

**2014 Upper Sacramento River Monitoring Project Work Team**  
March 26, 2014 10:00 a.m. to 4:00 p.m.  
U.S. Fish and Wildlife Service, Red Bluff Fish and Wildlife Office  
10950 Tyler Road, Red Bluff, CA 96080 (530) 527-3043

**Notes 5/6/14**

Welcome 10:00-10:10

House Rules

Participant/Agency/Individual Updates 10:10-11:10

Round-robin Introductions and Updates (including drought impacts)

➤ Bruce Oppenheim (NOAA Fisheries, California Central Valley Area Office) – The winter-run juvenile production estimate (JPE) methodology was different this year. It was based on acoustic tag studies and not coded-wire tags, like it has been in the past. The acoustic data gives in-reach survival and is hopefully a more accurate estimate. The JPE predicts 1.2 million juvenile winter-run will enter the Delta. The juvenile winter-run incidental take limit at the South Delta state (SWP) and federal (CVP) pumps is 23,000. To date Reclamation and DWR have taken 299 winter-run (6 of which are hatchery fish) at the pumps. This may be due to low pumping rates this year (1900 cfs) and low levels in the river. There has also been a late migration this year as we are just now seeing fish in the Delta. Sacramento River flow at Freeport is 7000 cfs and Delta outflow is 5600 cfs.

Bruce is also working on the contingency plan for winter-run, a winter-run project work team sub-group. One of the actions includes an increase in production at Livingston Stone National Fish Hatchery. Originally the project work team predicted a loss of this year's entire winter-run cohort given the February forecast and Reclamation not being able to meet temperature requirement downstream of Keswick, but it doesn't seem as bad with latest storage and temperature forecasts.

➤ Brycen Swart (NOAA Fisheries, California Central Valley Area Office) – Gave presentation on 2013 Sac River Temp Task Group Shasta Ops

➤ Matt Brown (USFWS, Red Bluff Office) – Clear Creek and Battle Creek are looking pretty good for fish numbers considering the drought situation. USFWS had some difficulties monitoring this year with the budget sequestration, hiring freeze, and lack of staff. DFW pitched in and helped operate weir. Reclamation was able to maintain the required flows on Clear Creek even given the drought conditions. Matt attributes the good dataset from Clear Creek as evidence to the water users on the need for flows for the salmonids. Hope to have pulse flows to attract spring-run this year. Snorkel surveys and video monitoring from WY 2013 showed that the pulse flow was able to attract fish in June, which they hadn't seen before. An increased pulse flow also leads to an increase in turbidity which may have attracted the fish. It was also the 2<sup>nd</sup> year of video monitoring for adults; big numbers of fall-

run and a record number of spring-run this year. Higher number of steelhead redds than in recent surveys. This was also reflected in the rotary screw trap data as well.

It was similar year for Battle Creek. High numbers of spring-run Chinook salmon (both adults and juveniles) as indicated by the screw trap data. The crew samples every hour; last year for fall-run, 80% emigrated between 8pm and midnight. Spring-run were measured this year over the same period of time, but they also observed a second peak of emigration from 3-6am. Timing differed slightly depending on watershed.

Channel maintenance flow planning feasibility study was done on Clear Creek this year. USFWS finalized the monitoring plan for next 10 years with Stillwater Sciences. They hope to implement the plan next year.

There are concerns with barriers this year on Battle Creek. They are debating whether to modify, blow up, or provide high flows for passage.

USFWS are also undergoing a large genetic analysis of Battle and Clear Creeks. Samples collected over past 14 years to be analyzed by Abernathy Lab (WA). There was no genetic baseline for spring-run. They are questioning whether to use adults or juveniles and figure that juveniles might better represent what is spawning in creek. USFWS is also getting DWR to operate stream gauges this year.

