

State Water Resources Control Board, Cachuma Project Hearing
Jean Baldrige, Cardno ENTRIX, Surrebuttal Witness, Cachuma Member Units
to NMFS Darren Brumback's Testimony

QUALIFICATION:

- M.Sc., in fishery science
- More than 30 years of experience with anadromous salmonids
- Conducted fishery investigations on the Santa Ynez River since 1990
- Author of the Cachuma Project Biological Assessment
- Project Manager for the Lower Santa Ynez River Management Plan
- Member of the Adaptive Management Committee for the Cachuma Project Biological Opinion
- Expert testimony in 2003 SWRCB Santa Ynez Water Right Hearing

TESTIMONY OUTLINE:

1) Biological Opinion as basis for FEIR

“The Board’s FEIR should not rely on the analysis and conclusions in NMFS’ 2000 biological opinion to determine whether the endangered steelhead public trust is adequately protected.”

- a. The FEIR relies on more than the 2000 Biological Opinion. It relies on the results of the monitoring data on fish and habitat conditions collected from in 1993 to 2010, the reports identifying the results of actions taken under the Biological Opinion and the Lower Santa Ynez River Fish Management Plan¹, 2008 Synthesis Report, 2004 Synthesis Report monitoring data in Appendix G, the Compliance binder, as well as reports completed on the tributary projects, and reports detailing additional conservation measures implemented (i.e. ramping, flow management, passage supplementation).
- b. The Biological Opinion was issued in 2000 based on a proposed action primarily developed under the auspices of the State Water Resources Control Board to address public trust issues related to fishery resources in the Santa Ynez River under Water Rights Order No. 94-5. The Lower Santa Ynez River Fish Management Plan (FMP) was developed in furtherance of the State Board’s directive in 94-5. It served as the basis for the Biological Assessment submitted to the National Marine Fisheries Service (NMFS) in 1999 and was developed in a collaborative process by the Santa Ynez River Technical Advisory Committee, chaired by California Dept of Fish and Game with participation by US Bureau of Reclamation, Cachuma Member Units, Santa Ynez River Water Conservation District, Santa Ynez River Water Conservation District No. 1, City of Solvang, City of Lompoc, National Marine Fisheries Service, U.S Forest Service, U.S. Natural Resources Conservation Service (formerly U.S. Soil Conservation Service) , Santa Barbara County Fish and Wildlife Commission, Cal Trout, Urban Creeks Council, landowners, and others.

¹ Santa Ynez River Technical Advisory Committee. 1999. Lower Santa Ynez River Fish Management Plan, Review Draft. Volume I and Volume II.

2) Reinitiation of Consultation should not preclude the adoption of the FEIR

“The 2000 biological opinion specified that reinitiation would be triggered if certain restoration actions were not completed by 2005, not all of the actions were completed by that time.”

- a. The statement implies that since Reasonable and Prudent Measure (RPM) 4 was not met, the FEIR is flawed. It is not. The Tributary Projects were included in the FMP and were part of the Proposed Action in the 1999 Biological Assessment². Because of litigation over certain planned passage improvements, changes in project designs requested by NMFS (which, consequentially increased costs) and the unavailability of grant funding, it has taken longer than planned for certain tributary projects to be completed. Further, because of a continued threat of litigation against Cal Trans in one case and limited habitat benefits and very high costs (including tunneling under highway U.S. 101) in the other, two projects will not be pursued—as NMFS was informed in December, 2005. However, several other steelhead habitat improvement projects never identified in the 2000 Biological Opinion were identified, undertaken and completed including passage barrier removals on Salsipuedes, El Jaro and Quiota creeks that opened up important steelhead habitat not contemplated by the 2000 Biological Opinion. Further, substantial work on additional passage barrier removal on Quiota Creek is planned for 2012 and 2013.

- b. The Biological Opinion contemplated that, approximately 15 miles of tributary habitat were to be made more accessible. In fact, the stream miles of newly available steelhead habitat opened up by projects already completed by Reclamation and the Cachuma Member units since adoption of the 2000 Biological Opinion is 13.9 miles. Additional stream habitat mileage associated with projects now underway or for which planning is complete is 1.1 miles. The commitment in the FMP and the 2000 Biological Opinion to open passage obstructions is being met. The authors of the FEIR reviewed the Tributary tradeoff analysis prepared by Cachuma Project Biologists and Reclamation³

² Reclamation. 1999. Biological Assessment for Cachuma project operations and the lower Santa Ynez River.

³ Reclamation and Cachuma Project Biologists. 2010. Tributary project tradeoff analysis. Report to NMFS.

