

Lower American River



Water Forum –
Sacramento, CA

June 12, 2008

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USFWS, Region 8,
Sacramento

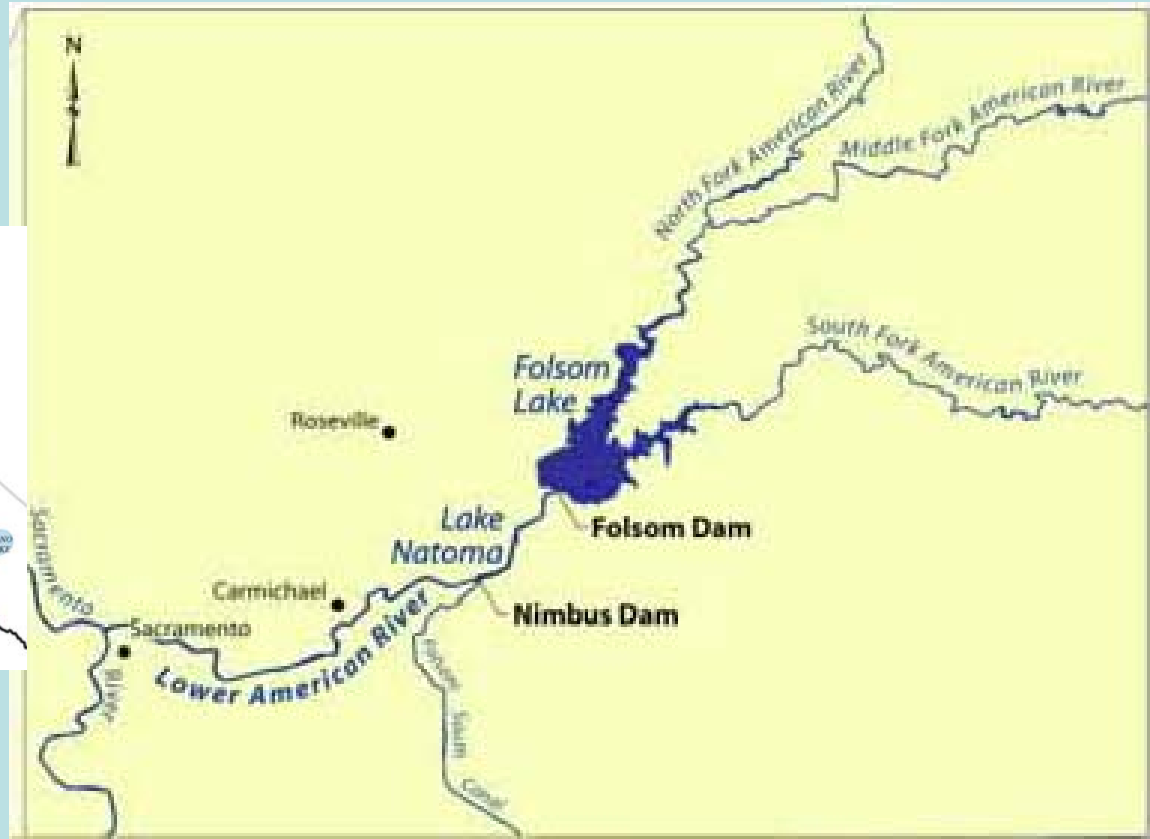


Objective



Provide an overview of the lower American River and answer questions from the audience.

- My experience has been primarily with water operations (i.e. implementation of B2 fish actions and development of American River Flow Management Standard (FMS)).



- Closest Major Tributary to the Delta
- 30 ft-10,000 ft elevation
- Mean Unimpaired Runoff 2.8 MAF
- Total Storage 1.8 MAF
- Total Diversions 2.2 TAF

- Normal Releases 1000-6000 cfs
- Flood Releases 20,000-130,000 cfs
- Historic Habitat 161 miles
- Current Habitat: 23 miles

Doubling Goals

Species	Central Valley	American River
Fall-run	750,000	160,000
Steelhead	13,000	Present
Striped bass*	2,500,000	Present
American shad*	4,300	Present

* *Non-native*



Limiting Factors*

- Inadequate instream flows
- Unsuitable water temperatures
- Inadequate spawning substrate
- Water diversion operations
- Bank and streambank modifications
- Overharvest of adult brood stock



*From AFRP Working Paper, Volume 3

American River

- Partners:

- ◆ Federal and state agencies
- ◆ Sacramento Area Flood Control Agency (SAFCA)
- ◆ Lower American River Task Force (LARTC)
- ◆ Water Forum – American River FMS
- ◆ American River Operations Group (AROG)
- ◆ Calfed Environmental Water Account (EWA)

- CVPIA activities:

