Monitoring Study Group Meeting Minutes

June 11, 2002
Howard Forest

The following people attended the MSG meeting: Tharon O'Dell (BOF-chair), Dean Lucke (CDF), Tom Spittler (CGS), Rob DiPerna (EPIC), Julie Bawcom (CGS), Ted Oldenburg (Hoopa Tribal Forestry), Syd Brown (CDPR), JB (NMFS), Pete Ribar (Campbell Timberland Management), Richard Gienger (HWC/SSRC), Brad Valentine (DFG), Dr. Jerry Ahlstrom (CDF), Dan Sendek (BOF), Clay Brandow (CDF), Mark Rentz (CFA), Holly Lundborg (NCRWQCB), Robert Darby (PALCO), Mike Anderson (Anderson Logging), Dr. Marty Berbach (DFG), Dr. Matt O'Connor (O'Connor Environmental), Niel Fischer (VanderHorst Forestry), Stephen Levesque (Campbell Timberland Management), and Pete Cafferata (CDF). **[Note: Action items are bolded]**.

We began the meeting with general monitoring related announcements:

- Richard Gienger informed the group that a "proof of concept" contract is proceeding from the CDF—Fire and Resource Assessment Program to test the concepts presented in the UC Committee report titled "A Scientific Basis for the Prediction of Cumulative Watershed Effects." Funding is being provided in a contract from the SWRCB to CDF and the probable test basin will be Noyo River watershed. Dr. Bill Stewart of CDF-FRAP is the lead contact on the project.
- Richard Gienger announced that the Stewardship NTMP (STMP) committee (a subcommittee of the Forest Stewardship Committee) met on June 10th and discussed a monitoring element that could be incorporated as part of the STMP proposal.
- Pete Cafferata stated that Gary Nakamura, UC Cooperative Extension, had asked him to hand out a short report titled "Next Steps for LWD Modeling" and briefly present and discuss the document. This paper was an outgrowth of the LWD Modeling Workshop held in Sacramento on April 29/30, 2002, where we discussed possible uses of a LWD model in California. The handout summarized suggestions for future work from Dr. Richard Harris, Mark Teply, and Dr. Lee Benda. Comments should be sent to Gary Nakamura or Richard Harris.
- Clay Brandow announced that the Interagency Coordinating Committee (IACC) will gather on June 18/19th in the Cal-EPA building in Sacramento for a "kickoff" meeting to formulate the next 5-year statewide non-point source pollution plan, of which forestry (silvicultural activities) is a part. The plan has a monitoring component that builds on the existing SWAMP (Surface Water Ambient Monitoring Program).
- Pete Cafferata reported that the California Forest Soils Council will have their summer field trip on July 31-August 2. The trip will allow participants to view soils and land management practices in the Groveland and Yosemite areas on private (SPI), National Forest, and National Park lands. For more information, see www.humboldt.edu/~cfsc

Stephen Levesque presented the preliminary wood budget results for Bear Haven Creek, a tributary of the Clark Fork of the Ten Mile River watershed near Fort Bragg. This work has been conducted under the direction of Dr. Lee Benda, Earth System Institute. Bear Haven is the first of three sites that will be studied on the Hawthorne ownership, the others being Indian Creek in the Usal area and Redwood Creek in the SF Ten Mile River drainage. The general concept for the study has been to characterize recruitment processes, input rates, residence time, and export rates for large wood, similar to that which is completed for a sediment budget. Recruitment processes include chronic mortality (due to insects, disease, etc.), blowdown, bank erosion, landslide features, and logging related inputs. "Anti-recruitment" processes include stream clearance work. Lower Bear Haven Creek has a considerable history of clearance work, particularly in 1982/83. In the past, conventional wisdom has been that

mortality has been a large component of the input rate; wood budget work can test whether this is indeed true.

For the Bear Haven Creek project, eleven reaches were sampled, with a good distribution of both Class I and II watercourses. Reaches were 300 to 500 meters in length. Approximately 20% of the LWD pieces inventoried could be identified for input source mechanism. Data was collected on LWD contributed by ten streamside landslide features. Very high variability was observed in LWD loading from headwater reaches to downstream reaches. Similarly, high variability was observed in the importance of different input mechanism for the various reaches inventoried. Overall, about 55% of the inventoried LWD with input mechanism identified was directly related to past logging, 21% from bank erosion, 17% from mortality, and 8% from landslide features. The Bear Haven drainage is relatively stable and does not have a high rate of landsliding present. Numbers of conifer and hardwood pieces were nearly equal, but approximately 90% of the volume was attributed to conifer pieces. Average piece diameter of identified recruits was 16 inches. Stand age in this basin is 40 to 50 years. Residence time in the channel was calculated by decay class recorded; LWD from slides had an average residence time of 34 yrs, conifer mortality—30 years, deciduous mortality—15 years, and bank erosion 19 years. This type of information will be used in calculating a LWD recruitment rate.