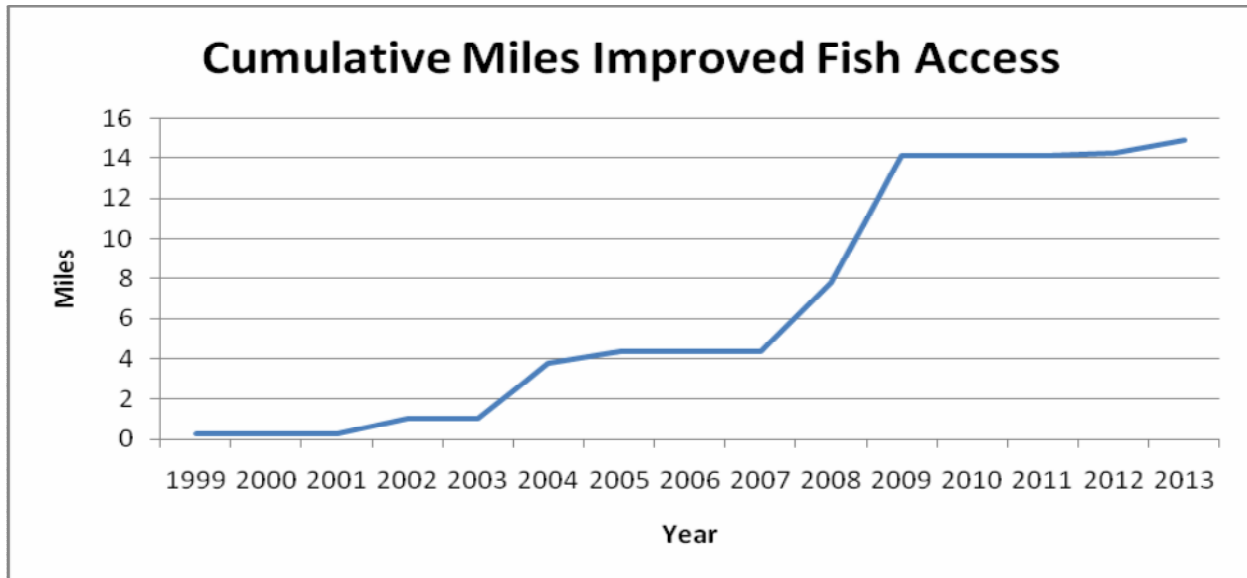


Figure 1. Cumulative Stream miles with improved access due to tributary passage projects.

3) Exceedance of Incidental Take for capture and handling should not affect the EIR analysis.

“The amount of take specified in the annual monitoring program (trapping) has been exceeded.”

- a. This statement is highly misleading. It implies that there is a danger to steelhead populations from the trapping program. The take that has been exceeded is associated with the *capture/handling* of steelhead during the trapping program. In fact, adult and juvenile steelhead mortality of the fish trapped is only 1.1 per cent for adults and 0.46 percent for juveniles. Further, the increased “take” from trapping is occurring because the target flows and habitat improvement projects undertaken by Reclamation and the Cachuma Member Units are producing a substantial increase in the number of young *Oncorhynchus mykiss* (*O. mykiss*) rearing within the tributaries of the Santa Ynez River. Figure 2 and 3 present the downstream migrant trapping data for the period from 1994 to 2011. Although not all migrants are captured in all years due to trap removal during high flows, it is clear that the number of migrants trapped in 2006 through 2011 far exceeds the migrants trapped from 1994 to 2004.
- b. There are two categories of numerical “take” in the 2000 Biological Opinion associated with the monitoring program: (1) capture/handling and (2) mortalities.
 - The take for capture/ handling fish take is 110 juveniles, 150 adults and 70 for recaptures.
 - The take for mortality from the trapping program is 4 juveniles and 1 adult.

The take associated with capture/handling of juvenile steelhead has been exceeded in 9 out of 11 years. The take for capture/handling adults has been exceeded in only one year. Trapping mortalities were never exceeded for juveniles. Adult trapping mortalities exceeded take by 1 fish in 2001 and by 2 fish in 2006. However only one anadromous adult has been taken. This

fish was found washed into the downstream trap. Since this fish was found in the trap, it was reported as a trapping mortality, rather than a carcass collection.