Doug Killam (CDFW, Redding Office) – Gave a presentation on 2013 Upper Sacramento River and Trib Escapements

- Brian Ellrot (NOAA, California Central Valley Area Office) – Gave a presentation on the finalized NMFS Central Valley Salmon and Steelhead Recovery Plan
- Tricia Parker (USFWS, Anadromous Fish Restoration Program)
- Mike Berry (CDWR)
- Amy Lyons (CDWR) – Gave a presentation on the Kopta Slough Habitat Restoration
- Robert Chase (BOR) – Tagged 4 adult green sturgeon in the Sacramento River that were headed upstream in late February; two above RBDD and two below (near Antelope Creek). Last year they tagged 14 adults. They are waiting for rest of the adult green sturgeon to show up for spring spawning and they are heading up now as we speak.
- Kevin Niemela (USFWS, Red Bluff Office, Hatchery Evaluation) – The winter-run Chinook salmon Radio Tagging Study will not be carried out this year due to increased broodstock collection activities at LSNFH.
- Jim Smith (USFWS, Red Bluff Office) – Jim has been working on a lot of drought related issues lately. Shasta Reservoir cold water storage is important for winter-run and so far it is not looking good this year. He is working with others from the fish agencies on the winter-run drought contingency plan. Actions include expanding hatchery production at Livingston Stone National Fish Hatchery. Normally the hatchery spawns a maximum of 120 adults and this year they are going to increase that to 400 adults. Although there are sufficient holding

tanks at the hatchery for these additional adults, a portion of the juveniles produced from these adults (400,000) will need to be released or relocated as unfed fry due to limited space for juvenile rearing at the hatchery. Temperatures are forecasted to be warm at the hatchery and there is the potential to lose the water intake from Shasta Reservoir due to low water levels. Folks are working on getting an alternative intake pipe to pump water from further down in the reservoir and getting additional chillers to keep water temperatures cold. Also, working on a relocation program to take fish trapped and rescued at the Colusa Basin Drainage Canal to the hatchery to be used as broodstock. Clear Creek and Battle Creek have showed some promise should adults or juveniles need to be relocated in-river. There will also be an enhanced temperature monitoring program and egg survival monitoring on the upper Sacramento River.

Hatchery releases from Coleman – In-river conditions looked bad due to the drought so there was the decision to truck the fall-run hatchery fish and release them at Rio Vista. USFWS trucked hatchery fish during the last drought for three years from 88-91 and released the fish at Benicia. Straying rates went up high due to this practice and in-river survival was better. As a result of these consequences, USFWS came up with triggers to determine whether to truck fish. A couple days ago, USFWS trucked the first batch of hatchery fish to Rio Vista. They are monitoring conditions to assess how well they are doing. It takes 3 weeks for the fish to leave the system if released in Battle Creek.

- Adam Henderson (CDWR FESRO) – CVPIA - Public draft out this year for CVFFP program. Restoration actions include reconnecting floodplains, revetment, setback levees, and shaded riparian habitat. Bank Swallow surveys take place June 10-12 from Anderson Cottonwood Irrigation District (ACID) to Verona. Burrows numbers were down 15% last year. Attempts will be made to distinguish new burrows from carry-over burrows (from previous year(s))
- David Woodbury (NOAA, California Coastal Area Office) – Gave presentation on the effects of water temperature on growth of larval green sturgeon.
- Jonathan Bishop (NOAA, California Coastal Area Office) – Works with David Woodbury on Green Sturgeon recovery plan.
- Jason Kindopp (DWR, Feather River Program) – Feather River is at minimum flows (800 cfs) and probably will continue that way for the rest of the water year. The temperature control device is being repaired right now for summer. It has been non-operational since 2009. Usually they can meet temperature requirements with shutter flows but likely not possible this year. There are potential fish passage issues this year (Sunset Pumps) with the minimum flows; they are working with DFW to resolve the issue. There was 8300 yards of gravel augmentation in June, July, August.

They have been talking about taking all 2 million fry from Feather River Fish Hatchery to the San Francisco Bay (typically they release 1 million in-river, 1 million in Bay). Conditions are looking better. Hatchery release to include 300 fish with JSAT tags within the release group. Overall, there were good numbers of returning Chinook salmon this past year.

Tagged 4 adult green sturgeon; two hung around until the first pulse flows (in February) and then left. One was last tracked to the Bear River, and then signal was lost. Assumed to possibly be poached in Bear River. Tagged 4 white sturgeon as well. Green Sturgeon egg and larval surveys are starting now.

