Yolo Bypass:
Planned Improvements & Implementation Management

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State Plan of Flood Control

Key Elements:
• 1,600 miles of Federal-State levees
• Extensive system of bypasses & floodways
• 2 completely different river basins, each w/ over 5 major rivers
• 5 major urban centers, plus additional adjacent urban areas
• Dozens of small communities
• Dozens of endangered species
• Over 1.3 million people living in floodplains
• +$80B property / assets at risk

Sacramento River Flood Control Project
Weirs and Relief Structures

• Sacramento Weir
  – Completed in 1916
  – 48 manually operated gates
  – Opening of gates initiated when river reaches 27.5 feet at I Street Bridge with continued rise forecasted
  – 112,000 cfs design capacity
  – Releases overflow water into Yolo Bypass
Central Valley Flood Protection Plan

2012 CVFPP ----> 2017 CVFPP

- Basin-wide / Regional Studies
- Yolo Bypass
- Features
  - Fremont & Sacramento Weirs
American River Watershed
Common Features – WRDA 2016
ARN – American River North
ARS – American River South
SWB – Sacramento Weir and Bypass
GRR Improvements
Erosion
Height
Seepage/Stability
100 Years of Evolving Flood Management

1917
Local Leadership Era

- Protect agriculture
- Predominantly rural agriculture
- Locally available materials and practices, trial and error, as needed
- No reservoirs, scouring flows

2017
Partnerships and Obtaining Sustainable Funding

- Flood control for urban areas and agriculture, plus water supply, ecosystem, recreation
- Widely varied: urban centers, industry, small communities, rural agriculture, public infrastructure
- Engineered structures with design life, advanced geotechnical practices and materials
- Many reservoirs, coordinated operations, regulated flows for multiple objectives
Central Valley Flood Protection Plan

• Originally (2012) considered 4 different approaches, each with its own implementation time frame
• Transitioned (w/ 2017 Update) to refining recommendations and describing investments needed within a moving 30-year time period
• Legislation (Senate Bill 5) calls for the comprehensive management plan to be updated every 5-years
Possible Yolo Bypass Flood Improvement Locations

Potential Fremont Weir and Upper Elkhorn Basin Expansion

Potential Sacramento Weir and Bypass Expansion

Potential Lower Elkhorn Basin Expansion

Potential Westside Yolo Bypass Expansions

Potential Tie-in to Deep Water Ship Channel

Weir Expansions to shift more water from Sacramento River onto Yolo Bypass

Combinations of Levee Setbacks to reduce stage in Yolo Bypass
Yolo Bypass Improvement
State Recommended Options

SACRAMENTO RIVER BASIN
Yolo Bypass Multi-Benefit Improvements State Recommended Option

Map 3-3. Yolo Bypass Multi-Benefit Improvements State Recommended Option

Legend:
- Impounded Pasture (Floodplain Agriculture)
- No-B (Floodplain Agriculture)
- Other Agricultural Land (Floodplain Agriculture)
- Forested Rangeland
- Canton Rangeland
- Scott Slough
- Westside Slough (Non-urban)
- Nicelower Wetland
- Vasgaret Wetland
- Silver Creek
- Water Body
- Developed
- 500' Floodplain
- 1000' Floodplain
- Tidal Wetland
- Other Natural
- Developed
- Water Body
- 500' Floodplain
- 1000' Floodplain
- Tidal Wetland
- Other Natural
- Developed
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Analysis Summary

• 1 to 1.5 mile Fremont Weir expansion:
  – 1.3-3.1 ft lower stage @ Fremont Weir
  – 1.7-2.9 ft lower stage Sac River @ Verona
  – 2.0-3.1 ft lower stage @ Sutter Bypass
  – 0.4-0.6 ft lower stage @ Feather River

• 800 to 1,800 ft Sac Weir expansion
  – 0.9-2.5 ft lower stage @ Sac Weir
  – 1.3-2.8 ft lower stage in Sac River @ I Street

• Up to 1.3 ft lower stages within Yolo Bypass
  – varies by location
CORRIDOR MANAGEMENT FRAMEWORK (CMF) GOALS

- Implement Flood Improvements that Benefit the System and the Region
- Preserve Agriculture and Improve Sustainability of the Agricultural Economy
- Conserve and Improve Functionality of Habitat
- Incorporate Water Supply and Drainage Improvements for the LS-DN Corridor
- Establish Sustainable Approach to O&M
**Why did the Partnership form?**

*Three ongoing processes converged:*

- **2008 and 2009 Biological Opinions (BiOps) calling for enhanced fish habitat in the Yolo Bypass/Cache Slough Complex (YB/CS)**

- **2012 CVFPB’s adoption of the DWR Central Valley Flood Protection Plan (CVFPP) calling for expansion of flood system bypass channels**

- **2014 LS/DN Regional Flood Management Plan**

- **2015 LS/DN Corridor Management Framework (CMF) for accommodating YB/CS ecosystem restoration and flood improvement projects in a locally acceptable manner**
MEMORANDUM OF UNDERSTANDING (MOU)

With the Yolo Bypass and Cache Slough Region emerging as the focus of planning and project implementation efforts affecting multiple federal state, and local interests...