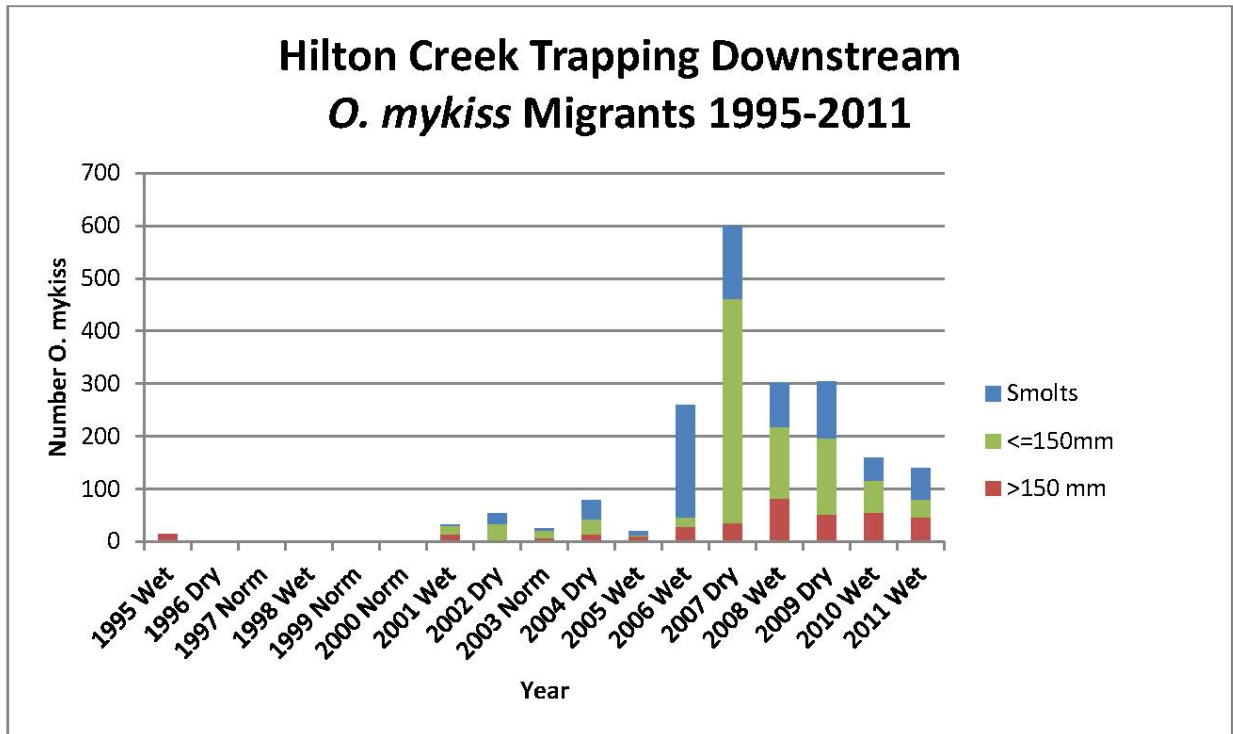


Figure 2. Results of Downstream Trapping at Hilton Creek (1995 -2011).

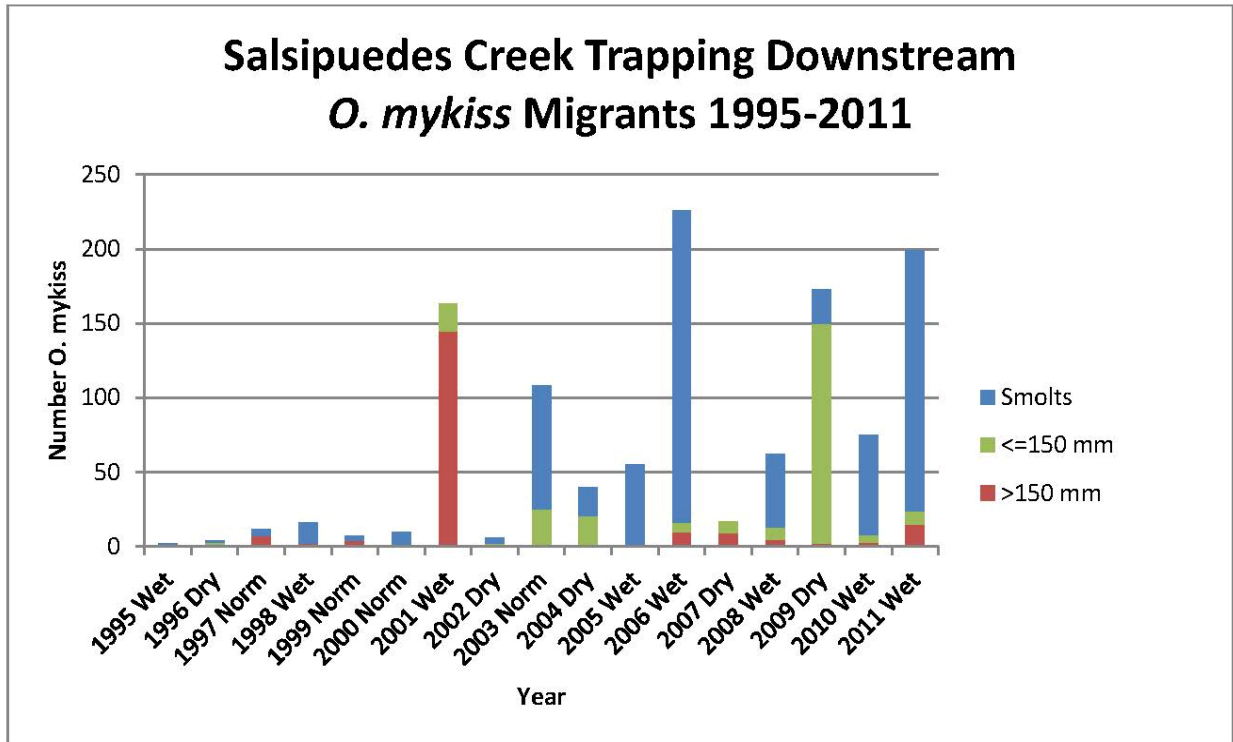


Figure 3. Results of Downstream Trapping at Salsipuedes Creek (1995-2011).

