

**Big Creek Collaborative
Combined Aquatics Working Group**

February 23, 2005

Meeting Notes

Time:	10:00 AM to 4:00 PM	Facilitator:	Bill Pistor
Teleconference No.:	1-800-556-4976	Recorder:	Emily Armstrong
Access Code:	271911		
Participants:	Wayne Allen Emily Armstrong Ed Bianchi Deborah Giglio Rick Hopson Wayne Lifton Martin Ostendorf Bill Pistor Geoff Rabone Roger Robb Lonnie Schardt Phil Strand Wayne Thompson Julie Tupper Cindy Whelan Larry Wise	SCE Kearns & West ENTRIX U.S. Fish and Wildlife Service USFS ENTRIX ENTRIX Kearns & West SCE Friant Water Authority Huntington Lake Association USFS Fly Fishers for Conservation, Inc U.S. Forest Service U.S. Forest Service ENTRIX	
Phone Participants:	Woody Trihey Julie Means Matt Myers	ENTRIX CDFG SWRCB	

Introductions and Agenda

Bill Pistor asked the group to introduce themselves and reviewed the agenda.

Discussion of Populated Hydrology PRIM, RIM and Criteria

Wood Trihey reviewed the IHA Summary Table that was distributed to the group. The table provides a compilation of information presented in the CAWG 6 report.

Woody reviewed Parameter Group 1 and said that it summarizes monthly flow statistics for unimpaired and existing flow regimes and provides an indication of how stable the flow condition is between the two scenarios. The values are in cfs.

The group asked questions about Parameter Group 1. Phil asked if this information is based on synthetic information. Woody said yes, the unimpaired values are the unaltered hydrograph or the hydrograph above the point of the diversion. For the most part, the data are primarily derived from synthesized records. Woody thinks this should be taken up on a case by case basis. If the diversion is turned out and there is a difference from what is shown below the diversion, it could be an artifact of the process used to simulate the data.

Woody reviewed Parameter Group 2. This shows minimum and maximum stream flows that occurred in the period of record for daily increments for the unimpaired and existing flows. This shows a comparison of extreme values that exist in the period of record.

Woody continued with the summary of flood frequency analysis on page 3. This table is a comparison of the unimpaired and existing flood frequency results. Woody explained how he tried to identify the number of years where existing flows met or exceeded the unimpaired flow indicated for the 1.5 year return interval. Cells with dots indicate no data was available. Rick asked if the same column could be added for the other return periods. Woody responded that other magnitudes of flow could be tallied. Rick said it might be interesting to have that information.

Woody reviewed the unpopulated Hydrology PRIM. The table is broken out seasonally and by portions of the year that have biological significance. The summer/fall period stands out as a low flow, high temperature period. Winter is another period, where in higher elevations there might occur low flow and cold water temperatures. During winter, the high elevation and low elevation streams behave differently and that is why there are maximum and minimum values for winter. All values in this table would be median values. He explained how the median values were calculated and that the information exists in the table for unimpaired and existing flows. The seven-day value is an indicator and is the seven-day stream flow that yields the maximum or minimum seven-day flow volume in the period of record.

Woody asked the group to review the seasonal table for additional indicators that would be helpful in making assessments on biological effects. He asked that group members please provide a brief explanation of why the indicator would be valuable.

Rick raised concern about July not being included. Woody said July is a transition month with a lot of variability, but it can be evaluated independently for the boating and recreation folks.

Rick asked if it might be useful to have the Julian day or day that flow occurred in the seasonal table. Woody said it could be useful if there is not a lot of variability in the data record. Woody said that information probably won't be necessary on every stream, but it might be useful for high flow events on some streams. He suggested the group address this on a case by case basis.

Julie Tupper thinks it is important to include April in the table because historically, the high flows occur into April and May and less in June. Woody suggested breaking the streams into higher elevation and lower elevation segments to address the monthly timeframe concern.

Lonnie Schardt asked if there are project safety concerns with not showing the 50 and 100 year events in terms of potential recreation Project enhancements. Woody responded that the Project had little effect on these flows and that they occur too infrequently for this context. The Forest Service said recreation is something that needs to be considered in the Hydrology PRIM for some sites like Jackass and Mono Hot springs. They want to understand the potential of a new recreation site washing out and this might be achieved through understanding stage changes.