- ◆ AFRP focused on planning and modeling
- ◆ CVPIA b(2) water (800 TAF for fish), b(1)B reoperation, b(9) minimize flow fluctuation
- ◆ b(13) gravel and b(16) monitoring

Completed and Ongoing Actions

Flow Improvements

- Instream Flow Study
 - ◆ Completed 2001; funded by CVPIA
- Supplemental Flows
 - ◆ Ongoing; CVPIA b(2) water (800 TAF for fish)
- Flow Management Standard/Flow Fluctuations
 - ◆ Ongoing
 - ◆ Water Forum & agencies
 - ◆ Lower American River Task Force/River Corridor Management Plan
 - ◆ American River Water Operations Group

Temperature Management

Instream temperature management through the summer and fall months has been an ongoing challenge in the Lower American River.

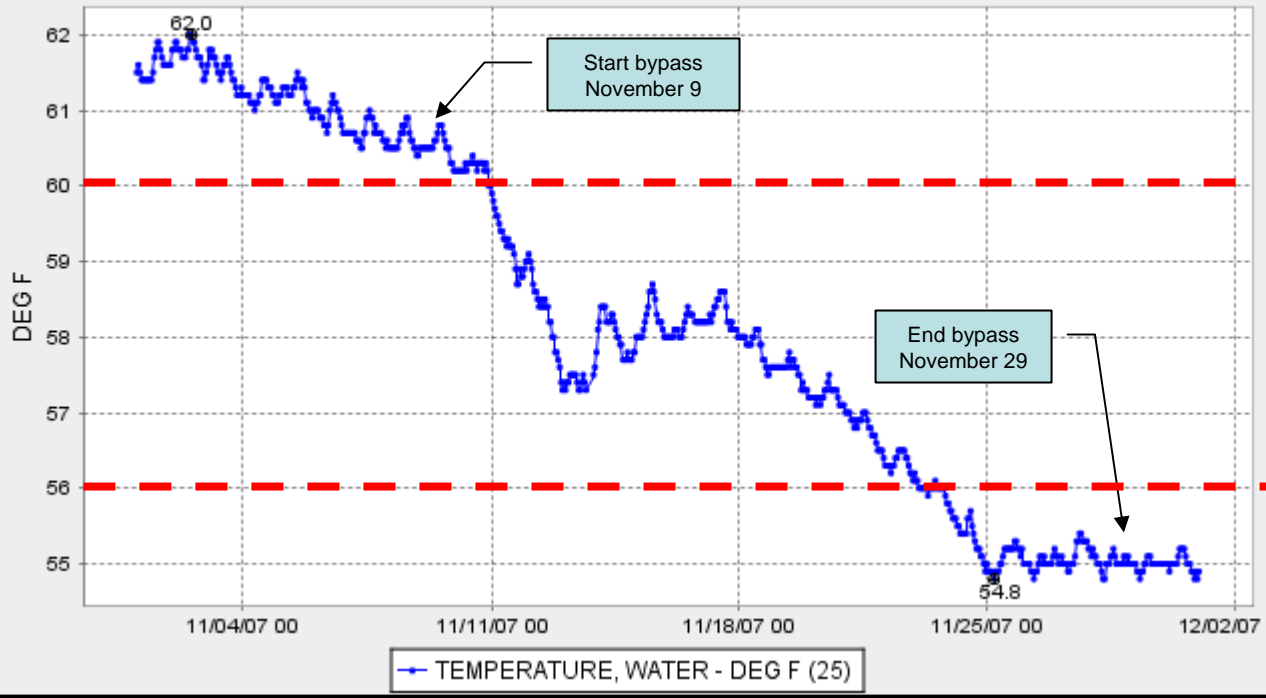
- The 2004 NOAA Biological Opinion sets temperature targets for juvenile steelhead protection in summer (68° F at Watt Ave Bridge).
- The Calfed EWA program provided funds to facilitate cold-water outlet releases in the fall of 2001, 2002, and 2007 (power bypass) to decrease temperatures for fall-run Chinook adults.
- We anticipate a difficult temperature control season this year due to low storage and a small cold-water pool. The EWA Team has indicated it will support another outlet release this fall.