Table 1. Steelhead Trapping Capture/Handling Take Summary

Year	Number of Juveniles ¹			Number of Adults		
	BO Allowance ²	Take ³	Exceedance	BO Allowance ²	Take ³	Exceedance
2001	110	200	90	150	44	--
2002	110	111	--	150	5	--
2003	110	170	60	150	29	--
2004	110	152	42	150	60	--
2005	110	72	--	150	38	--
2006	110	506	396	150	113	--
2007	110	632	522	150	36	--
2008	110	412	302	150	151	1
2009	110	522	412	150	89	--
2010	110	304	194	150	81	--
2011	110	409	299	150	73	--
Total	1,210	3,490	2,317	1,650	719	1

¹ Fish less than or equal to 10 inches are considered juvenile

² Allowance determined by Biological Opinion in 2000

³ Take numbers are derived from the data sheets including upstream and downstream migrants

Table 2. Steelhead Trapping Mortality Take Summary

Year	Juvenile ¹ Mortalities			Adult Mortalities		
	BO Allowance ²	Take ³	Exceedance	BO Allowance ²	Take ³	Exceedance
2001	4	4	--	1	2	1
2002	4	2	--	1	0	--
2003	4	0	--	1	0	--
2004	4	0	--	1	0	--
2005	4	0	--	1	1	--
2006	4	1	--	1	3	2
2007	4	3	--	1	0	--
2008	4	3	--	1	1	--
2009	4	1	--	1	0	--
2010	4	1	--	1	0	--
2011	4	1	--	1	1	--
Total	44	16	0	11	8	3

¹ Fish less than or equal to 10 inches are considered juvenile

² Allowance determined by Biological Opinion in 2000

³ Take numbers are derived from the data sheets including upstream and downstream migrants

4) Accidental mortality of three fish five years ago should not affect the conclusions in the EIR

“Unauthorized take resulted from failure to meet flow targets at Alisal Bridge in 2007.”

- a. This statement is also misleading. 2007 was a dry year, exacerbating difficulties in meeting flow targets at Alisal Road Bridge. When it became apparent that the flow target was not being met at Alisal Bridge, Reclamation released a refreshing flow of approximately 70 cfs. Unfortunately, the release did not reach Alisal Bridge before the take occurred. Reclamation notified NMFS of the mortalities and filed an incident report⁴ to disclose the factors associated with the take. As a result of the incident, Reclamation and the Cachuma Member Units developed a procedure⁵ for ensuring that the target flow at Alisal Road Bridge would be met in the future, which involves early detection and the release of greater flows from Bradbury Dam in drier years. The revised flow protocols were included in the Cachuma project operations manual and have not been objected to by NMFS. Flows at Alisal Road Bridge have met or exceeded the target flow since that time.

5) Fish Passage Account is being managed as describe in Revised Proposed Action, the Biological Opinion and the modifications required by RPM 3 for the Biological Opinion.

“New information from Reclamation’s January 2011 compliance Report referenced in the FEIR indicates that the capacity of the “fish passage account” to facilitate migration opportunities does not function as characterized in Reclamation’s biological assessment.”

- a. The fish passage account has been operated at all times since 2005 in accordance with the Revised Proposed Action (Reclamation 2000), the Biological Opinion, and the modification of the fish passage supplementation procedures described in the Revised Proposed Action (Reclamation 2000) as modified by the Biological Opinion and the Passage Supplementation Memo (Cachuma Adaptive Management Committee; Hydrologic Work Group Subcommittee 2003⁶ and 2004⁷) that responded to RPM 3. The results of the Passage Supplementation program are reported by the Real Time Decision Group. Passage supplementation has occurred in two years (2006⁸ and 2010⁹).

⁴ Cachuma Project Biology Staff. 2007. Incident Report, steelhead/rainbow trout mortalities at Alisal Road Bridge. Report to National Marine Fisheries Service.

⁵ Stetson Engineers, Inc. 2009. Operating Guidelines for maintaining target flows of 1.5 cfs at Alisal Bridge

⁶ Cachuma Project Adaptive Management Committee (AMC) Hydrologic Work Group. 2004. Revised Project Description for the Fish Passage Supplementation Criteria (Section 3.2.3.2.2) for Cachuma Project Operations. Prepared for Cachuma Project Adaptive Management Committee. October 6, 2003

⁷ Cachuma Project Adaptive Management Committee (AMC) Hydrologic Work Group. 2004. Real-Time decision making and Adaptive Management of the Fish Passage Supplementation Program Revised Project Description (Section 3.2.3.2.3) for Cachuma Project Operations. Prepared for Cachuma Project Adaptive Management Committee. May 10, 2004.