Julie asked that the seasonal streamflow table not be populated until she provides comments. The group agreed to provide comments on the Hydrology IHA Summary Table and PRIM by March 9th (see AI #1 below).

Continue Discussion from February 22 Fisheries Criteria, RIM and Populated PRIM

Larry Wise reviewed that the group's prior discussion on WUA to fish ratios and how they are used in this process yesterday. He wants to continue this discussion and look at how PHABSIM results will be used in this process. Larry reviewed the proposed process, which was to look at streams and see where the amount of available physical habitat is most restrictive for fish populations. One way to look at that is to use WUA to fish ratios. In the criteria, we've taken the ratio values (20 WUA : Adult Trout) reported to us by the Instream Flow Group (IFG) (these WUA

ratios are similar to those reported for some of the project streams) and doubled them to be conservative. Areas where the WUA to fish ratio is less than double the IFG value were identified as potentially having a resource issue. Phil mentioned that spawning habitat may be an issue. Larry explained how they looked at spawning area for species spawning at different times of the year based on literature values for spawning area requirements and existing minimum flows. Because most of the spawning habitat is in pocket gravels, Larry believes the literature areas are very conservative. The criteria also presume that every female will spawn in every year. Based on this, the overall criteria are conservative, and how that impacted how a certain species would spawn at a given time of year. He thinks the criteria is very conservative and if we see an indication of a problem it may or may not be there and if we don't see an indication, there is probably not a problem.

Phil said habitat time series may be a focus for the Forest Service. Exceedance information can have some value in evaluation of brown trout spawning. He asked if there is a way to sort through percentiles to sort out extreme events or not. He also asked about characterizing habitat and if there are a lot of habitats with low suitability cells or if cells of good suitability are dominating the WUA functions. He asked if there is a way to demonstrate how responsive meso-habitats are to changes in flows. Larry replied that the information is available, but we would need to discuss the value of generating habitat specific WUA functions, given the stream reach must be managed as a whole, and that mesohabitat type was taken into account in generating spawning WUA, which is most mesohabitat sensitive. Phil suggested adding columns to the RIM for Rosgen channel type and meso-habitat type. Phil reiterated that these comments are preliminary and he and Larry should talk in more detail.

Rick asked about embeddedness in spawning gravel. Larry said that embeddedness was visually estimated and we have the embeddedness for each patch of spawning gravel along a transect. Wayne Lifton said we will need to look at where heavy embeddedness is being reported in the Geomorphology PRIM and track that in terms of fish production.

Larry distributed the populated Aquatics PRIM. He wants to go through the examples of Bear Creek and Mono Creek because they are opposite extremes. He reiterated that we are not looking at this PRIM in isolation; all other resources areas have to be considered as well. Larry reviewed each fish species and other attributes across the top of the table, contrasting Bear Creek and Mono Creek.

Phil said he has major reservations with criteria based on Gerstung's data. Lonnie asked what the high density of Sacramento Sucker in Huntington Lake means as a resource issue. Wayne Lifton said it can be identified as a community composition issue for purposes of discussion. Martin added that he'll have to look at the Recreation criteria and see if we have a mechanism for integrating that. Lonnie has the same question/concern with the smallmouth bass in Shaver Lake. Julie Means requested a copy of the Recreation PRIM materials and that she is added to the Recreation distribution list (see AI#2 below).

The group agreed to provide written comment on the Aquatics PRIM by March 9th (see AI #3 below)

Discussion of Populated Water Quality PRIM and Criteria

Martin distributed the Water Quality criteria and PRIM and copy of the comments that are integrated into the PRIM. The PRIM is broken up into three major areas. The dark blue band across the top is the main portion of the PRIM. Gray cells indicated where samples were not taken. The fish tissue analysis is another part of the PRIM and focuses on Mammoth Pool Reservoir. The third section has to do with gas saturation (super saturation below Mammoth Pool). There is a key on the back page and source references and footnotes.

The group reviewed the criteria. Criteria in group 1 are tied to Table 4-3 in the study report where the most stringent criteria were identified. Criteria in group 2 will be addressed as we get into the

next phase of the PRIM. Martin noted that the stringent criteria aren't always used; the aquatic life criteria are sometimes used. The third criteria were written for the fish tissue. Martin discussed the different kinds of mercury that are captured. There were no questions from the group.