AMERICAN R AT HAZEL AVE BRIDGE (AHZ)

Date from 11/01/2007 00:00 through 12/01/2007 00:00 Duration : 30 days

Max of period : (11/02/2007 13:00, 62.0) Min of period: (11/25/2007 05:00, 54.8)



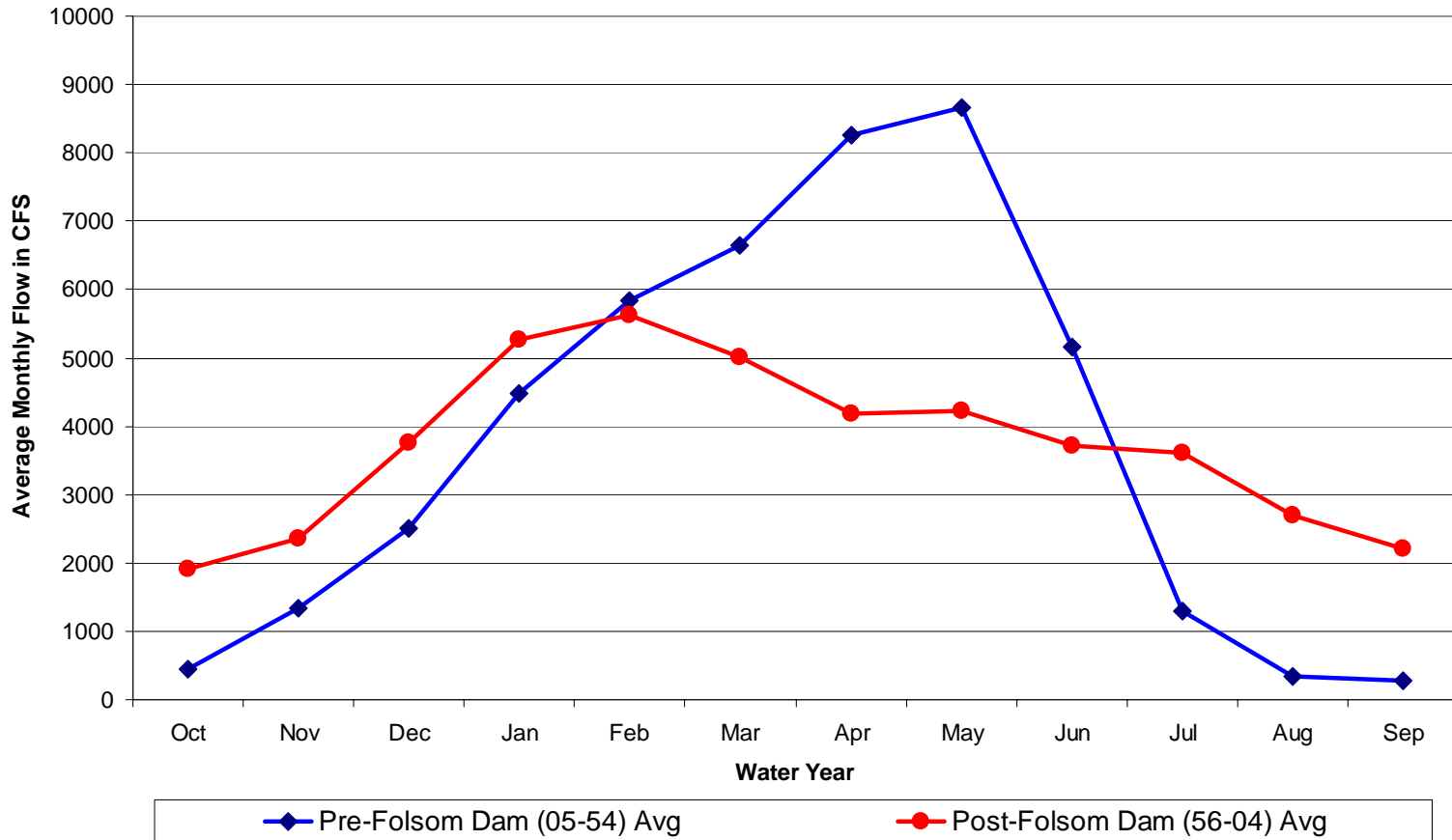
CVPIA Section 3406 (b)(2) water

- **Purpose:** A CVPIA program that dedicates and manages 800,000 AF annually of CVP water.
- **Authority and agencies:** CVPIA in 1992.
(b)(2) water is managed pursuant to conditions specified by the USFWS after consultation with USBR, CDWR, CDFG and NMFS.