⁸ Real Time Decision Group (RTDG) and Cachuma Project Biology Staff (CPBS). 2007. Report on 2006 Fish Passage Supplementation. November 15. Transmitted to NMFS December 18, 2007.

- b. These releases achieved the primary objectives stated in Reclamation's Revised Proposed Action for the Biological Assessment of providing at least 14 continuous days of flow above 25 cfs at Solvang Bridge by mimicking an average storm flow decay rate based on recession rates of Santa Ynez River flows upstream of the reservoir in normal years. According to the Revised Proposed Action, releases were expected to range from 300 to 1,800 acre-feet per storm event. The releases so far have ranged from 765 to 1,461 acre-feet per storm event.

- c. RPM 3 required that Reclamation develop "a strategy to shift migration supplementation releases away from dry years when releases may not be helpful to steelhead populations in the Santa Ynez and review of storm decay curves and other methodologies for providing increased migration availability." The strategy was refined and approved by NMFS in October 2005¹⁰. The releases so far have occurred in two out of seven years and have successfully avoided supplementation in dry years. The Revised Proposed Action states that in years with passage supplementation releases there would be 11 additional days of passage per year, from 34 days (baseline conditions) to 45 days (with supplementation). The releases so far have created an additional 21 days of passage per year on average in years with passage supplementation releases, from 54 days (baseline conditions) to 75 days (with supplementation). These results exceed the number of passage days promised in the Revised Proposed Action for the Biological Assessment.

⁹ RTDG and CPBS. 2010. Report on the 2010 Fish Passage Supplementation Program. November 30, 2010. Transmitted to the AMC by email on November 30, 2010.

¹⁰ McGinnis, Rodney, Regional Administrator, NMFS. October 11, 2005. Letter to Bill Luce, Area Manager, U.S. Bureau of Reclamation. Approval of Passage Supplementation Program