Martin reviewed each analyte to show how the PRIM was populated. Alkalinity values were included in the PRIM. He reviewed the metals that were analyzed and how the threshold criteria were different because of the different alkalinity values. Julie Tupper was concerned that things would be missed with the range currently identified. The group discussed if the ranges meet the criteria or not. The concern is that if it doesn't meet the criteria, it still needs to be included so that the group can decide if it's an issue or not in the future. Julie Tupper suggested marking it with a symbol now so that potential issues aren't lost. Martin will put a 'p' or 's' in the cells that didn't meet the criteria so that they don't fall off the radar screen. He will add a column for alkalinity for the narrative criteria and the numerical criteria.

Julie Tupper asked if there are records of herbicide use. Ed said we work with the Forest Service to do and approve that process. The group agreed to deal with this in the next round of PRIM discussions in determining a Project nexus. SCE will talk to the people who apply the herbicides to get the application schedule.

Phil said he doesn't see information on water temperature warming. Martin said that is handled through the CAWG 5 report and not part of the chemical water quality study. Julie said the Forest Service thinks macroinvertebrates and temperature need to be included in the Water Quality PRIM. Martin will have to think about how to include that information. He asked if this is more of a cross-resource issue. Julie said the State Water Board was interested in looking at macroinvertebrates because it is a water quality issue not only a fish issue. Wayne Lifton said macroinvertebrate information was collected using water quality survey methods. CAWG 10 shows a lot of conflict for indices between streams, so we have to think how to present something that makes sense without a lot of columns (see AI #4 below).

The group discussed the potential cross resource issue between geomorphology sediment contribution and water quality. They agreed that it was something that needed to be addressed by this group and the Land group in the future. Ed said different players from different groups are going to have to meet to talk about these cross resource issues. Prescriptions will be made from both groups.

Rick asked about temperature water quality standards related to the Basin Plan. Ed asked Matt Myers (SWRCB) to follow-up on how the State Water Board would interpret those standards. Rick's preference is to show that information on the Water Quality PRIM. Ed asked Martin to take a first cut at that and then the Water Board can look at it and make adjustments. Martin said another column for temperature could be added (see AI #5 below).

Rick asked Martin about Dissolved Oxygen (DO) and pH. Martin said values are based on in situ measurements taken. In pH stream sampling events, 38% were outside of the criteria range. pH in this kind of system is traditionally low and that connects with the alkalinity. Ed said we still need to look at the samples that are above the range. Rick agreed.

Cindy Whelan asked that all PRIM materials be dated (see AI #6 below).

The group agreed to provide comments on the Water Quality PRIM to K&W by March 15 (see AI #7 below). In the meantime, Entrix will work with the comments received during the meeting. A revised version will not be sent out until the March 15 comments are addressed.

Brief Overview of CAWG 9 Entrainment Report

Wayne Lifton reviewed the table of contents of the Entrainment Report. There will be a 30 day review period after this report is distributed. It will be mailed out on CD. This report is a follow-up

to the initial review of intakes and the 2003 agreement to sample the tailraces. The literature review includes information presented in 2003. This is a stand-alone document and includes 2003 information.

Debbie Giglio asked for a master list of study reports. Entrix will provide the group with a master list (see AI #8 below).

Bill ran through the action items.

The meeting was adjourned.

February 23, 2005 Action Items

AI #1: CAWG members will review Hydrology IHA Summary Table and PRIM and identify any additional indicators of Project related change and provide a brief rational on how it would be used by March 9. All comments are to be provided to K&W before March 9 or brought to the March 9 CAWG meeting.

AI #2: Entrix and K&W will add Julie Means to the Recreation work group distribution list and send her current Recreation PRIM materials.

AI #3: CAWG members will provide comments on the Aquatics and Fisheries PRIM materials to K&W by March 9 or bring comments to the March 9 CAWG meeting.

AI #4: Martin Ostendorf will identify potential issues in the alkalinity column of the Water Quality PRIM and bring temperature and macroinvertebrate information into the Water Quality PRIM.

AI #5: Martin Ostendorf will include Basin Plan water temperature criteria in the Water Quality PRIM. Matt Myers will provide consultation in regards to SWRCB requirements with water quality standards.

AI #6: Entrix will provide dates on all future PRIM materials.

AI #7: CAWG members will provide comments on the Water Quality PRIM materials to K&W by March 15.

AI #8: Entrix will produce a master list of all final study reports for distribution to the CAWG.