest units. The watershed-specific information derived from the Bear Creek report will allow evaluation of the types of operations which actually have the greatest potential to impact water quality, rather than focusing on issues identified in a more generalized sediment source analysis.

A committee, sponsored by the BOF and funded by CDF, was recently created to conduct a watershed analysis of Freshwater Creek. Also, at the November 1998 BOF meeting, the BOF expressed an interest in establishing an expert committee to provide a peer review of the existing literature on timber operations and their effects on mass wasting associated with unstable areas. The committee's charge will be to evaluate the existing scientific literature and to determine if best management practices (BMPs) are being implemented on the ground. The analysis completed by the Freshwater Creek committee will be useful as a template for development of a CWE approach that focuses on watershed characteristics, while the information compiled by the second committee will focus on state-wide or region-wide issues.

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### Conclusion

The existing CWE analysis does not provide either the information needed to recognize approaching CWE thresholds, or to identify those practices which have resulted in adverse CWE. Regional Water Board staff has recently begun working with CDF to require additional watershed specific information for CWE analysis in the five watersheds recognized as impaired by excessive sediment from cumulative effects. As a result, CDF has indicated that it will require additional CWE information prior to THP approval in those watersheds. Regional Water Board staff and representatives of CDF and the BOF recently met to begin discussions about pooling funding, and data for an effective state-maintained GIS database for CWE evaluation.

### PRELIMINARY STAFF RECOMMENDATION:

Substantial revision of the CWE rule language is needed to ensure the timely generation and submittal of watershed-specific data so that an adequate evaluation of CWE on a watershed-by-watershed basis can occur. To this end we recommend that Regional Water Board staff pursue the following actions:

- Form a working group with CDF, CDFG, CDMG, and interested federal agencies (NMFS, EPA) to evaluate existing CWE approaches (Washington DNR, etc.). The working group should propose rule language to BOF to ensure adequate CWE analysis during timber harvest review.
- Coordinate with existing BOF "blue ribbon" committees (i.e., Freshwater Creek, Unstable Slopes) to make use of new information and analysis as it is developed.
- Coordinate with CDF to develop and maintain a GIS data collection and analysis system designed to provide watershed specific information related to timber harvest operations. Data should be made available to all interested parties, including the public and other agencies.
- Maintain and prioritize regulatory presence in those watersheds listed or declared as impaired by the Regional Water Board, EPA, or CDF.

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