March 14, 2013

The Central Valley Flood Protection Board (CVFPB) sponsored a one day (9:00 am - 3:00 pm) public site visit to the Yolo Bypass on Friday, March 14, 2014 to gain a better understanding of the numerous flood control, water conservation, habitat restoration, and conservation projects targeting the Yolo Bypass. The tour activities were facilitated by Jay Punia, Len Marino, Curt Taras, and Lorraine Pendlebury. Below is a summary of the presentations during the tour.

1. Sacramento Weir

Keith Swanson and John Williamson provided some information regarding the history of the Sacramento weir and its role for flood control. The weir is about 2000 feet long and consists of 48 manually controlled gates diverting floodwaters of Sacramento and American River to Yolo Bypass. The gates are operated based on two criteria (a) to minimize sediment deposition due to decreased flow velocities and (b) to limit flooding. The weir gates are not opened until the river reaches 27.5 feet at the "I" street gage. Williamson reported that in the past 16 years the gates were opened 4 times, but not all the gates were opened during the high water events. The last time DWR opened the gates was during the flood of 2006. The problems related to the weir include (a) removal of sediments and (b) under seepage of levees around the weir. Recently cutoff walls were installed for the levees to mitigate under seepage and the sediments dredged were used to buttress the levees.

Ric Reinhardt presented the results of "Hydraulic analysis of modification to the Yolo Bypass", a study performed by the Lower Sacramento River/Delta North Regional Flood Management Planning (RFMP) group. The objective of the study was to evaluate actions to reduce flood stages and actions to increase the capacity of the Yolo Bypass within the exiting footprint (Alternative 1), by widening the Sacramento Bypass (Alternative 2) or by setting back the east levee of the Yolo Bypass in the Lower Elkhorn area (Alternative 3). Among three presented alternatives, Alternative 1 lowers the water surface by up to 1.2 feet in the Yolo Bypass. Alternatives 2 and 3 reduce the water surface in the Sacramento and West Sacramento areas by as much as 1.75 feet at the "I" street bridge. In response to a question regarding the feasibility of modifying the existing landfill in the bypass or relocating the CHP Academy Reinhardt stated that it would be more cost effective to remediate the landfill, rather than to relocate the CHP Academy in the West Sacramento.

Jeremy Arrich discussed the progress related to Basin Wide Feasibility Study (BWFS) and the need to incorporate resiliency built to the existing system both in terms of flood control objective and ecosystem restoration. He stated that due to climate change there is a need to look at the expansion of the flood control components, including the Sacramento weir.

2. Fremont Weir

Petrea Marchand, Carl Wilcox, Traci Michel, and Terri Gaines, respectively, discussed the recent studies related to Yolo bypass, including:

- Yolo Bypass Drainage and Water Infrastructure Improvement Study
- Bay Delta Conservation Plan (BDCP) Conservation Measure 2 (CM2)
- Yolo Bypass Salmonids Habitat Restoration and Fish Passage; and
- DWR Conservation Strategy

Initially, some facts were presented regarding the Fremont weir. The weir is about 9000 feet long with a design capacity of 343,000 cubic feet per second (cfs). The primary function of the Fremont weir is to release overflow waters of Sacramento River, Sutter Bypass and the Feather River into the Yolo Bypass. The sediments adjacent to the weir were removed in 2007.

The goal of "Yolo Bypass Drainage and Water Infrastructure Improvement Study" is to identify drainage and water infrastructure improvements in the Yolo Bypass that benefit farmers and wetlands managers, including improving the availability and quality of data related to these improvements. Marchand provided a handout with a list of 12 projects endorsed and ranked by the landowners and farmers.

The goal of "Bay Delta Conservation Plan (BDCP) Conservation Measure 2 (CM2)" is to lower a portion of the Fremont Weir and construct an operable gate to allow increased seasonal floodplain inundation from the Sacramento River to benefit juvenile salmonids and Sacramento splittail.