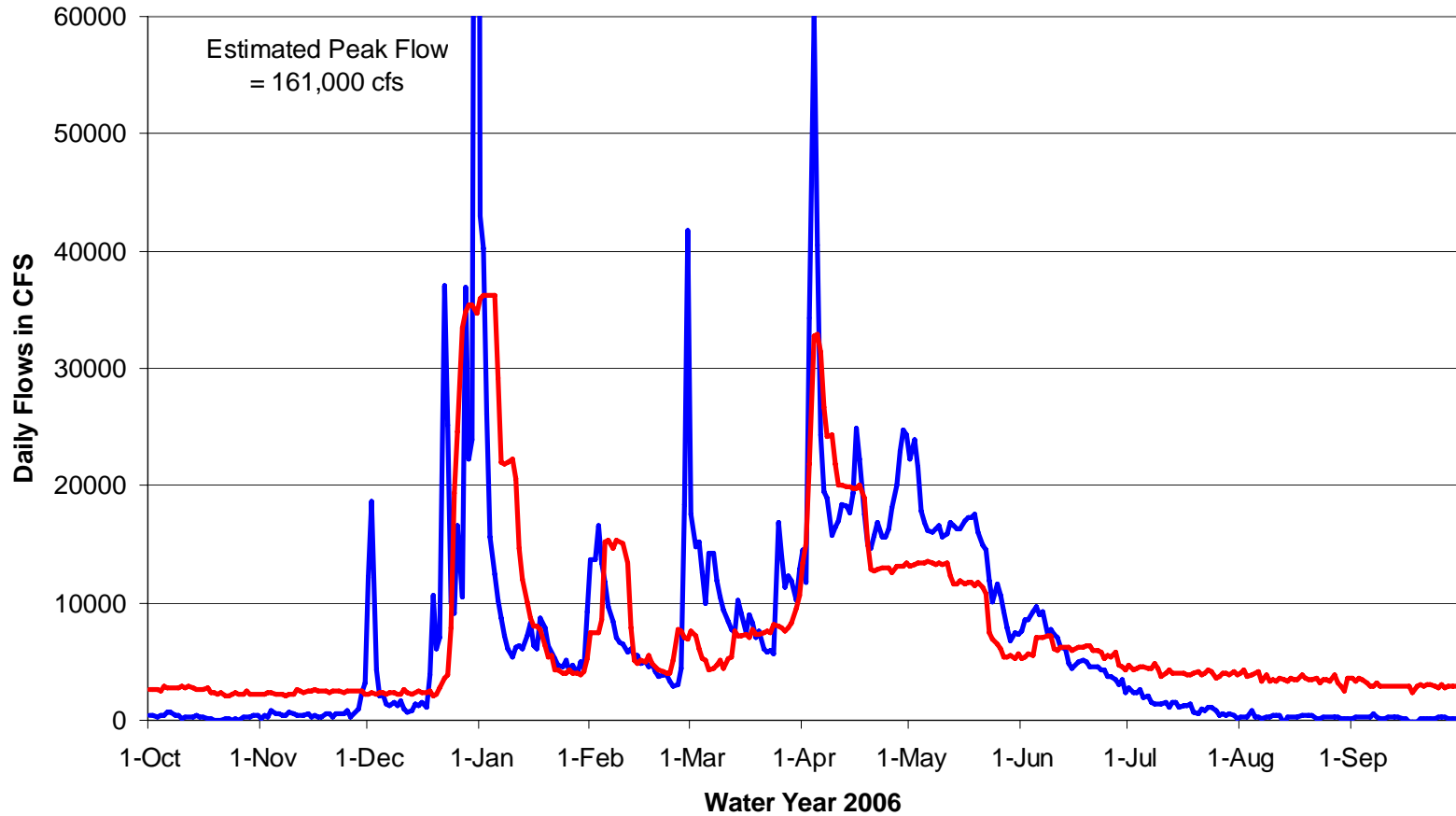
American River at Fair Oaks

(USGS Published Data)