- Amanda Cranford (NOAA, California Central Valley Area Office)
- Randy Baxter (CDFW, IEP Management Team) – Responding to drought related fish monitoring surveys. DWR and BOR requested variances for permit conditions for Delta water quality objectives (Temp. Urgency Change Petition). Daily monitoring is occurring at Jersey Point on San Joaquin River for delta smelt and juvenile salmonids take at pumps. Monitoring is also occurring on the lower Sacramento River to track salmonid passage for the opening and closing of the Delta Cross Channel (the DCC is currently closed). Drought monitoring team meetings (RT DOT - management level) are to go through June 2014. Kodiak trawling 3 days a week (up to 7 days per week when operating under TUC petition), midwater trawling 2 days a week starting in April and beach seining year-round.
- Tom Kisinuki (BOR) – Working on winter-run drought contingency plan and funding associated with infrastructure needs at LSNFH for increased broodstock collection. Working with John Hannon on NEPA/CEQA planning for new gravel injection sites on upper Sacramento River, creating new side channels, and modify existing side channels. Clear Creek CVPIA – B-12 Program to include gravel injection; five sites are proposed, with a total tonnage of 7,700. Reclamation’s Hydrotechnicians are monitoring water quality parameters at a number of fixed sites in the Sacramento River, Whiskeytown Lake, Keswick Lake, and Shasta Lake.
- Bob Null (USFWS, Red Bluff Office, Hatchery Evaluation)
- Steve Zueg (Cramer Fish Sciences) – Gave presentation on JSAT (Juvenile Salmon Acoustic Telemetry).
- Dan Kratville (CDFW, Fisheries Branch) – Alice Low replacement
- Jon Nelson (CDFW, Statewide steelhead coordinator) – Steelhead. Rescue scenarios. Regulation changes potentially for passage issues, low flows. Developing monitoring plan for CV steelhead. Hope to be implemented in 2016. Looking for funding from DWR and BOR.
- Clint Garman (CDFW, North Central Region II) – Butte Creek saw a robust return of spring-run, 15,886 adult spring-run returning to Butte Creek, and 307,000 juveniles estimated in the screw trap. This year they are using a Vaki river-watcher at Durham-Mutual and have counted 1500 spring-run so far this year. There are issues with fish passage this year due to low flows. There is about 20 days of cold water pool at 30 cfs left. PG&E is requesting to hold back water in Philbrook Reservoir to conserve water. Also there were 915 pre-spawn mortalities last year.

- Diane Coulon (CDFW, North Central Region II) – Operates Tisdale and Moulton Weir RST. Spring, winter, and fall-run showed up in numbers about a month later usual. In total there were 62,000 this year. Last highest was 2010-11: 4,826, 2011-12: 4,536, 2012-13: 8,637.
- Colin Purdy (CDFW, Water Branch) – One thing to add regarding the drought, CDWR is proposing to put in barriers in Delta to consolidate flows and to control salinity intrusion into Delta.
- Chris McKibbin (CDFW, North Central Region II) – Operates KLRST. They caught 60,000 juvenile fish, mostly fall-run. Winter-run were pushed back several months compared to typical years. Also they stopped monitoring at night to lessen handling and to not exceed their take permit. There are also monitoring sites at Wallace Weir and Colusa Basin Drain (CBD). They have not seen any adult salmon alive at CBD fyke trap, however they've seen 2 dead (one fall-run and one spring-run). At Wallace Weir they have removed 7 adult salmon (3 winter, spring, and fall-run) and 1 white sturgeon. Tom Schroyer will give a presentation on this.
- Curtis Milliron (CDFW)
- George Edwards (CDFW, Fish Passage Program) – Looking for unscreened diversion on Sacramento River. Surveying with Tricia Bratcher between RBDD and Redding.
- Rob Irwin (Sacramento River Conservation Area Forum) – They have implemented a Safe Harbor Agreement from Verona to Keswick Dam for valley elderberry longhorn beetle and giant garter snake. They are also participating in ecosystem services survey, public outreach, and Kopta Slough restoration among other things.
- Gary Diridon (BLM) – Sacramento River tributaries are not doing too well; Paynes Creek has a lot of mortalities. BLM is working with the Water Quality Control Board to reduce sediment going into the rivers. Also, working on Clear Creek property acquisitions and Jellys Ferry breach site and riparian restoration site. Working on trespassing issues - prosecuting illegal water diversions (Trinity, Sac, Clear Ck). Using additional water to flood up for refuge (20-year wheeling agreement). Drought policy guidelines being worked on.
- Anne Bolick (USFWS) – Dealing with hatchery related issues at Coleman. There is high density and they are worried about water temperatures. They are also working with veterinarians to prevent disease to winter-run as there is a Columnaris issue at Livingston Stone. Increased production this year may lead to an increase in potential diseases so keeping a close eye on things and looking into antibiotics, etc.
- Laura Mahoney (USFWS, Red Bluff Office, Hatchery Evaluation)
- Laura Earley (USFWS, Red Bluff Office) – Spring-run have started moving into Battle Creek, so far, they are a little bit early compared to other years.
- Bill Poytress (USFWS, Red Bluff Office) – RBDD juvenile emigration numbers have been up; the most fall-run in many years. This year was short on numbers for winter-run; the government shutdown (17 days) likely an issue due to missed monitoring. Difficult to

