

Meeting Notes- Upper Sacramento River Monitoring Project Work Team
March 19, 2009. 10:00am -3:00pm.

Location: U.S. Fish and Wildlife Service Office, Tyler Road, Red Bluff, CA

Meeting was hosted by Bruce Oppenheim, National Marine Fisheries Service.

Attendees:

Name	Organization	E-mail
Naseem Alston	NMFS- Sacramento	Naseem.Alston@noaa.gov
Colleen Harvey-Arrison	DFG	charvey@dfg.gov
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Tim Hamaker	CH2MHill- Red Bluff	Tim.Hamaker@ch2m.com
Jack Ingram	USFWS-Stockton	jack_ingram@fws.gov
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Tom Kisanuki	USFWS- Red Bluff	
Aric Lester	DWR – Red Bluff	
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Jess Newton	USFWS- Red Bluff	jess_newton@fws.gov
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Don Reck	USBR	
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Jim Smith	USFWS- Red Bluff	
Nancy Snodgrass	DWR-ND	
Mike Thomas	UC-Davis	mjthomas@ucdavis.edu
Keenan True	USFWS- Red Bluff	
Sam Williamson	USGS – Fort Collins, CO	
Mike Urkov	Newfields Consulting	

Via Webex:

Stacey Cepello	DWR - Oroville
Ryan Foote	USFS
Doug Hampton	NMFS – Sacramento
John Hannon	USBR – Sacramento
Roxanna Hinzman	USFWS
Joshua Isreal	UCD
Duane Massa	DFG
Tracy McReynolds	DFG
Eric See	DWR - Oroville

MONITORING UPDATES

1) Clear Creek monitoring and restoration (*Matt Brown USFWS*)

Spawning area mapping for fall Chinook was the highest areal amount of spawning since survey started in 2000. AM largest areal amount of spawning due to large increase in spawning in stream channel restoration project Phase 3B section. Our prediction that it would provide 15% additional spawning was right on. and we were right on in our estimate- 16% of the spawning in the creek occurred in this reach in 2008 but only 1% in the past. Fall chinook escapement was about average which is great considering the rest of the CV was down to 20% of the average since 1992.

In Clear Creek adult salmonid monitoring things are looking up, as spring Chinook, late fall Chinook and Steelhead numbers were highest yet, even though surveys for the later were only half over. Juvenile monitoring using 2 rotary screw traps includes the usual mark recapture using Bismarck Brown and fin clips. We are considering performing efficiency trials with steelhead, which have been too rare in the past to conduct trials. No one in the Central Valley is doing steelhead trials. The Sacramento Field Office IFIM group should be done with Clear Creek field work this week.

Funding for most Clear Creek monitoring was suspended on Dec 17, but CVPIA dollars were available to continue for a short time. The Red Bluff Fish and Wildlife Office is looking for \$1.4 million to cover our Clear Creek, Battle Creek and mainstem Sacramento River monitoring. We were in the process of hiring 5 field crew members when the freeze came down so we started out short handed and a few people have left for other jobs. Geomorphic, riparian vegetation and bird monitoring was halted by the State bond freeze. Other bond freeze victims/projects included large scale revegetation of phase 3B of stream channel restoration and the Western Shasta Resource Conservation District had to get rid of its plant stock.

CVPIA is funding 5 Clear Creek gravel projects, 4 of which are new this year. One will involve mixing gravel with water and shooting the slurry through a pipe the bottom of a cliff to create a spawning riffle. The BLM will probably get stimulus package money for gravel, erosion control and invasive plant eradication.

2) Feather River (*Jason Kindrop DWR*)

3) *George Edwards*, DFG, working on fish passage and finishing up Steelhead Monitoring Plan

4) Red Bluff Research Pumping Plant (*Richard Corwin, USBR*). During the 2008 entrainment monitoring season, 11,860 fish representing 17 species and 8 families were captured. 76% of the species captured were native to California. Sacramento sucker was the most common species entrained with 93.2% (11,059) of the total catch. The percentage of the total catch for Chinook salmon captured was 1.7% (207). The percentage of Chinook salmon capture for each of the four runs of Chinook salmon was

approximately 56.5% (117) for fall, 8.7% (18) for late-fall, 34.8% (72) for winter, and 0.0% (0) for spring run. The percentage of the total catch for steelhead/rainbow trout captured was >0.1% (1), no adipose fin clip. The second most common native species to be entrained was prickly sculpin with 2.5% (298) of the total catch followed by threespine stickleback at 1.3% (159), riffle sculpin at 0.5% (56), lamprey ammocoete at 0.2% (23), Pacific lamprey at 0.1% (15), Tule perch at 0.1% (11), California roach at 0.1% (9), and Sacramento pikeminnow at 0.1% (9). The most common introduced species captured was green sunfish at less than 0.1% (3) of the total catch. The percentage of the total catch for each of the other species, native and introduced, was less than 0.1%, with a combined percentage of 0.1% (10).