Stephen presented a graph showing cumulative percent LWD by volume plotted against slope distance from the channel, with different lines for mortality, landsliding, and bank erosion. If all the input processes are lumped together, the plot for conifer recruitment distance indicates that about 90% of the volume enters from the first 12 meters (approx. 40 feet) from the stream channel edge. Stephen noted that this data is based on today's stand of redwood and Douglas-fir trees that average about 130 to 140 feet tall. In summary, he noted that there is a huge amount of variability in LWD data, and forest mortality appears to be a much smaller input mechanism in this drainage than would have been expected. It will be interesting to determine how the data collected for Bear Haven Creek compares to that which will be collected for Indian Creek and Redwood Creek in the next three weeks. **Those people who want to observe field data collection in these drainages should contact Stephen**.

The next agenda item was to discuss Campbell Timberland Management's offer to work with the MSG on THP-scale effectiveness monitoring for the Hawthorne Timberlands ownership. At the MSG meeting held on April 23rd, Stephen Levesque stated that they are looking for technical assistance and funding from the MSG/CDF/BOF. Sampling strategies are proposed to test hypotheses about road upgrade work and effects of current silvicultural/harvesting techniques. A THP will be designed to fit the objectives and goals of the project. **Pete Cafferata opened the dialogue by stating that CDF is very willing to provide both technical assistance and funding. CDF cannot at this time commit to an exact dollar amount, but should be able to provide 20 to 40K easily**. CDF strongly supports the concept and wants to help with the project. Representatives for all the other agencies and groups present (BOF, CGS, NCRWQCB, DFG, CDPR, NMFS, PALCO, CFA, EPIC, HWC/SSRC) stated that they were interested and willing to provide technical assistance but no funding. In follow-up contacts, Gaylon Lee of the SWRCB and Doug Eberhardt of the U.S. EPA similarly expressed an interest in providing technical assistance. **Gaylon stated that there is a possibility of funding from the SWRCB**. The MSG discussed other possible avenues for funding this project, including possible federal dollars from NMFS, funding as part of Richard Harris' DFG restoration effectiveness monitoring contract, etc. Clay Brandow stated that this type of project is appropriate for the 5 year nonpoint source pollution control plan being discussed by the IACC.

An MSG Work Group will be established so that the various agencies and organizations can be represented in the design of the project. The first step will be for Campbell Timberland Management to work with Graham Matthews to design a conceptual "straw-man" approach in the next two weeks. This very rough framework will be distributed to the various Work Group

members for initial review. Following this review, a meeting(s) will be scheduled to refine the project study plan. Stephen described the study as at least a 10 year project, with pre-project data collection occurring for 3 years (possibly 2 if a sufficient number of large storms occur). A full BACI (Before-After Control-Impact) design is envisioned, as recommended during the Interagency Water Quality Monitoring Workshop held on January 15th. Robert Darby suggested that Stephen contact Bill Conroy of PALCO to benefit from their experiences with instream suspended sediment and turbidity monitoring. This type of project will allow the MSG to increase its involvement in instream monitoring and complete effectiveness monitoring that is quantitative and scientifically defensible. It will also allow hillslope and instream monitoring to be combined in a single watershed.

Pete Cafferata provided the MSG with an update on the Hillslope Monitoring Program. The 2002 HMP with ECORP Consulting, Inc. was approved by the Department of General Services the week of June 10th. **The field crew from ECORP will be trained on a Campbell/ Hawthorne THP selected as part of the random sample on June 19th and 20th.** We have over 50 THPs and NTMPs approved for access, but this includes alternates to the primary 50 projects. **Therefore, additional phone calls to landowners will be made this week.** Work has begun on the 2002 BOF Hillslope Monitoring Program Report, a follow-up document to the report generated in June 1999. Nearly all the original queries developed for the 1999 report have been rerun by Dr. Don Warner, CSUS (HMP database contractor), and CDF. We are receiving database assistance from CDF employees Tim Robards and Shana Jones. Additionally, CDF Agreements have been sent to Roger Poff and Cliff Kennedy to allow their participation in the preparation of the second report, since they collected and entered the field data. Specifically, Roger and Cliff will assist with more detailed query development and report editing. **CDF's goal is to have a draft report written by the end of summer 2002.** Queries run to date show that there are 568 road segments, 480 skid trail segments, 569 landings, 491 crossings (68% existing culverts), 683 WLPZs, and 49 large erosion events currently in the database from 295 THPs and 5 NTMPs. Approximately 19.5 % of the crossings evaluated have been installed as part of the THP being evaluated, the remainder being existing crossings in the plan area. Discussion items from the MSG included: 1) the high likelihood that this will be the last year with the current system, since a major revision will be needed to deal with the significant changes implemented as part of the Threatened and Impaired Watersheds Rule Package, 2) concerns over consistency in data collection with a new contractor this year, and 3) possible ways to hire and work with contractors to reduce data consistency problems.

