

Charter of the Effectiveness Monitoring Committee (EMC)

I. Necessity

Effectiveness monitoring is a key component of adaptive management and is necessary for assessing if management practices are achieving the various resource objectives set forth in the California Forest Practice Rules. Despite an increase in forestry-related water quality monitoring in the past decade, there is relatively little information regarding the type, distribution, statistical power, and cost-effectiveness of monitoring in the forested watersheds of California. Even though a large amount of monitoring is currently being undertaken, it is clear that: (1) agency-required monitoring needs to be better coordinated and reported, (2) increased trust in the scientific rigor and process transparency is required before the public will accept results of the extensive monitoring work being conducted by forest landowners, and (3) a process is needed that provides a feedback loop allowing the existing forest practice rules to be evaluated and possibly modified based on credible, verifiable monitoring results. A recent review of existing monitoring programs in California did not provide evidence of a consistently effective feedback loop between monitoring data and decision-making (Coe 2009). An example of how California could apply scientific research findings to generate science-based forest practice regulations may be found in Washington (Cafferata et al. 2007).¹

Development of the Effectiveness Monitoring Committee (EMC) will allow the Board of Forestry and Fire Protection (Board) to determine if portions of the California Forest Practice Rules are effective in protecting beneficial uses of water, such as anadromous salmonid habitat, or if further rule modification is required. While implementation and limited short-term effectiveness monitoring have been conducted over the past 20 years on California's non-federal timberlands (Tuttle 1995, BOF 1999, Cafferata and Munn 2002, Brandow et al. 2006, Longstreth et al. 2008), no comprehensive, structured program has been established to provide an adaptive management approach.² Adaptive management is a structured, iterative process of decision making in the face of uncertainty, with an aim to reducing uncertainty over time via system monitoring.

¹ The Adaptive Management Program has been used for several years in the state of Washington to provide science-based recommendations and technical information to assist their Forest Practice Board in determining if and when it is necessary or advisable to alter forest practice rules (WFPB 2005).

² Note that longer-term instream cooperative monitoring projects, such as the Caspar Creek watershed study and the Judd Creek watershed study have provided detailed information on Forest Practice Rule effectiveness for selected parts of California.

DRAFT

Implementing a statewide adaptive forest management program in California requires an integrated political, social, and scientific framework to address the various adaptive management implementation criteria. The Washington Forest Practices Adaptive Management Program offers a template for implementing a statewide adaptive management program here (Coe 2009).

II. Purpose, Goals, and Objectives

The Effectiveness Monitoring Committee will act as a technical advisory committee to the Board of Forestry and Fire Protection (Board) to develop and implement a water quality-related effectiveness monitoring program that can provide an active feedback loop to policymakers, managers, agencies, and the public. The EMC will receive oversight and guidance from the Board's Research and Science Committee (RSC). The EMC will ensure that a statistically defensible monitoring effort is used to credibly evaluate the effectiveness of the Forest Practice Rules related to water quality and aquatic habitat. It will provide input to a formal adaptive management approach to policy development and analysis (Figure 1).

Goals: To ensure a collaborative science-based monitoring effort to provide statistical evaluation and process-based understanding of the effectiveness of the Forest Practice Rules on water quality and aquatic ecosystems, the EMC will:

- (a) Support an adaptive management process by providing feedback regarding Forest Practice rule performance (i.e., monitor actions and suggest to the Board where management actions could be adjusted).³
- (b) Help facilitate and recommend monitoring practices to evaluate how well practices restore and maintain riparian habitat on non-federal forest lands for state and federally listed anadromous salmonids.
- (c) Ensure that the process meets the requirements of the Clean Water Act for water quality on non-federal forestlands.
- (d) Establish a peer review process to evaluate monitoring and research products.

Objectives:

- A. Involve credible representatives of key stakeholders that are publicly trusted.
- B. Review past and ongoing monitoring project results to help guide development of new approaches and to avoid duplication.⁴

³ An adaptive management program should ensure that the Board adjusts its regulations for protection of aquatic resources based on the most current and best available scientific knowledge and technical information.

DRAFT

C. Help to identify critical research questions to address the goals, using input from all stakeholders.

D. Help to select priority projects to jointly monitor.

E. Help to develop effective partnerships to share the costs of evaluation.

F. Help to develop mechanisms to build partnership relationships.

G. Promote joint fact-finding at local, regional, and state levels.

H. Spread awareness of results to partners, decision-makers, and the public through:

1. Field tours.
2. Internet availability.
3. Workshops and conferences.
4. Other user-friendly formats.

III. Membership

A. Appointment, Representation, and Compensation

The Board shall appoint a panel of EMC members with competent scientific and natural resource professional backgrounds that are willing to serve on the EMC, and capable of developing work products in a timely manner. Members shall be appointed by the Board, with appointees having expertise in hydrology, geology, fluvial geomorphology, aquatic ecology, fisheries, forestry, and resource monitoring and sampling, as well as a working knowledge of the California Forest Practice Rules and forest management operations.