In 2009, entrainment monitoring will be conducted as indicated by the NMFS Biological Opinion for the Red Bluff Research Pumping plant.

Green sturgeon studies 2009:

Reclamation and UC-Davis biologist will capture and acoustically-tag 20 adult green sturgeon in the vicinity of the RBDD. Monitoring and tracking the spatial and temporal movements of the acoustically-tagged sturgeon will be conducted weekly utilizing a mobile tracking receiver.

A Vemco VR2-VPS system that triangulates acoustically-tagged adult sturgeon positions within the river will be deployed upstream of the RBDD once the gates are lowered on June 15, 2009. The VPS system will give us an indication on which gate that any acoustically-tagged adult sturgeons pass under on their downstream migration. Possible adult sturgeon habitat that is greater than 5 meters deep will be surveyed in reaches of the river from Keswick Dam downstream to Irvin Finch Boat Ramp that was not conducted in 2008.

4) *Josh Isreal*, (UCD by phone):

We analyzed the co-occurrence of adult green sturgeon tagged by UCD and BOR and the presence of eggs and larvae at three sites sampled by USFWS. We observed green sturgeon adults and larvae six out of nine times eggs were collected at these three sites. Eggs were collected at two sites on three occasions without tagged adults being in the areas within 24 hours prior to egg collection. On three of the occasions eggs and adults were observed together within 24 hours, more than two adults were observed at these sites.

5) Battle Creek (*Jess Newton*, USFWS) – continuing w/redd surveys, RST, juvenile abundance estimates. In 2008 the spring-run estimates was 105 adults (lowest on record),

- CNFH new ladder and barrier weir prevents fish passing the weir, controls hatchery influence upstream. Radio-telemetry study to evaluate fish ladder passage to fine tune flows.
- The restoration project will start this summer. New this year is a Fish Community Study on the NF and SF to compare changes in fish distribution over time, monitoring for the restoration project (pre & post project).

- Also, doing paired trials of natural and wild juveniles for RST efficiency tests.

1) Adult Escapement: The Red Bluff Fish and Wildlife Office continued to monitor naturally-produced spring Chinook salmon and steelhead at the Coleman National Fish Hatchery barrier weir fish ladder. For 2008, the total escapement for natural-origin Chinook (maximum potential spring run) was 105 (lowest on record, the 14-year average is 134). The Cohort Replacement Rate was > 1.0 indicating the population is replacing itself. For the winter of 2007-2008, total escapement of natural-origin steelhead was 279 (the 8-year average is 383).

2) Spawning-ground surveys: We continued snorkel surveys of spring Chinook spawning grounds in 2008. A total of 40 spring Chinook reds were counted.

3) Juvenile Salmonid Monitoring: We continued to estimate total passage (emigration) of juvenile salmonids using a rotary-screw trap located at Coleman National Fish Hatchery. For the 2007-2008 monitoring season, the total passage estimates were 74,823 for BY 2007 spring Chinook, and 1,150 for BY 2008 steelhead/rainbow trout.

New monitoring investigations on Battle Creek included a Fish Community Study and a radio telemetry tracking study. The primary objective of the Community Study was to assess the presence and spatial distribution of ALL fish species in Battle Creek prior to implementation of Battle Creek Salmon and Steelhead Restoration Program. The \$170 million BC Restoration Project begins this year with removal of Wildcat Dam. The Community Study will be repeated several years following implementation of the Restoration Project to determine changes in species composition and their spatial distribution. The objective of the radio telemetry tracking study was to evaluate the effectiveness of the new fish ladder at Coleman NFH. The telemetry study involved tagging about 75 adult hatchery late-fall Chinook with radio transmitters, re-releasing them downstream of the new fish ladder, and tracking the speed at which they located the fish ladder entrance and moved through the fish ladder. The telemetry study will be repeated next year.

6) RBDD Rotary Screw Trap Update (*Bill Poytress, FWS*).

Calfed funding for the project was frozen in December and the project is releasing employees as their contract end dates come up. Four traps are currently sampling 7 days per week and this will continue until staff shortages reach a critical limit. Sampling will likely be reduced in terms of number of traps sampled or day fished per week. Funding is being sought through various sources, but no sampling plans or dates are firm. The Calfed contract is set to expire June 30, 2009, although an amendment to carry the project was approved in November. The amendment was never acted upon prior to the funding freeze.

Overall, winter-run juvenile production estimates for the 2008 brood year are the lowest of the recent 7 years of data collection. Fall run production is greatly reduced from previous years as well. No juvenile sturgeon were captured in the summer of 2008 (the first time in 13 years of sampling). Production of real-time biweekly reports is occurring to the extent possible and now include 90% confidence intervals for the weekly estimates as well as cumulative confidence intervals for annual estimates. Email bill_poytress@fws.gov if you wish to be added to the distribution list.