Clay Brandow presented new information on Modified Completion Report (MCR) monitoring. He began by stating that CDF Deputy Director Ross Johnson sent a letter to CDF Region Chiefs dated February 26th urging them to have their field staff complete the MCR monitoring work, and explaining that the sample size was being reduced from 25% to 12.5% of completed plans. Training sessions were held on March 20 and 21st, with 6 NCRWQCB personnel trained in addition to CDF inspectors. Clay stated that it was good to discuss their concerns with forensic monitoring. **The NCRWQCB requested another training session, and CDPR, DFG, and public members expressed an interest in attending. Clay stated that the next training session will likely occur at the end of summer. Due to the loss of a field inspector in the Tuolumne-Calaveras Unit, Clay will be completing the field work on 8 THPs himself this summer.** Clay then summarized the WLPZ canopy data that has been collected to date as part of the MCR program. Currently, out of 105 THPs sampled, there are 82 THPs with WLPZs. The overall WLPZ canopy is 79%, with a Class I average of 77% and a Class II average of 80%. Canopy data is collected from a randomly located 200 foot WLPZ segment with a 50 point grid and a sighting tube. Mean canopy in Region 1 for Class I and II watercourses is 83%; mean canopy for I and IIs in Regions 2 and 4 combined is 71%. WLPZ mean canopy for Class I watercourses in Region 1 and Regions 2/4 was 83% and 69%, respectively. WLPZ mean canopy for Class II watercourses in Region 1 and Regions 2/4 was 84% and 72%, respectively. The drier environments found in Region 2 and 4 likely relate to the lower canopy values found in these inland

WLPZs. Clay also reported on bare soil and erosion features noted in WLPZs. Bare soil patches have not been reported to date in any of the sampled WLPZs and 9 erosion features have been found, including 6 land stability features (small landslides, sloughing, or bank erosion) and 2 gullies.

Mark Rentz stressed that the data presented is not canopy retention, but rather just canopy, since many of the zones have not been entered with current THP operations, and no pre/post harvest data was collected. Mark Rentz and Mike Anderson also asked Clay to analyze the data so that it is possible to determine for the THPs that did not meet the FPR requirements if there was excessive harvest associated with the current plan, or if the canopy simply did not exist prior to current operations. **Clay stated he would provide this data at the next MSG meeting, as well as preliminary data on roads and crossings**. It is apparent that improperly drained roads and spacing of drainage structures were the main problems noted for the road segments evaluated.

Following lunch, Pete Cafferata gave a Power Point presentation titled "Programs Assessing Implementation and Effectiveness of State Forest Practice Rules and BMPs in the West." This presentation was developed by Dr. George Ice, NCASI, for the Forestry BMP Research Symposium held in Atlanta, GA on April 15-17, 2002. The accompanying paper was written by George, Pete, Liz Dent and Josh Robben (ODF), Jeff Light and Brian Sugden (Plum Creek Timber Company), and Terry Cundy (Potlatch Corp.). **It will be published in the proceedings of the conference as part of a special issue of Water, Soil, and Air Pollution: Focus**. The Power Point presentation first reviewed the evolution of silvicultural NPS control programs in the western 11 states. The focus of the program was on CA, ID, MT, OR, and WA, where most of the effectiveness monitoring work has been completed. WY, UT, and CO have voluntary BMPs, NM enacted its FPA in 2002, and AZ has very minimal forestry operations on non-federal or non-tribal lands. NV has a FPA and FPRs, but minimal non-federal timberlands.