A statement of qualifications shall be required to verify education and field/rule application experience. These representatives shall be appointed from academia, professional consulting firms, state and federal agencies, the timber industry, and the public. Members should be well respected applied scientists or resource management professionals representing each stakeholder group.

There is no compensation for service on this advisory committee, but members shall be reimbursed for their expenses in attending meetings to the extent that the law allows.

⁴ Past BOF and CAL FIRE monitoring reports are posted on the Board's Monitoring Study Group website: http://www.bof.fire.ca.gov/board_committees/monitoring_study_group/.

DRAFT

B. Duration

The EMC shall be a permanent Advisory Committee of the Board. The duration for appointment to this committee is either two, three, or four years (i.e., mixed appointments).

IV. Committee Structure

A. Chair and Vice-Chair

The Board shall appoint a chair and a vice-chair of the EMC for two year terms. Strong leadership has been found to be critical for successful adaptive management (Gregory et al. 2006).

B. Meetings

EMC meetings shall be publicly noticed and will be open to all interested parties, following the Bagley-Keene Open Meeting Act requirements. Meetings are anticipated to occur at least once every two months in central locations, and they will incorporate the use of web-based conferencing where possible. The EMC chair shall invite public comment at specified times during a meeting. The EMC chair and Board/CAL FIRE staff shall be responsible for determining meeting times, format, location, and duration. CAL FIRE and/or the Board shall provide staffing for the EMC. Meeting agendas shall be posted on the Board EMC website. Meeting minutes shall be posted on both the Board EMC web and EMC ftp sites.

BOF appointed EMC members shall be required to follow meeting “ground rules.”⁵ These include a commitment to:

- (1) Attempt to reach consensus,
- (2) Attend all scheduled meetings,
- (3) Listen carefully and ask questions to better understand unclear issues,
- (4) Have the EMC receive priority attention, staffing, and time,
- (5) Have all parties clearly define the purposes and goals of their organizations, and
- (6) Have all parties recognize the legitimacy of the goals of other organizations.

C. EMC Actions

The goal will be to for all actions and recommendations to be made by consensus. Facilitation may be necessary. If failure to reach consensus occurs, the report

⁵ Note that these ground rules are based on those used by the Timber, Fish, Wildlife (TFW) Group in Washington, and have proven highly valuable (WFPB 1987).

DRAFT

should specify the key differences and the reasons consensus could not be reached.

V. Identification of Effectiveness Monitoring Questions

The Board shall accept questions from stakeholders and the interested public (key areas of concern) about the effectiveness of specific water quality-related forest practice rules in meeting established resource objectives to the EMC. Additionally, the applied scientists or resource professionals appointed to the EMC may submit questions they believe should be studied.

VI. Implementation of High Ranked Study Questions/Projects

Funding for the highest rated projects is expected to come from a combination of sources, including:

- AB 1492 (the lumber tax bill), requiring an evaluation of ecological performance [Sec. 4629.9 (a)(8)(F)], including monitoring the effectiveness of regulations promoting ecological benefits.
- State and private sources.
- Grants.

The EMC and Board/CAL FIRE staff shall be responsible for developing study plans, securing peer review, and overseeing the completion of the scientific investigations. It is anticipated that state agency teams will be formed to monitor and produce effectiveness monitoring data for adaptive management, similar to the process used for the Interagency Mitigation Monitoring Program (IMMP) from 2005 to 2008 to evaluate watercourse crossings (Longstreth et al. 2008). All stakeholders will be invited to help collect the data in the field using common sampling techniques with sufficient statistical power to answer the questions posed.

VII. Reports and Adaptive Management Process

The interagency teams will synthesize the results into final reports for the EMC. The reports are to include technical analyses and evaluation of implications for resources and operations, but are not to attempt to provide policy or regulatory recommendations. Generally accepted scientific and statistical techniques are to be used. All final reports will be made available to the public on the internet.

Implications of the EMC reports are to be discussed by the RSC, including possible rule language options based on study results. Discussion is to continue until consensus is reached among the RSC members on a needed rule change. A recommendation for rule language(s) change is then sent to the Board's Forest Practice Committee for their consideration, prior to sending it to the full Board.

VIII. Assistance and Oversight

The EMC chair may seek technical advice from other state or federal agency representatives, technical experts, etc. on developing effectiveness monitoring projects.

The Board’s Executive Officer will act as the liaison between the Board and the EMC.

IX. Timeline⁶

February 2013-March 2013: The draft EMC Charter will be sent to the full Board and the Board’s RSC for their review. Upon their approval, the EMC Charter will be publically vetted at a Board Monitoring Study Group meeting in early 2013.