The goal of "Yolo Bypass Salmonid Habitat Restoration and Fish Passage Implementation Plan" prepared jointly by DWR and the U.S. Bureau of Reclamation, is to address two specific Reasonable and Prudent Alternative (RPA) actions set forth in the National Marine Fisheries Service (NMFS) Operation Biological Opinion. They include (a) the Restoration of Floodplain Rearing Habitat, through the increase of seasonal inundation within the lower Sacramento River basin; and (b) to reduce Migratory Delays and Loss of Salmon, Steelhead, and Sturgeon, through the modification of Fremont Weir and other structures of the Yolo Bypass. Michel provided a proposed schedule for EIS/EIR that started last year.

The goal of "DWR Conservation Strategy" is to provide the system-wide context and direction for DWR's environmental activities related to improving integrated flood management in the Central Valley flood management system. Gains discussed the ecological goals and ecological targets for Conservation Strategy. Furthermore, she discussed the regional permitting approach, improved science and planning information, improved vegetation management approach and ecological targets and measureable objectives of the Conservation Strategy along with the implementation plan. Gains

mentioned the target dates for the public draft of Conservation Strategy to be available in July 2014 and the final draft in December 2014.

A question raised about the need to openly discuss the potential physical changes to the Yolo bypass rather than discussing the goals. Wilcox responded by saying that currently there is no design, only the concept. However, the projects will be presented under CM2. Arrich added that under BWFS, DWR plans to evaluate expansion of bypasses and weirs from North to Delta with the primary objective of flood control and then fish passage. Swanson stated the need to find a way to manage the system, since the scale of the system is massive. Another question was about the vegetation management in the Yolo bypass. Swanson responded that based on the results of hydraulic analysis DWR followed the regulatory process to get permit to remove the vegetation.

3. Tule Canal Typical Barrier crossing

John Brennan, Marianne Kirkland and Jacob Katz discussed the "Knaggs Ranch Experimental Agricultural Floodplain Habitat Investigation" that includes a controlled pilot project designed to determine which agricultural practices maximize benefits to salmon. The project is located on the Knaggs Ranch, in the northern reaches of the Yolo bypass between Interstate 5 and the Sacramento River. Overall goals for the project include (a) Creating a multi-benefit revenue model to sustain agriculture in Yolo bypass; (b) Maintaining bypass flood control capacity; (c) Improving seasonal floodplain habitat for fish and waterfowl; (d) Increasing bypass outflows to improve Delta food web; and (e) Improving adult fish passage and reducing juvenile fish stranding. This investigation is part of the "Nigiri Project" in the Yolo County which is a collaborative effort between farmers and researchers to help restore salmon populations by reintroducing them during winter, to floodplains that are farmed with rice during summer. The presenters showed the fish to be released to the river.

4. Deep Water Ship Channel

Tom Schroyer presented the "Fish Trapping Operation" in Lisbon weir which is located at the toe drain of Deep Water Channel disposal embankment. The purpose of Lisbon weir is to maintain water level for agricultural purpose. The main source of water in the Lisbon weir is from Colusa Basin. According to Schroyer all fish caught in the toe drain are returned to the river the same day.

Affiliations of the Speakers

- Keith Swanson, CA DWR – DFM
- Jeremy Arrich, CA DWR – DFM CVFPP
- John Williamson, CA DWR – DFM

- Ric Reinhardt, MBK Engineers
- Petrea Marchand, Yolo County
- Carl Wilcox, CA Dept of Fish and Wildlife
- Traci Michel, US Bureau of Reclamation
- Terri Gaines, CA DWR – FESSRO CVFPP
- Marianne Kirkland, CA DWR – DES
- Tom Schroyer, CA Dept. of Fish and Wildlife
- John Brennan, Cal Marsh & Farm
- Jacob Katz, CalTrout

The tour adjourned at 3:00 pm

Attachments:
Agenda, maps, and handouts related to the tour