

AGENDA
Feather River Coordinated Resource Management Group
Monitoring Committee Meeting

<p>Reasonable Accommodations: In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting please contact the Feather River Coordinated Resource Management at (530) 283-3739</p>

Date: Monday, February 1, 2010

Time: 10:30 am

Location: Quincy Library

Please bring your own bag lunch

1. Monitoring Reports
 - a. Review and approve 2008 and 2009 Watershed Monitoring Reports
 - b. Final comments for Red Clover Monitoring Report
 - c. Big Meadows Technical Report

2. Spanish Creek
 - a. Continuous Recording Station and new USGS station
 - b. Meadow Valley water quality station and gauge

3. Greenhorn Creek- Fish limiting factors/Metals

4. Watershed Monitoring- SCI reaches

5. Electroshocking
 - a. Assistance
 - b. Ideas for improved fish monitoring

6. DWR monitoring wish list

7. Funding- RAC application

8. Burkhard Report

Monitoring Committee Meeting Notes

Date: Monday, February 1, 2010

Time: 10:30 am

Location: Quincy Library

Attendees: Leslie Mink, Kevin Pond, Joe Hoffman, Brian Morris, Gia Martynn, Dennis Heiman, Terry Benoit, Clay Clifton, Terri Rust, Jim Wilcox, Kara Rockett

1. Monitoring Reports

2008 Monitoring Report Comments-

Fig. 5 Pg. 11 Temps showing decreasing trend.

Fig. 6 –Diurnal fluctuations have trended downward at Doyle. Need to include in text discussion. Also, look at changes in Wolf Creek. Greatest fluctuation in a 24 hr. period. Dennis suggested that it would be better to take an average over 7 days or 10 hottest days. Terry suggested it could be hotter in Wolf due to lack of groundwater in flow. Leslie commented that there are many ways to slice temp; 7 day avg. better than looking at one 24 hr. event. Would possibly use the 7 highest days. Redo graph and send around using 7 day average temp. Is there any regs on diurnal changes. It seems it would be a biological stressor for significant changes.

Install a hobo upstream of the long pool and bedrock on Last Chance Creek at Doyle Crossing.

Make a distinction between what we observe and what is speculation. Cannot really say that groundwater is the reason there is a downward trend in temps. (pg. 2) Good to make a speculation, just need to be clear on our statements.

Turbidity data- recorders not collecting useful info, asked by Dennis?? The only one we currently have is at Taylorsville. Has been in for 10 years, 2000 with 319 grant. Kara was going to look at that data this winter. Dennis curious to know if it has been of any use for noticing long term trends. Leslie stated it is better when you have TSS with turbidity. Did once at Indian Cr but haven't done recently.

Quantitative and qualitative data; Jim has noticed a consistent improvement in Indian Creek under Taylorsville Bridge vs. other tributaries in the watershed. Hoping that trend will be shown in the data analysis from the sensor at Taylorsville. Would be good to upgrade to a newer sensor at this site. Joe made statement regarding monitoring sites on the same day to document those trends. Jim suggested using cfs instead of just same day; Dennis commented that even that is variable, high cfs in Oct. is going to be different than in Mar. Terry noted need to sample on the upward curve.

Jim mentioned that the Tahoe wants to donate a sampler to the CRM.

Redundancy in two reports- Dennis suggested maybe doing an addendum each yr with the new data and then doing a full blown analysis every 3 yrs.

Suggested that make changes to Fig. 6 and remove data that doesn't seem possible (i.e. low readings in 2004) or make statement as to possible reasons why. New Wolf Creek location doesn't go into effect until 2009 report. After corrections, finalize and post on web.

2009 Monitoring Report Comments-

Correction noted by Kara- Pg. 2 crest stage gage installed at Whitehawk, not Hwy 89.

Terry suggested about using a sonar reader to measure stage changes; costs about \$5K. Can easily move. All you need is a post, could measure without using the bridge. Site at Sulphur -Hwy 89 bridge unstable. Would need a new rating.

Correction pg. 7-

Terri stated there needs to be some clarification between the two columns; they should be looked at separately. Wilcox water year is different than CDEC water year; has data running back to 1995. State uses Oct.-Sept. for precip and stream flows. Feds use July-June? Have 4 stations to fill holes between Portola and Antelope- Doyle (10 yrs), Jordan Peak, and Thompson Valley. Jordan installed to help monitor Last Chance. Dennis suggested if we had a west side/ east side/ and somewhere in the middle to compare precip data. Doyle has only reached 20 inches precip once.