extrapolate missing days. They counted 440 juvenile green sturgeon in 2013. Bill is working on a report analyzing and summarizing last 11 years of juvenile monitoring at RBDD. Plans to try methods to sample juvenile green sturgeon in the late summer after completing larval captures in RBDD screw traps. Submitted funding request for additional green sturgeon monitoring due to drought conditions.

- Jim Earley (USFWS, Red Bluff Office) – 28,000 juveniles captured in the upper RST on Clear Creek. Battle Creek is experiencing similar type numbers with 30% of the run still left. Thanks for Section 10 permitting folks.
- Matt Johnson (CDFW, Redding Office) – Works on Clear, Mill, Deer, and Antelope Cks and will give presentation updates. Mill, Deer, and Antelope creeks all have record setting baseline flows (low) and recording setting diversions from settlement contractors with adjudicated water rights. He is working with diverters to keep water in the stream and on rescue needs.
- Josh Gruber (USFWS) – Bi-weekly Report on RBDD juvenile monitoring activities due out later today.
- Brenda Olson (USFWS) –
- Jack Hamby (BLM)
- Andrew Jensen (CDFW, Redding Office)
- Arnold Ammann (NOAA, Southwest Fisheries Science Center)
- Sean Hayes (NOAA, Southwest Fisheries Science Center) – Gave presentation on JSAT tagging projects in the Sacramento River basin
- Doug Threlhoff (USFWS, Sacramento FWO) – Leads American River RST monitoring
- Lucas Rossmertz (Sac Preservation Trust) – Blue Trail Program with American Rivers. Working on public outreach and education on restoration work and drought impacts.
- Dave Vogel (Natural Resources Sciences)
- Jason Hassrick (NOAA, Southwest Fisheries Science Center)

## Presentations

11:10-11:30 Brycen Swart, NOAA; 2013 Sac River Temp Task Group Shasta Ops and Fisheries Summary

11:35-12:05 Doug Killam and Matt Johnson, CDFW; 2013 Upper Sacramento River and Trib Escapements

Lunch 12:05-1:05pm

1:05-1:25 Sean Hayes, NOAA; JSATS tagging efforts in Mill Creek and other associated stocks/basins

1:30-1:50 Steve Zeug, Cramer Fish Sciences; Effect of release timing on survival of JSATS-tagged Hatchery fall run Chinook salmon from Battle Creek to the Golden Gate Bridge.

1:55-2:15 Tom Schroyer, CDFW; winter-run Chinook salmon in the Colusa Basin Drain

2:20-2:40 David Woodbury, NOAA; Is cool water temperature in the upper Sacramento River limiting growth of larval green sturgeon?

Break 2:40-2:50

2:50-3:10 Amy Lyons, CDWR; Habitat Restoration Kopta Slough - located upstream of Woodson Bridge

3:15-3:35 Brian Ellrott, NOAA; Summary of the finalized 2014 Central Valley Salmon and Steelhead Recovery Plan

Set 2015 Meeting 3:35-4:00

Date and Hosting Agency

Thanks to Naseem and the presenters. CDFW is next hosting agency. Wednesday, March 25<sup>th</sup>, 2015. Notes and presentation on USFWS website.