USFWS/USBR Green Sturgeon Studies: USFWS plans to start 2009 green sturgeon egg sampling season at the end of March and continue through July. The plan is to sample 6 sites, 3 above RBDD and 3 below (one at RBDD). The final report of the 2008 data is available, email bill_poytress@fws.gov, if you would like an e-copy. Larval sampling will also be conducted starting in early May.

7) Yuba River (*Duane Massa*, DFG, by email after the meeting).

The Yuba has quite a lot going on at the moment funded through the Yuba Accord. Along with normal monitoring activities (out-migrant trapping, escapement surveys, redd surveys), we also are implementing a juvenile habitat survey, a spring-run salmon acoustic tracking and genetics project, temperature monitoring, flow/stage monitoring, and a Lidar mapping of the entire lower river; all made possible by the Yuba River Accord. Additionally, we have broken ground on some facilities upgrades for the video graphic monitoring (Vaki River Watchers) at Daguerre Dam. Upgrades are to include new housing facilities, additional solar power production and storage. For more info see Yuba Accord presentation at AFS next month.

8) Clear, Mill, Deer and Antelope Creeks adult escapement (*Colleen Harvey*, DFG).

A total of 7,677 fall Chinook were estimated in Clear Creek in 2008. In addition, 25 CWT's were recovered and scales were collected for the Scale Aging Project. USFWS assists with the carcass and scale collection efforts on Clear Creek.

A total of 166 fall Chinook were estimated on Mill Creek, and 194 fall Chinook on Deer Creek. Although access conditions into these tributaries were good, the low numbers reflect overall returns to the Central Valley in 2008. Although bond funding for the fall carcass surveys expires in June 2009, these surveys are included in the approved Bay Delta Enhancement Stamp funding for the Upper Sacramento Basin for next year. A total of 140 adult spring Chinook were counted on Deer Creek during the annual snorkel survey. In addition, snorkel surveys are made in April and May below diversion dams in lower Deer Creek. No migration impediments at dams or critical riffles were present in the spring of 2009. In Mill Creek a total of 362 spring Chinook were estimated from a redd expansion survey. A combination video/DIDSON acoustic survey in the spring, estimated 382 adult fish entering Mill Creek.

Year 2008 was the final year of a 4-year study to investigate adult fish passage in lower Mill Creek with the objective of determining optimal bypass/attraction flows, and optimal timing for pulse flows using a Water Exchange Program. A final report is in progress.

An estimated 2 adult spring Chinook spawned in Antelope Creek in 2008 based on a redd survey. Funding for adult spring Chinook escapement surveys, and spring passage surveys ends in June 2009. No funding source to continue these surveys has been identified at this time. All snorkel surveys are a one-day, one-pass survey, and the Mill redd survey takes approximately 2 weeks of labor.

Juvenile outmigrant monitoring is continuing on Mill and Deer Creeks, primarily to signal the real-time timing and size at outmigration to protect spring run juveniles entering the lower Sacramento River and Delta. In addition, spring Chinook rearing surveys are made in the headwaters of each of these tributaries to signal the timing of emergence and the size range of known spring-run juveniles. This DWR and USBR funded project is scheduled to continue next year.

- 1) Doug Killam reported on the 2007 Escapement Summary into Selected Waterways of the Upper Sacramento River Basin.
- 2) Colleen Harvey-Arrison, DFG is completing a 4 year study to correlate creek flows, critical riffle depth and fish passage in Mill Creek. The goal is to refine fish bypass flows, pulse flow events and critical riffle modification for effective fish passage for spring- and fall-run Chinook.
- 3) Bill Poytress- On the mainstem a juvenile sturgeon egg and larval study (night larval sampling 40 river miles above and below the RBDD) will begin with UC Davis and Reclamation; waiting on permits. The objective of the study is to determine the upper extent of spawning for green sturgeon, with deep water aggregation surveys and black and white video technology; trying to determine how many sturgeon are holding in areas, based on acoustic-tagged fish.
- 4) Erin Chappell, DWR, reported on delta salvage
- 5) Kurt Brown, FWS, Coleman National Fish Hatchery, reported 10,600 fall-run adults handled, 5,800 late-fall-run, and 2000 steelhead

PRESENTATIONS

- 1) Doug Killam (DFG) – Monitoring Programs impacted by State Budget Cuts
- 2) Richard Corwin (USBR) – Green Sturgeon Mobile tracking at RBDD

- 3) Bill Poytress (USFWS) – 2008 Green Sturgeon Egg and Spawning Habitat Assessment
- 4) Mike Urhov (Newfields) – Status of interim pumping at RBDD
- 6) Ryan Luster (TNC) – Sacramento River Ecological Flows Tool (SacEFT)
- 7) Chris Eilers – Central Valley Steelhead Monitoring Plan
- 8) Bruce Oppenheim (NMFS) – OCAP Biological Opinion and Upstream Monitoring Requirements
- 9) Erin Chappell (DWR) – Background and Status of the Habitat Expansion Agreement

Next meeting was tentatively agreed upon to be on March 18, 2010, at the FWS Red Bluff Field Office and will be organized by DFG.