Jim pointed out Graph on pg. 15, Fig. 8 shows since 2006 we have more water at Flournoy Bridge than we can account for from the three tribs. ; Fig. 10 shows similar for Last Chance at Doyle. How much of the water stored is surfacing downstream?? Jim suggested this is something we need to continue to watch/monitor. Burkhard some may not surface until it reaches the N. Fork. What kind of tracers can we use that would work with the Campbells? Need to get Burkhard and Sagraves together. Leslie pointed out RC-McReynolds question less flow at bottom- lost to evap or deep aquifer??

Brian asked for explanation of Weekly Avg. Minimum- 7 day average; average of the minimums or minimum of the averages? Kara will go back and check and will clarify in the report.

Changes at Doyle went from 0 to 2 cfs in September. Joe stated should clarify that spring storms did not influence flows later in season, that didn't occur in earlier years. Could '01 and '02 be due to holding water in reservoir? Flows are regulated, but DWR maintain a 15 cfs downstream.

Terri suggested that as we build our data set, do statistical analysis with a few key parameters. May show trends that we can't pick up with our eye. 10 years not quite enough, but there is so much variability in the data we collect it will be difficult.

Discussion of MWAT figures- why does it get hotter in a wet year? Could be due to greater influence of groundwater in low water year vs. high water years. More flow =

colder water, but not that simple. Seven day average- need to explain. Commonly used by EPA, Regional Board, etc. for critical temps for fisheries.

Good gage sites with bedrock not necessarily good for temp. sensor- may be explanation for differences in Doyle vs. Notson.

If conditions were same prior to restoration, should not be that important to change sites.

Doyle in the middle of LCII project, but don't have anything at bottom of LCII for flows. Did put hobs in at Murdoch in 2009. Below Doyle was the supplement segment of LCII. The plan is to do upstream with the grade control anchored at the bridge. Work downstream would not affect the free board of the upstream project. Leslie still feels it would be good to have a flow station at Murdock Crossing to capture the subsurface flow that emerges downstream. Would be difficult because there isn't a good anchor point of bedrock below Murdock Crossing. Dennis suggested that if we are just one project away from getting LC complete, should just stick with the monitoring stations we have been using.

Edits suggested will be made and post on web. 2010 report will be appendix to '09. Dennis made comment that we don't speak to shaving off flood flow peaks. General statement made on pg. 17. Dennis asked we don't really have any data, just making a generalized comment. Data from Big Flat with upstream/downstream data is really all we have to use for this analysis. Jim suggested using data from Big Flat and the Pit's Bear Creek project to start to put together numbers for attenuation. Joe also suggested that we should start looking at statistical analysis. Terri R. said there are programs we can use that make it easier. Possibly ask Ken Cawley to do some analysis of our data and/or rejoin the monitoring committee.

2009 Red Clover Monitoring Report Comments-

Joe asked what year the pre- in Table 2 was. Kara will add 2005 date to Table.

Clay asked about the fish sampling- difficulty in collecting data pre- and post- How are we going to approach that in the future? Is there a cost effective way to do it?

Population census is best, but since we cannot use the same method pre- and post- or the same location, we are considering going to a fishing census. Methods have to have comparable amount of effort. Most people only care whether or not we do or don't have fish. If we have fish after project, it is a benefit of the project.

Joe H. says we should shock RC-Poco to establish that there isn't any fish. We do have shock data at Chase Bridge. Has been the control for many years, don't necessarily need more reaches downstream. This is our last year to collect more if we want to do it. Joe will talk to Tina about it. CRM doesn't have funds; FS could probably pay for one day of shocking.

Most astounding finding is the 11 degree F cooler water temperatures post-project (pg. 9)- these are based on hobo temps above and below the project. Stanford data from Big Flat comparable to this data.

Looking at Fig. 7 of pond temperatures does not indicate that cooling is occurring through the project. The reason the bottom pond is warmer is it gets really shallow at the end of the season and/or reflection of heat flux moving down the system. The hobos at the bottom of the project are below the grade control and have significant influence from groundwater. Reason we collected pond temp data was to show if they provide refugia for fish. Do we want/need to collect more pond temp data? In assessing the effects of the project, Dennis suggested we stay out of the ponds. Unless we haven't collected enough to show that it does provide refugia for cold water species. If the temp. below is warmer than above then you might need to look at the ponds, but otherwise should not need to monitor ponds. Have not had a successful above and below with hobos since 2006, every season one or more hobos have disappeared. Will try again in 2010. Jim would like to get away from measuring ponds. They are not the purpose of the project; however, Clay pointed that the ponds provide a lot for wildlife and because of that they do become a focus point.

Wildlife data- have not gotten the mammal data from DWR yet. Reptiles and amphibians are incidental sightings while doing mammal and bird surveys. Formal post-project amphib surveys were not done. DWR is hoping to collect another year of data. DWR has not written a final report; will not have report until data collection is completed.