April 2013: Board appointments to the EMC.

May 2013: Initial meeting of the EMC.

December 2013: Initial report to the Board by the EMC chair.

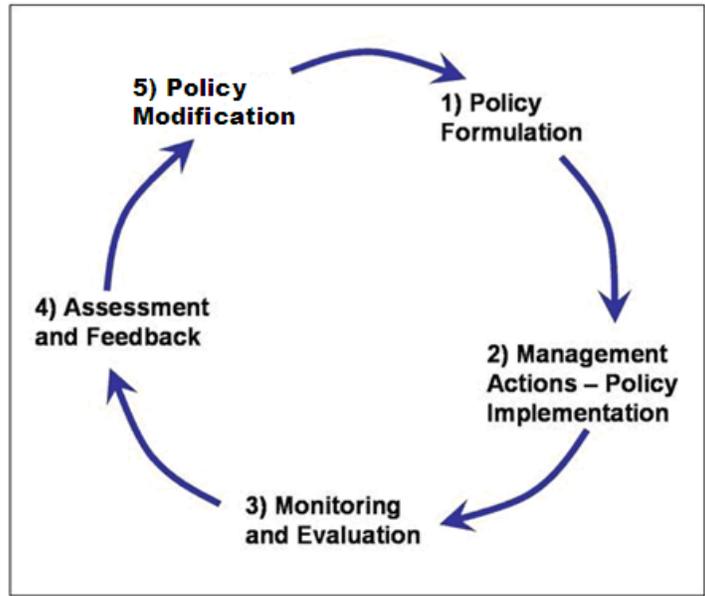


Figure 1. Iterative cycle of policy development and implementation used in adaptive management, allowing monitoring data to inform management and regulation.

⁶ Note that the Timeline is subject to change.

DRAFT

X. References

Board of Forestry and Fire Protection (BOF). 1999. Hillslope monitoring program: Monitoring results from 1996 through 1998. Interim report prepared by the Monitoring Study Group (MSG). Sacramento, CA. 70 p.

Brandow, C.A., P.H. Cafferata, and J.R. Munn. 2006. Modified completion report monitoring program: monitoring results from 2001 through 2004. Monitoring Study Group Final Report prepared for the California State Board of Forestry and Fire Protection. Sacramento, CA. 80 p.

Cafferata, P.H. and J.R. Munn. 2002. Hillslope monitoring program: Monitoring results from 1996 through 2001. Final Report submitted to the California State Board of Forestry and Fire Protection. Sacramento, CA. 114 p.

Cafferata, P.H., D.O. Hall, and G.D. Gentry. 2007. Applying scientific findings to forest practice regulations in California. In: Proceedings of the NCASI 2007 West Coast Regional Meeting, September 26-27, 2007, Portland, Oregon. P. H-39 to H-46.

Coe, D. 2009. Water quality monitoring in the forested watersheds of California: status and future directions. Report prepared for the California State Board of Forestry and Fire Protection's Monitoring Study Group. Sacramento, CA. 37 p. plus Appendices. Available online at: http://www.bof.fire.ca.gov/board_committees/monitoring_study_group/msg_monitoring_reports/draft_monitoring_tracking_report_09nov09.pdf

Gregory, R., D. Ohlson, and J. Arvai. 2006. Deconstructing adaptive management: criteria for applications to environmental management. *Ecological Applications* 16(6): 2411-2425.

Longstreth, D., A. Lukacic, J. Croteau, A. Wilson, D. Hall, P. Cafferata, and S. Cunningham. 2008. Interagency Mitigation Monitoring Program pilot project final report. California Resources Agency, California Environmental Protection Agency, Central Valley Regional Water Quality Control Board, North Coast Regional Water Quality Control Board, California Department of Fish and Game, California Department of Forestry and Fire Protection, California Geological Survey. Sacramento, CA. 38 p. plus Appendices.

MacDonald, L.H. and D. Coe. 2007. Influence of headwater streams on downstream reaches in forested areas. *Forest Science*: 53(2): 148-168.

Tuttle, A.E. 1995. Board of Forestry pilot monitoring program: hillslope component. Unpubl. Rept. submitted to the California Department of Forestry and Fire Protection and the Board of Forestry and Fire Protection under Contract No. 9CA38120. Sacramento, CA. 29 p. Appendix A and B: Hillslope Monitoring Instructions and Forms.

Washington Forest Practice Board (WFPB). 1987. Timber/Fish/Wildlife agreement: a better future in our woods and streams. Final Report. Olympia, WA. 57 p. Available online at: http://www.dnr.wa.gov/Publications/fp_tfw_agreement_19870217.pdf

Washington Forest Practice Board (WFPB). 2005. Guidelines for adaptive management program. Section 22. Olympia, WA. 31 p. Available online at: http://www.dnr.wa.gov/Publications/fp_board_manual_section22.pdf