

Stanislaus River Fisheries Flow Discussion

Date: November 29, 2012
Time: 9:00am-12:00pm
Location: U.S. Bureau of Reclamation
801 I Street, Suite 140
Bay-Delta Office Conference Room
Call-in information: **(303) 445-3916**, code **1111**

Topics: Spring fisheries flows on the Stanislaus River

Agenda:

1. Juvenile rearing flows (Jan-April)
2. Floodplain inundation flows (Winter or Spring)
3. Channel forming and maintenance flows (after March 1)
4. Outmigration flows (April-May)
5. Late spring flows (June-July)

Conference #:(303) 445-3916; Password: 1111

Attendees:

J. D. Wikert - FWS	Andrea Fuller - FISHBIO	Ben Nelson - USBR
Tim Heyne - CDFG	Bill Parris - OID	Monica Gutierrez - NMFS
Patti Clinton - USBR	Karna Harrigfeld - SEWD	David van Rijn - USBR
Drew Lessard - USBR	Kristin White - USBR	Traci Michel - USBR
Richard Stevenson - USBR	Janice Pinero - USBR	John Hannon - USBR
Paul Fujitani - USBR	Rachel Johnson - USBR	Tom Boardman - SLDMWA
Patti Idlof - USBR	Rhonda Reed - NMFS	Melissa Vignau - USBR (ph)
Roger Guinee - FWS	Mark Tompkins - Newfields	Tom Fitzhugh - USBR (ph)
Barbara Byrne - NMFS	Julie Zimmerman - FWS	Gwen Buchholz - CH2M (ph)
Sierra Franks - NMFS	Garwin Yip - NMFS	Jeff Shields - SSJID (ph)

Handout Explanation

Posted documents include previously discussed and referenced material (Bowen 2009, Kondolf 2001, FISHBIO 2012, Aceituno 1993, USBR 2012) as well as the handout Stanislaus River Flows and Year-type by Month excerpt from the 2011 SOG Report.

Meeting Notes

OID/SSJID began the discussion by stating that the original goal of the meeting was to have conversations and discussions with everyone on identifying the flows that are necessary for fish in the Stanislaus River. The intention was not to have everyone simply listen to the proposal from OID/SSJID.

- It was agreed at the last meeting that the range in base flows for October through January were in close agreement between the Districts' proposal and NMFS RPA, which ranged between 200-400 cfs.
- Fall attraction flows and temperatures are still issues without consensus.

Discussion began on factors relating to returns, such as temperature, flows in previous years, hatchery numbers, and ocean conditions.

January-February Flows

- The base flow proposals for January and February are 200-300 cfs (Districts) and 250-400 cfs (NMFS RPA). The January and February peaks in the NMFS RPA are 400-600 cfs depending on the year type. NMFS stated that although the RPAs have a specific date for pulse implementation, they prefer to coordinate the peaks with an actual rain event and work within the SOG group to discuss these opportunities. These peaks are trying to recreate the historical pattern (not volume) of the unimpaired hydrograph. They are not intended to create out-migrating flows, but to increase nutrients and restore natural signals. USFWS stated that there is agreement among biologists that variability in flows is helpful to fish.
- Discussion moved towards sediment transport under modified conditions (human activity/development) without reservoir releases. CDFG stated that run-off downstream of New Melones can be high and that this water is high in sediment load. Without reservoir releases, this sediment may be deposited in a localized area.
- NMFS and USBR stated that the flows called for in the RPA during Jan-Feb are met as minimum releases from Goodwin Dam to meet the pulse-flows (and do not include downstream run-off to contribute to the pulse flows).
- OID/SSJID stated that they would like to see monitoring on the Stanislaus River (real-time analysis of pulse events) to test the benefits of fall/winter pulse flows to steelhead.