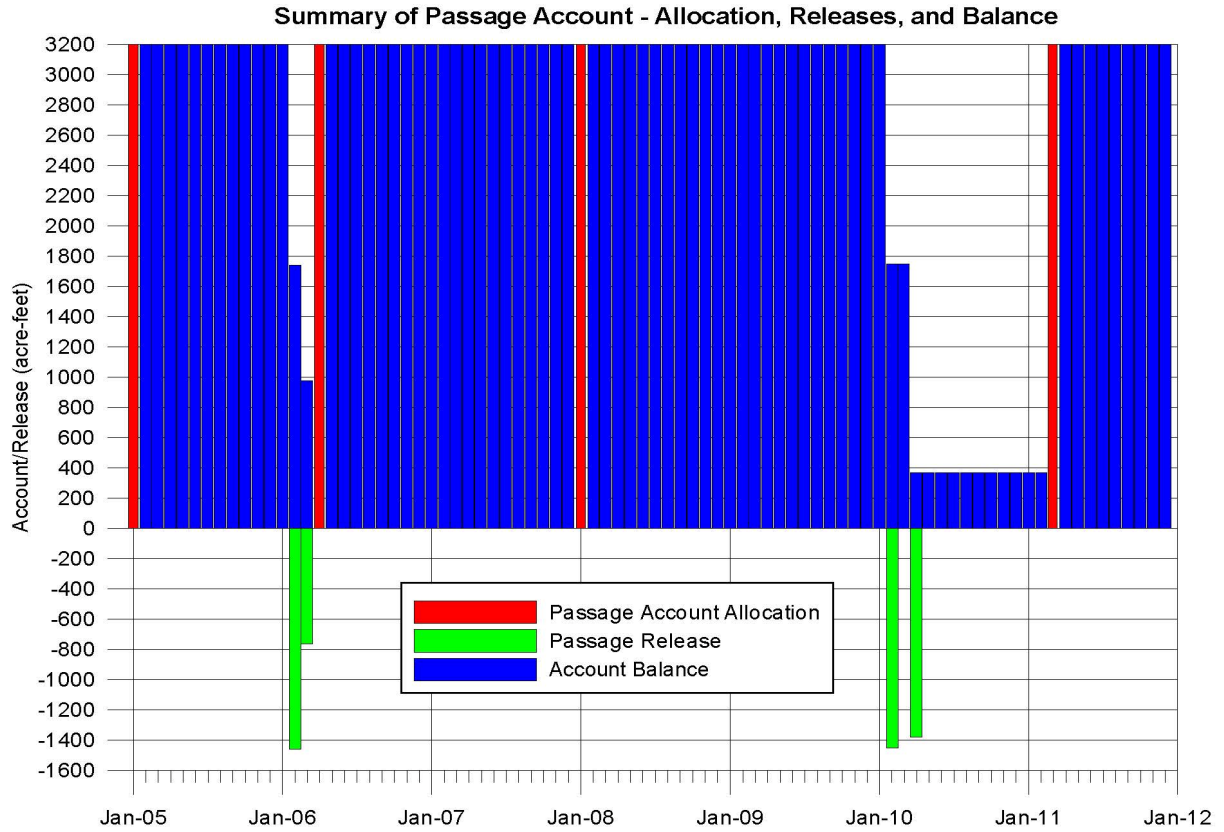


Figure 4. Fish Passage Account Monthly Allocation, Operation and Release

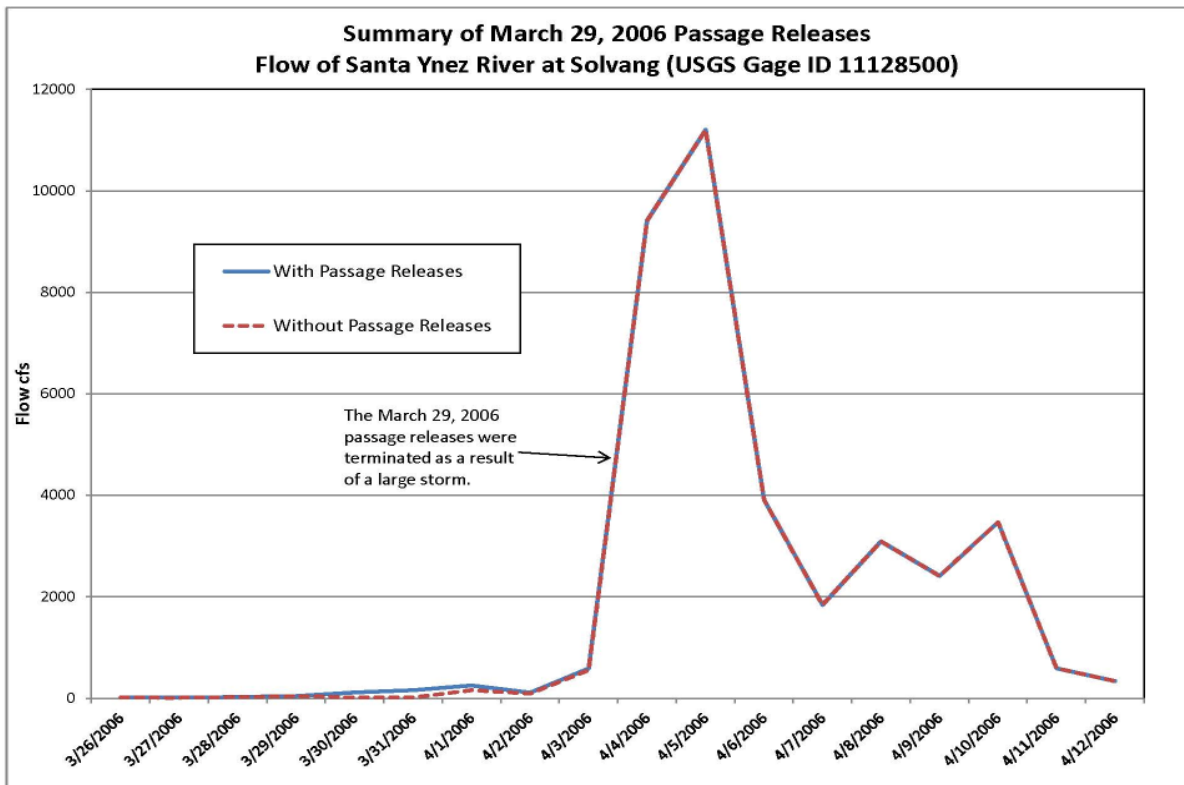
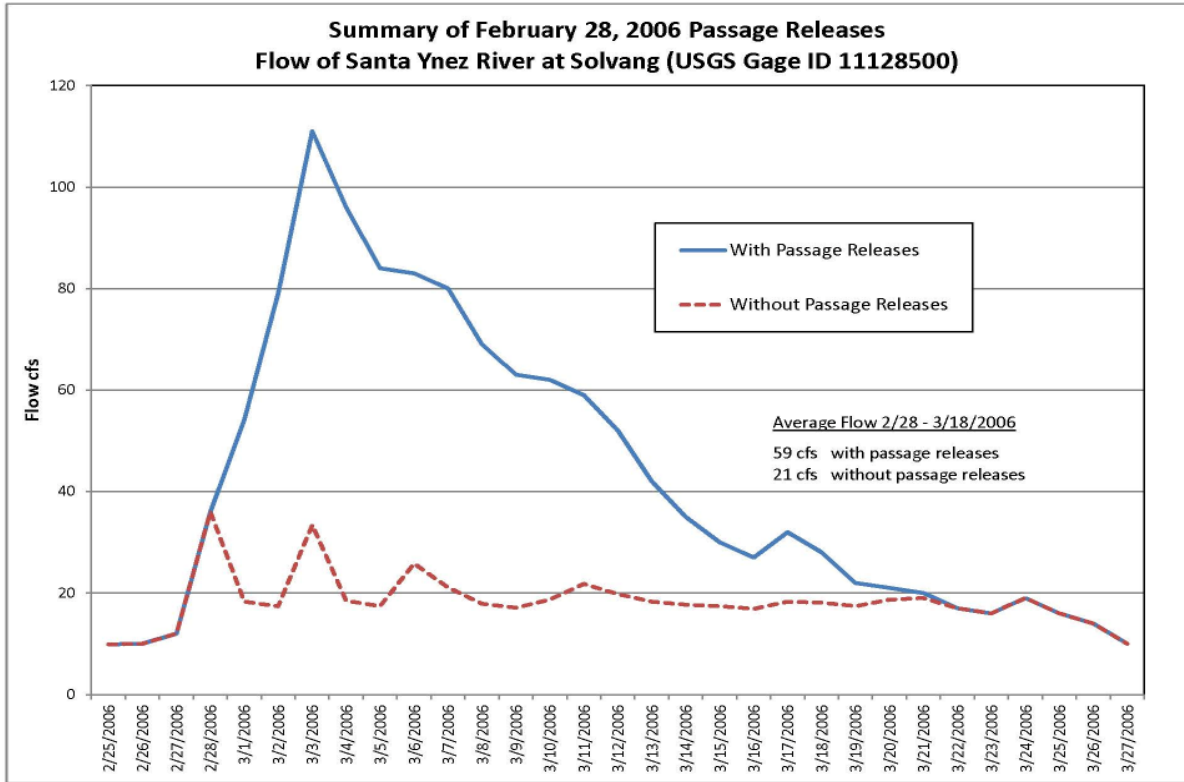