American River at Folsom Dam

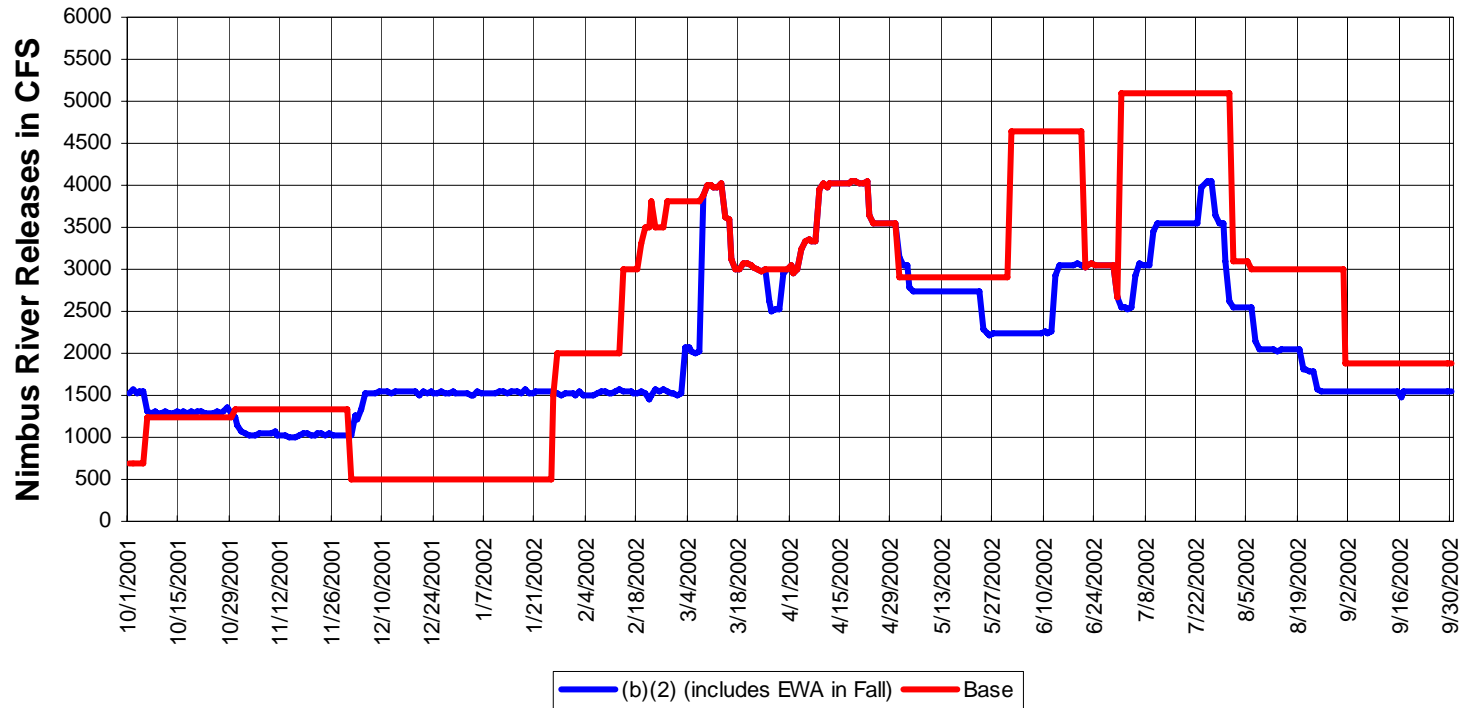
(Data from CDEC)



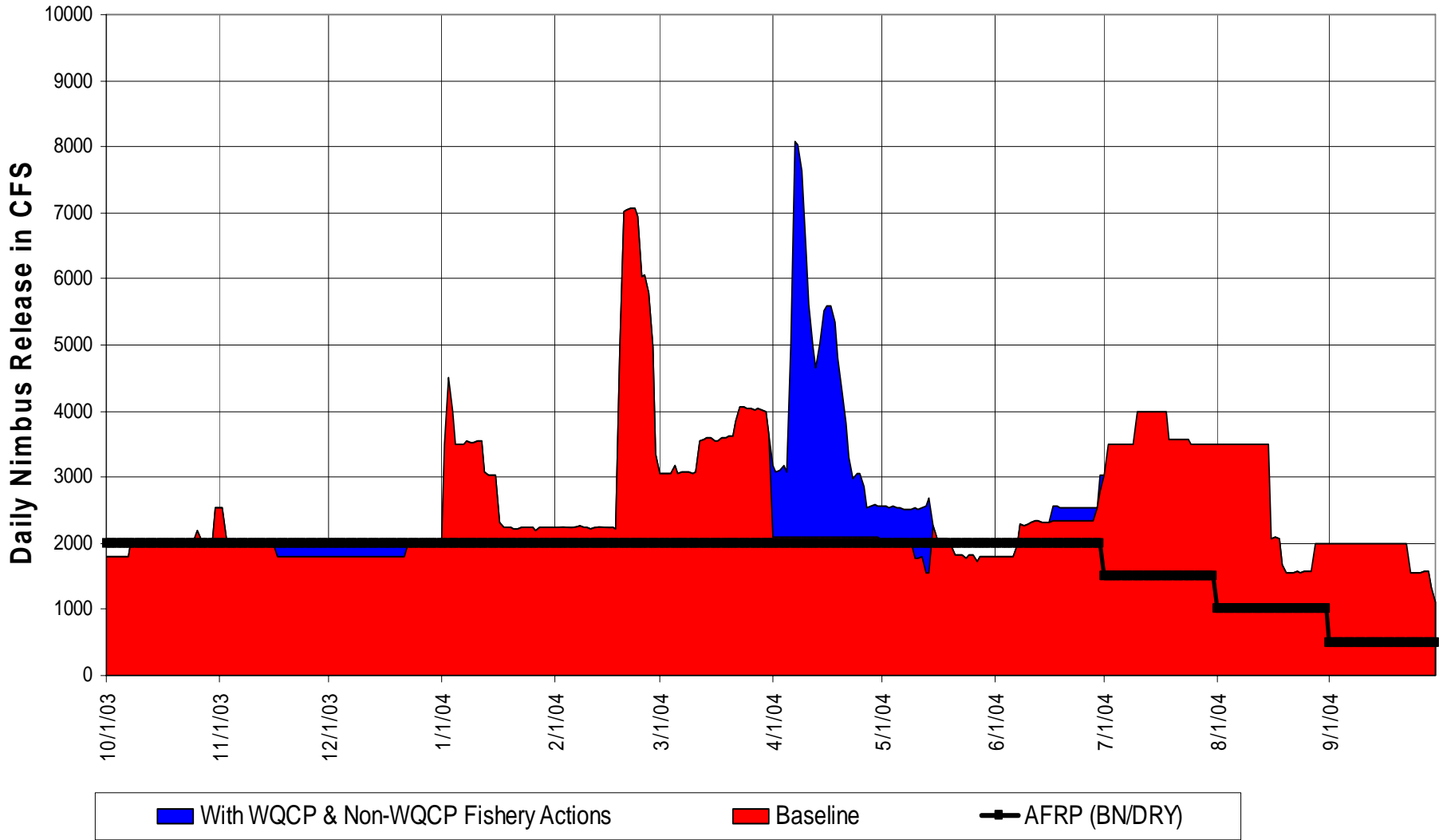
— Estimated Full Natural Flow — Reservoir Outflow