In May 2016, 15 federal, state, and local agencies signed the YB/CS MOU with the intent to work together to prioritize and resolve barriers to success and to collaborate to successfully implement multi-benefit projects.
IMPORTANT DEVELOPMENTS

Since the last Partnership Meeting....

- CVFPB adoption of 2017 CVFPP Update, including priorities for flood system improvements in the Yolo Bypass and a conservation strategy consistent with the BiOp Projects
- LS/DN agency adoption of a Memorandum of Agreement re: governance of CMF implementation
- New USACE 408 guidance on multi-phased review of inter-related projects occurring over time in areas subject to USACE regulation
- Progress on BiOp Projects (Wallace Weir, Fremont Weir Fish Gate, Yolo Bypass Salmonid Restoration/Fish Passage Project, Lookout Slough Project)
- Initiation of Lower Elkhorn Basin Levee Setback Project
- Initiation of feasibility for the multi-objective Little Egbert Tract Project
Regional Flood Management Plan
Lower Sacramento/Delta North (LS-DN)

- Phased Implementation of Yolo Bypass Improvements
- LS-DN Corridor Management Framework (CMF) Recommended Activities for LS-DN Corridor
  - Sacramento Weir & Bypass
  - Woodland’s Flood Risk Reduction & Railroad Relocation
  - Rio Vista Flood Risk Reduction
  - North Bay Aqueduct Alternate Intake Project
  - Small Community Flood Risk Reduction
  - Eastern Solano Regional Drainage and Flood Improvement Projects
  - FEMA NFIP Regulatory Relief for Rural Areas
# Programmatic 408 & Encroachment Permitting

## Milestone 1
**CVFPB Letter of Intent (incl. Master Plan + typical 408 Written Request info)**
- Projects A, B and C

## Milestone 2
**Programmatic Hydraulic Baseline**
- Project specific H&H
- Project specific H&H
- Project specific H&H

## Milestone 3
**Programmatic Environmental, Cultural, etc.**
- Project specific NEPA/CEQ A
- Project specific NEPA/CEQ A
- Project specific NEPA/CEQ A

## Milestone 4
- Project specific Design and O&M

## Milestone 5
- Project specific Design and O&M

## Milestone 6
- Projects G, H and I
- Projects G, H and I
- Projects G, H and I

### Future Milestones
Lower Elkhorn Basin Levee Setback Project

- ~7 Mile Long Setback
- ~1,500 Setback
- Riparian Corridor
- Relocate County Road
- Relocate Utilities
- Replaces Deficient Levee
- Lowers Water Surface Elevation
- Sac Bypass Expansion in Common Features
A PROGRAM OF IMPROVEMENTS

Projects In Progress
Short Term
1 to 3 Years

Mid Term
Projects
3 to 7 Years

Long Term Projects
7+ Years
RESOLVING BARRIERS TO PROGRAM IMPLEMENTATION

- **A 408 Master Plan** led by CVFPB (next step in implementing 2017 CVFPP Update)
- Agreement on hydraulic baseline
- Commitment to agricultural sustainability
- Assurances on ESA compliance affecting ongoing ag/urban pumping operations
- Plan for long-term operation & maintenance of program improvements
- Approach to addressing long-term water quality issues
These developments inspired state and local YB/CS Partnership MOU signatories to create…

The Draft Roadmap

For YB/CS Program Development and Implementation

1. A Program of Improvements
2. An Approach to Resolving Barriers to Program Implementation
3. A Structure for Maintaining Institutional Alignment
A STRUCTURE FOR ACHIEVING & MAINTAINING INSTITUTIONAL ALIGNMENT

The Partnership
A forum to confirm high-level support for program delivery, assist in interpreting or adapting existing policy, and support the development of new policy

Program-Level Interagency Collaborative
A venue for problem solving, tool building, and shared advocacy
POLICY LEVEL: Yolo Bypass & Cache Slough Partnership (MOU)

PROGRAM MANAGEMENT LEVEL: Interagency Collaborative (Charter)

PROJECT IMPLEMENTATION LEVEL: Interagency Collaborative (Charter)

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Not currently participating