Figure 5. Passage Releases in 2006

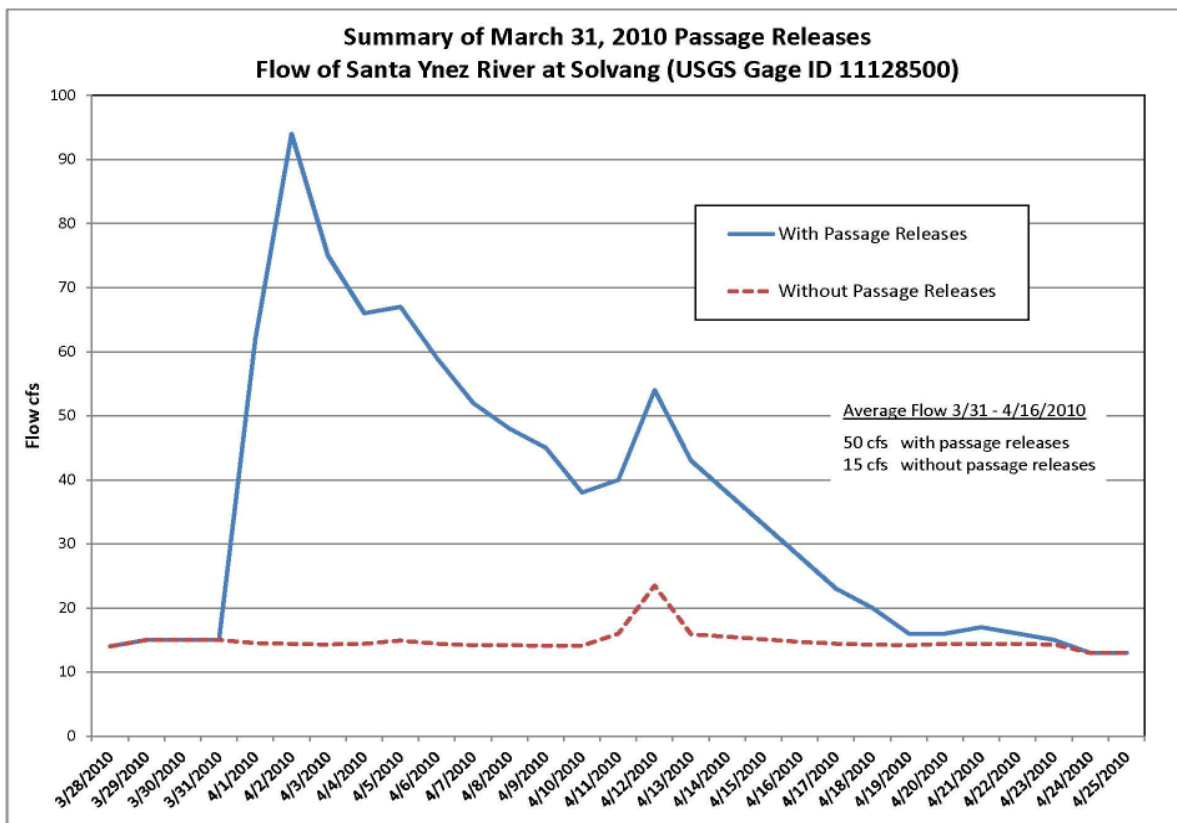
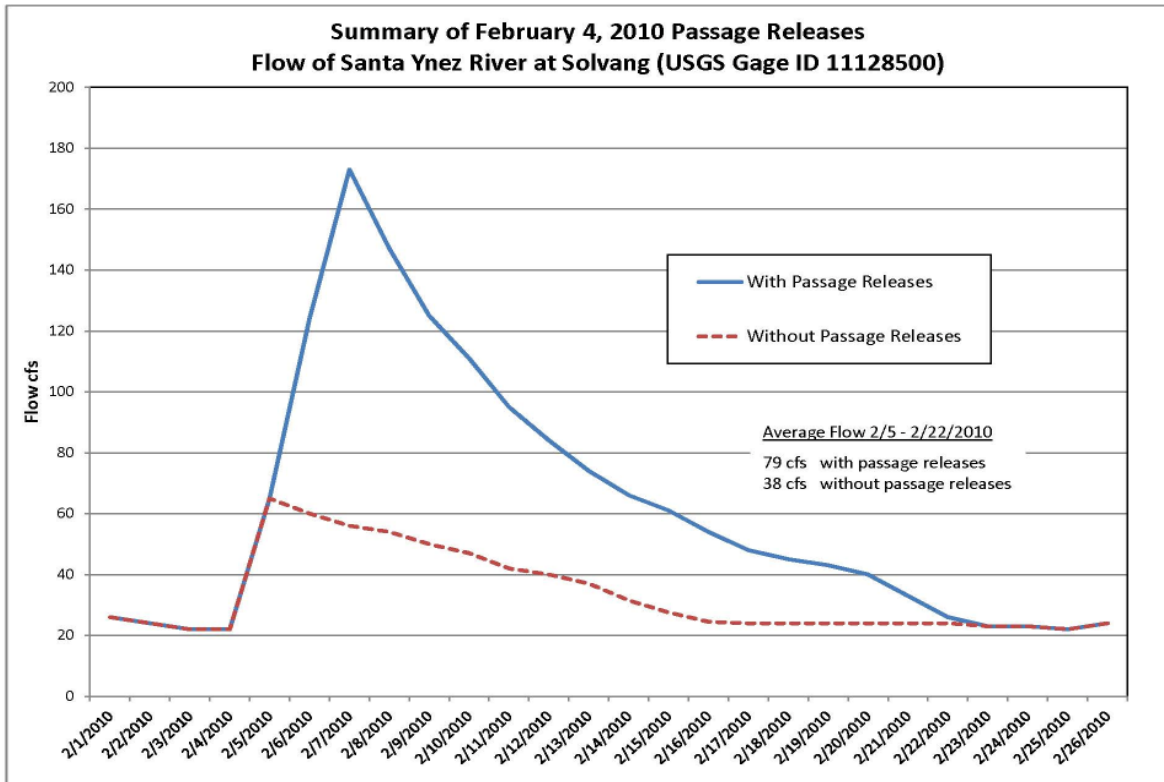