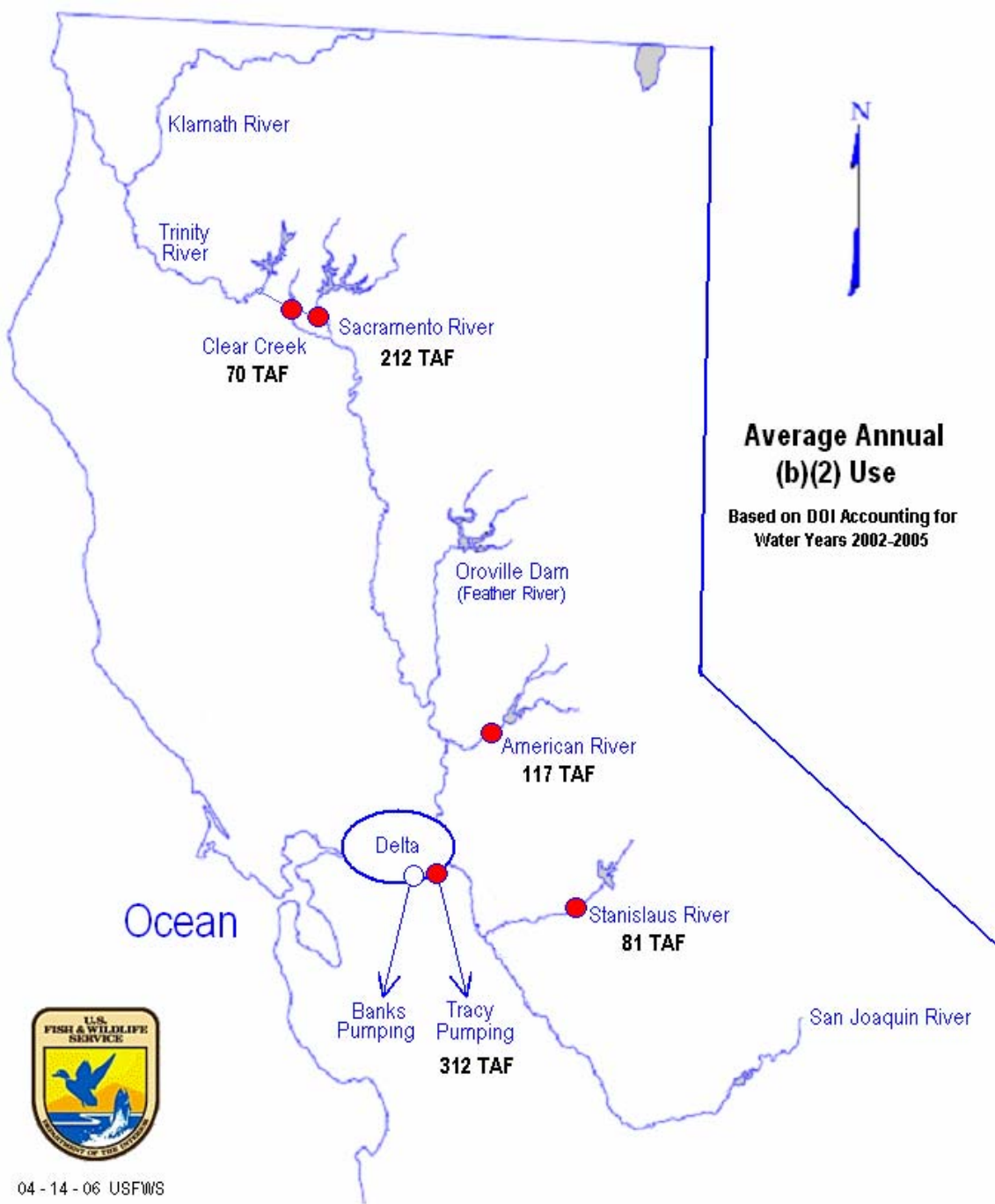
Example of an instream flow augmentation using b2 water