Briefly, California has used a variety of monitoring approaches to evaluate BMP implementation and effectiveness, including a comprehensive inspection program, the Hillslope Monitoring Program (average implementation rate of 190 FPR requirements related to water quality was 93% in June 1999 BOF report), Modified Completion Report monitoring, cooperative instream monitoring projects, and the long-running Caspar Creek Watershed Study. Earlier efforts included the "208" Report and the Critical Sites Erosion Study. Idaho utilizes BMP Audits every year to assess implementation and effectiveness of BMPs. Implementation rates have climbed from 85% to 96% in year 2000. Potlatch Corp. has designed and implemented a large, comprehensive watershed study in northern Idaho similar to the Caspar Creek study. Harvesting took place in the summer of 2001. Montana uses a biannual BMP audit to check implementation and effectiveness of its voluntary BMPs and mandatory streamside management zone. In 10 years, implementation rates have risen from 78% to 94%, largely attributed to logger education programs. Plum Creek Timber Company is conducting instream monitoring efforts as part of its Native Fish HCP. Oregon has an extensive monitoring program, with an ODF monitoring staff that designs specific monitoring projects to answer key monitoring questions for assessing BMP implementation and effectiveness. Examples of these types of projects include: riparian function and stream temperature monitoring, BMP compliance monitoring (3 yr project—96% implementation of 150 FPRs), chemical applications, sediment delivery from roads, fish passage at crossings, and storm impacts and landslides. Sixteen detailed reports are available at: www.odf.state.or.us/fp/fpmp/default.htm. Washington relies on pre-approval review as part of the FPA permitting system and inspections upon project completion for implementation success and monitoring, similar to California. BMP compliance surveys were completed in the early and mid 1990's and found 81 to 100 % compliance with riparian zone requirements. Numerous Timber/Fish/Wildlife Group investigations were completed in the 1990's to evaluate compliance and effectiveness of the FPA and rules.

In conclusion, no state has had the resources to complete all possible BMP implementation and effectiveness monitoring approaches (extensive inspection/enforcement; compliance/effectiveness surveys; detailed projects to test specific rules; and long-running watershed studies). Each approach as advantages and disadvantages, but put together regionally, conclusions regarding BMPs in the west can be made. Overall, BMP implementation rates are averaging over 90% in the western states and BMPs are generally effective when properly implemented. Still, there remains unlimited skepticism about BMP effectiveness. Efforts in the western states continue to evolve from qualitative assessments to scientifically defensible tests of individual practice effectiveness. Continued monitoring is needed due to changing rule requirements and changing expectations.

Under the New and Unfinished Business agenda item, Pete Cafferata provided the group with a portion of the updated Watershed Data Catalog (formerly referred to as the Reference Watershed Catalog). A revised draft spreadsheet was sent to the MSG Work Group for comments on May 23rd, with very limited response. Data is currently rearranged in the catalog in the following 3 categories: 1) small, relatively undisturbed basins, 2) larger basins with management or past disturbance and good fish/habitat data, and 3) larger basins rated in good condition in statewide surveys. Currently there are 100 watersheds in the catalog, broken down into 2 areas—North/Central Coast and Sierra Nevada/Cascades/Klamath Province. Managed or disturbed basins have been included to provide the full range of conditions for defining what is suitable or fully functioning habitat for fish. The group expressed a considerable amount of interest in the project, but stated that busy schedules have prevented more active involvement in the project. **Pete agreed to email the full version of the catalog to the MSG mailing list for better review and comment**. **Another MSG Work Group meeting will be scheduled in the fall for more discussion on the project. It was agreed that the project will no longer be referred to as the Watershed Reference Catalog, and hence forth referred to as the Watershed Data Catalog. Pete Ribar suggested adding a date and version on each page**.

Further discussion also took place on the Mill Creek (tributary of the Smith River) watershed and the fisheries studies being conducted in the basin. At the April 23rd MSG meeting, Chris Howard and Zack Larson presented the excellent fish data they have collected for several years and expressed a need for short-term funding to keep the various elements of the project from being terminated. There is a possibility that CDF, through a recommendation of the MSG, could fund some portion of this work in the short-term. **Pete Cafferata agreed to contact Chris Howard and ask for a detailed breakdown of costs for the various fish monitoring components of the project.**

Under the Public Comment agenda item, Richard Gienger asked if the MSG will make recommendations to the BOF for rule changes related to watercourse crossings, in light of monitoring results showing crossing problems. Holly Lundborg stated that we still need to query the HMP database to determine if most of the problems are associated with old crossings or new crossings installed as part of recent THPs. Several in the group stated that education is needed for RPFs, LTOs, agency representatives, etc., regarding how to correctly install crossings and how to correctly remove old crossings. Pete Cafferata stated that CDF Deputy Director Ross Johnson earlier this year asked him to develop training sessions related to watercourse crossings. **Niel Fischer suggested that it may be possible to have watercourse crossings be the topic for CLFA's Fall Workshop, and that it would be appropriate to check on this with Hazel Jackson. Pete Cafferata volunteered to contact Hazel, and she has forwarded the request to the CLFA Education Committee**. Mike Anderson stressed the need to include LTOs in any training session that is setup. Further, it was stated that the preferred arrangement would be for one day of presentations and one day of field work.

The next meeting is scheduled for September 17, 2002, 10:00 a.m., at Howard Forest.