Big Meadows Technical Report

Big Meadow Technical Report is finished and will be available on the website.

2. Spanish Creek

Quincy Community Services District recently installed a USGS site upstream of their discharge point. Is currently being rated. Site is online. Kara will send out link. CRM needs to determine if they want to maintain their station or use the QCSD station. CRM has met with USGS when they were putting in the station to let them know that we are planning to work in there as part of our rehabilitation efforts in Spanish Creek. Decided to keep the CRM station to rate with the USGS site for at least a few years.

Meadow Valley Station needed because there is nothing above Wapaunsie Creek. Like one above Silver Creek and just below Green's Flat. Sampling sites above where Silver Creek comes in and at the upper Spanish Ranch bridge. Would it be good to move the equipment from Hwy. 70 bridge to Spanish Ranch bridge? Terry says yes. Temp and turbidity will be good parameters to look at. Bedload measurements would be taken at high flows. Would TSS be beneficial, as a surrogate to turbidity. Turbidity would be a surrogate to stability of system. Sites to look at gravel bottom- Green's Flat and below Kelletts. Can't move Hwy. 70 equipment for a couple of years, but would like to get something set up asap. Quote from Sagraves \$11K for new station. All we need to correlate our site to USGS is gage height, unless bed shifts. To move equipment, est. is \$5K. Terry send Julie Newman email regarding the Section 6 grant, would like to apply for Spanish for yellow-legged frog.

Monitoring still ongoing on Slate. Other gages not being monitored on Wapaunsie, Schneider and Little Schneider. Would like to continue monitoring on Wapaunsie, may need to find someone.

3. Greenhorn Creek

Only have \$2K, looking for way to monitor fish. Fish passage a component of this project. Could DWR help with this? Is there possibly copper from Greenhorn subdivision that is affecting fish populations? Fish passage is definitely part of the problem for decline in fishery over last five years, but would like to look at possible other factors. Tributaries had fish, but above railroad culvert fish numbers marginal. Terry attributes to lack of habitat. 1995 fish data showed not much change pre- and post-project; many limited factors. Dennis offered to pay for a few samples if that is all we need. Highway runs along creek for 8 miles, there must be negative influence from road runoff (MgChloride and MgFlouride). Dennis offered to pay for a winter runoff sample and a summer sample. Would CalTrans help pay for sampling; trying to eliminate them as a cause? How many sample sites- 1) Above highway, just above confluence with Estray Creek; 2) above diversion dam; 3) below railroad loop; 4) bottom of Greenhorn. Need a QAPP? A simple sampling methodology would be adequate.

4. SCI Monitoring Reaches

Going to sample 13 sites. FS will do two- Red Clover and Murdoch. (Total 15) There is a total of 21 sites. Asked DWR to do metals on each site.

Sites dropped- #26, 12, 24, 25, 17 (see map Figure 1 in 2008 monitoring report). Last surveyed in 2003. If we get RAC grant, will be surveyed in 2011. Have we analyzed all the data? Yes, Leslie gave folks notebooks of '03 data; more a summary than analysis. Decided to not take substrate samples unless there was a high bedload event. SCI does include macroinvertebrates. Will determine if bedload samples will be taken when funding is secured.

Dennis suggested looking at SWAMP, if want to use any state money. If doing something different should be a good reason.

5. Electroshocking

See fishing discussion in 2009 Red Clover Monitoring Rpt section

6. DWR Wish List

Collect water quality data for metals on all SCI sites.

Water quality on Greenhorn.

Interim report on fish and birds; Leslie will ask Dave for raw data.

Analysis of bridge (hydraulic assessment) on Caroline East (plan to put in vanes that would act to reduce erosion and raise base level)

Continued O& M at all four stations

Reference reaches at Last Chance

7. Funding- RAC application

Kara is submitting a Monitoring proposal to the RAC for program monitoring, station maintenance, SCI surveys, new station at Taylorsville- one yr. of program monitoring plus SCI- \$66K

8. Burkhard's Report

Came up with same conclusions as CRM's monitoring reports. Is a congruent indicator showing there is a value baseflow.

Terry has talked to Burkhard about looking at this on Smithneck and Loyalton area.

#2- pg. 6 groundwater levels, i.e. elevations

Has sent the Forum a full report. Report given to Monitoring Committee to review is an easier digestable version. Would be helpful to have Burkhard to answer questions. Two reports on two watersheds that say the same thing. We have well data that is similar. Jim suggested upping the ante and using tracers. Possibly on Thompson Valley, if they put in sheet piles; CE if there is no effect on arch sites; eval of sig on sites that may be affected. Jim asked Brian to send him the full report; is on the Forum website.