WY 2002 American River Operations
(Data from 11/20/02 TMM DRAFT Daily Accounting)

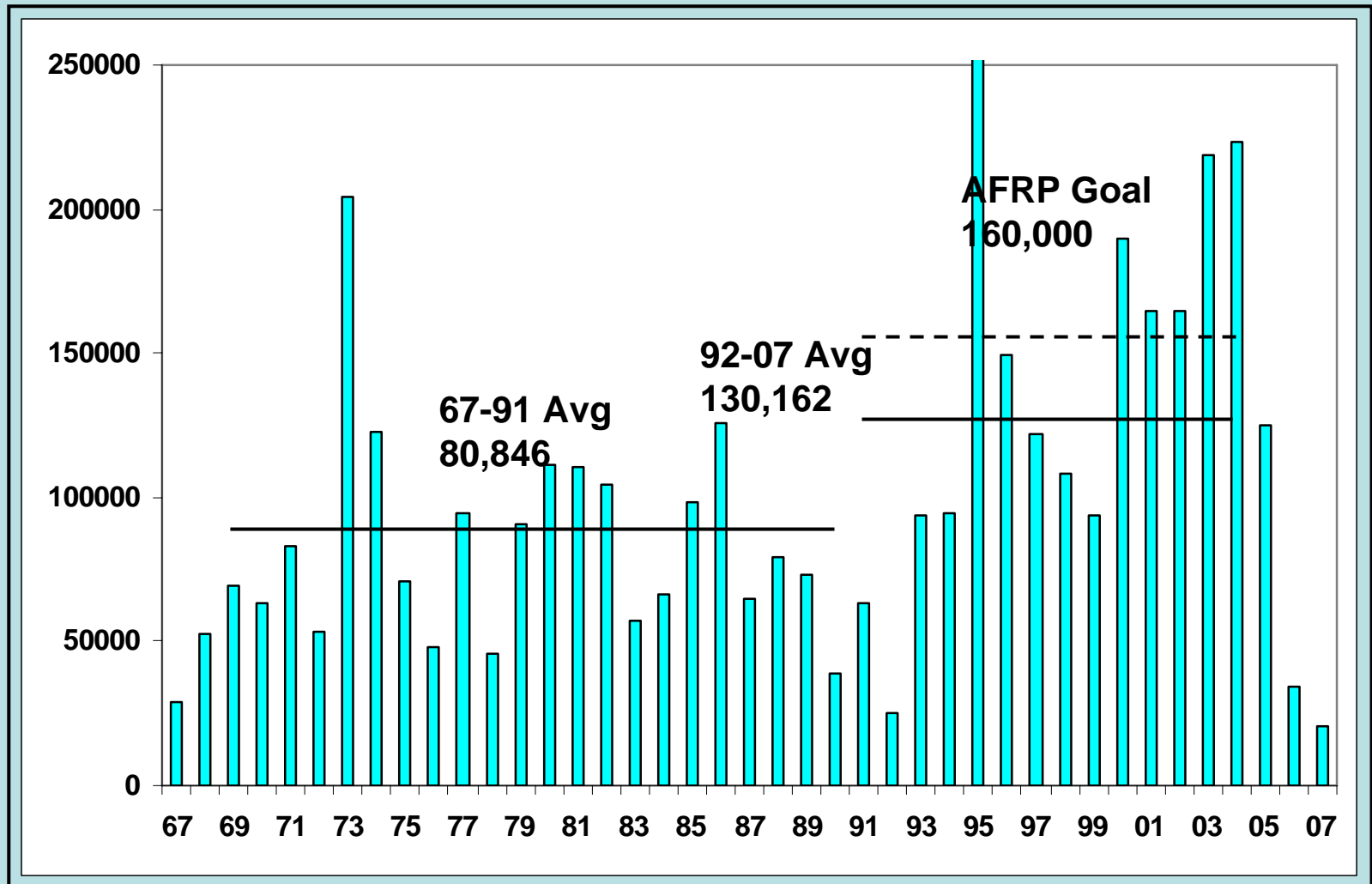


American River Operations

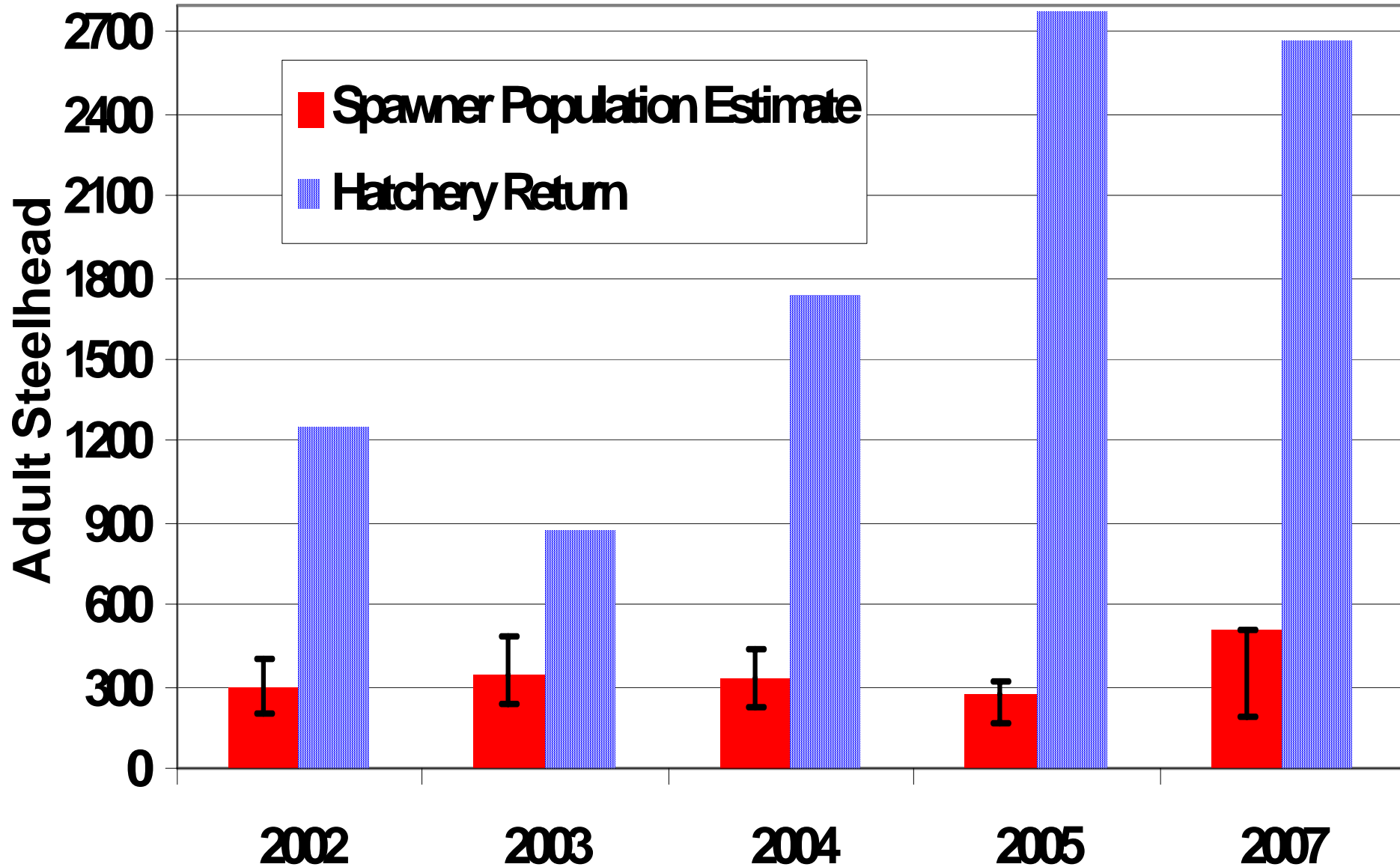




American River Adult Fall-run Chinook Salmon Production, Current vs. Baseline



American River Steelhead In-river Spawner Population Estimate and Nimbus Hatchery Return



Anticipated Future Actions

- Implement Water Forum Agreement, including FMS
- Continue to implement CVPIA restoration actions (flow, gravel, monitoring)
- Fully automate Folsom Dam Temperature Control Shutter System
- Spawning habitat restoration
- Rearing habitat restoration

Summary

(b)(2) water has been released on the American River since 1993 to increase flows for salmonid restoration.

From 2002-2005 average annual (b)(2) use approx 117,000 AF.

After implementation of the American River Flow Standard, **(b)(2) water** will continue to be released on the American River and may be used to augment the flow standard.



What Has Been Learned

- Mixed success in reaching the CVPIA anadromous fish doubling goals. There are many factors beyond the control of CVPIA flow and water operations programs.
- Possible causes of the recent salmon decline include ocean conditions and productivity, Delta pumping, water availability, water quality, invasive species, unscreened diversions and poor Delta habitat.
- Pelagic organisms (including delta smelt and longfin smelt) continue to decline. Possible causes (in addition to the Delta pumping), e.g. invasive species, pesticides, herbicides, water quality and food web changes.





Questions?