O. mykiss

- The anadromy of *Oncorhynchus mykiss* as a primary issue in the Stanislaus River was identified.
- There was a discussion about our lack of understanding of the status of the rainbow trout (resident) population (perhaps a healthy and stable population) and a need for a better monitoring of the steelhead (anadromous) specific population numbers. There was a common understanding that monitoring the resident and anadromous populations would be the primary way to evaluate fish responses to RPA actions.

Several ongoing studies were discussed including data FISHBIO has of *O. mykiss* from their snorkel surveys (~15000 fish).

- NMFS has a list of all the research efforts on *O. mykiss* that they have issued permits for on the Stanislaus River and offered to bring the list to the next meeting. These studies may provide greater understanding and insights to the stability and status of *O. mykiss* and collaborative opportunities.

Fry Habitat/Floodplain Restoration

- The Districts' proposal for January through March is 150-350 cfs. FISHBIO analysis shows that lower flows provide the greatest fry habitat. Habitat isn't really lost as the flows increase, but it's not increasing.
- FWS indicated that their River 2D model showed a point of inundation of floodplain around 1250cfs at Orange Blossom and Knights Ferry. They discussed their current efforts on expanding the River 2D model at flows >3000 cfs to assess habitat availability at these higher flows on the lower Stanislaus River. Early results suggested 1500 cfs produced 6.6 AC of wetted area and 1750 cfs produced 15.3 AC of wetted area. Given that Honolulu Bar is only 2.2 AC of restored floodplain, we would need significant floodplain restoration to match the floodplain inundation habitat provided by flow increases. It was unknown when the study would be completed.
- FISHBIO stated that the area that is shown to have habitat potential in the USFWS River 2D model isn't really an ideal rearing location and was interested in evaluating USFWS future model results.
- NMFS stated that studies for habitat suitability based on fish observations are based on the fish telling us where they like to be only part of the time. The floodplain habitat isn't only for where the fish like to be but it also provides other benefits such as developing a food source, holding sediment, distributing nutrients, etc. FWS stated that floodplain habitat provides short "rest stops" in the migratory corridor to escape predation.
- NMFS stated that high pulse flows in the spring were intended as multi-objective, including floodplain habitat and that there weren't floodplain-specific inundation flows specified in the RPA.

Channel forming flows and sediment modeling

- There was a discussion on the intent of channel-forming flows (3000-5000 cfs) in the RPA. NMFS indicated that these flows are intended to shape the river. They explained that channel forming flows are responsible for making the river look the way it does. It helps with keeping the spawning gravel fresh. The out-of-bank flows in the river shape the edge of the river.
- OID/SSJID invited a geomorphologist and sediment transport engineer with experience on the Stanislaus River to participate in the meeting. OID/SSJID is interested in updating Aceituno's analysis for sediment transport to determine what the incipient energy is for various particles and therefore what flow is required to move that particle.

OID/SSJID requested access to the Stanislaus River SRH2D model to model sediment transport. USBR agreed to look into allowing the use of SRH2D Model.

- OID/SSJID stated that they wanted to model this to determine whether or not the RPA flows will achieve NMFS' desired outcome. There was a discussion on working in partnership to identify initial objectives, to analyze mobilizing fine sediments out of the gravel, develop a better understanding of sediment transport on the Stanislaus, and create a map of when particles move and how far they go. Discussion continued on the priorities, goals, and what modeling could accomplish.
- USFWS showed support for this modeling effort and indicated three big benefits: it will show the best place for gravel, give a total sediment budget for the river, and give us local sediment budgets for the restored areas.
- USBR asked the extent to which the channel forming flows could be matched up with flood-release flows vs. prescribed for particular water-years to provide the same fish/river benefits. OID/SSJID indicated that with RPA flows the reservoir would be in less-frequent flood-control release than historical reservoir operations. NMFS added that depending on the results of the sediment transport modeling, perhaps considering even higher flows (~6,000 cfs) during flood release for a shorter duration of time would be an action worth discussing for channel forming benefits to the river.

Next Steps

The next meeting will be held December 12th, to discuss topics from this meeting's agenda that were not covered (March through June) as well as summer temperatures.