Figure 6. Passage Releases in 2010

6) There have been appreciable increases in steelhead populations in the Santa Ynez River since 2000.

“The SWRCB acknowledges that the results of this implementation [2000 biological opinion have not been appreciable improvement in the steelhead population as anticipated. However, the populations have not shown a dramatic decline in numbers. As a consequence of not reaching the desired goals, NMFS and the Reclamation have initiated re-consultation on this public trust resource.”

- a. There has been a significant increase in populations of *O. mykiss* as a result of activities carried out and funded by Reclamation and the Cachuma Member Units under the FMP and Biological Opinion. Please refer to the charts and tables above which demonstrate the improvement.
- b. Second, while Reclamation initiated the re-consultation in December 2005 because it was not able to complete all of the tributary improvements projects by 2005 as called for in the 2000 Biological Opinion (as described above), it subsequently it became apparent that re-consultation would also be required because the increased number of *O. mykiss* was causing regular exceedance of the “take” limits for capture/handling of juveniles for the annual surveys. The status of the tributary passage projects was adequately addressed in the FEIR. The need for increased take to support the monitoring program indicates expanding *O. mykiss* abundances.
- c. Reclamation and the Cachuma Member units are committed to the conservation of steelhead in the Santa Ynez River and the implementation of the Biological Opinion as portrayed in the FEIR. To this end, Reclamation and the Cachuma Member units have committed large sums of money to fund the actions required by the FMP and the Biological Opinion. They have consistently made choices to meet these commitments even if antecedent conditions were not met.
 - When the dam modifications needed for the surcharge to take place were delayed, Reclamation and the Cachuma member units nonetheless agreed to implement the measures (long-term target flows) that were tied to that action.
 - When the surcharge was limited by the County of Santa Barbara’s facilities to only 2.47 ft instead of 3.0 ft, Reclamation and the Member Units declared that the surcharge was complete and allocated the full 3200 acres feet to the fish passage supplementation account.
 - When the flow monitoring station was not able to be established at Hwy 154, Reclamation and the Member Units estimated the amount of water needed to meet target flows at 154 and Alisal. Conservative assumptions were included in the modeling which results in larger releases than needed to achieve the flow targets. All of this water comes out of project yield.