

SEPT. 10, 2024

Delta and Yolo Bypass

2024 WORKSHOP

PHIL POGLEDICH, COUNTY COUNSEL
ALEX TENGOLICS, DIRECTOR OF STRATEGIC OPERATIONS
SABRINA SNYDER, SENIOR MANAGEMENT ANALYST



WORKSHOP OBJECTIVES

Describe the environmental, economic, and other factors that are driving interest in habitat restoration and flood protection projects

Review major projects and policy initiatives affecting Yolo County and the region

Review next steps to ensure effective County engagement and advocacy

Respond to Board questions and receive public comment

Receive final Board direction



DELTA INFRASTRUCTURE

State economy is **heavily dependent** upon Delta infrastructure.

Through the State Water Project and Central Valley Project, the Delta provides:

- Primary (and on average, least costly) source of drinking water for **25 million people**
- Irrigation for **4,480,000 acres of agriculture**
- *“Essential for the growth and prosperity of the Golden State.”* (DWR 2024)

The Delta also includes **other essential infrastructure** such as:

- **Extensive but antiquated flood protection facilities** protecting cities, towns, farmland, and billions in property/infrastructure value
- Local and regional **water supply infrastructure** for urban and agricultural uses
- Ports and other shipping infrastructure
- Major highways and railroads

Much of this infrastructure is aging and does not meet modern standards.



THE DECLINING DELTA ECOSYSTEM

The Sacramento–San Joaquin River Delta is the largest river estuary on the western coast of North/South America, but today:

Altered Ecosystem: Vast historic wetlands, meadows, and riparian forests have mostly been degraded or eliminated

Changed Hydrology: Historic Delta hydrology has been altered by dams and water diversions

- Less fresh water moving through Delta (every year is a drought for ecosystem)
- Changes in salinity, reverse flows, and other ecosystem stressors

Other Factors: Climate change, invasive species, pollution, changing ocean conditions, and other factors (known and unknown) harm ecosystem health

Imperiled Native Species: Many native fish and other animal and plant species are threatened or endangered

- **Decline is Accelerating:** Return of Chinook Salmon (fall run) to Sacramento River: averaged ~175,000 between 1996–2005; just over 6,000 in 2023



THE POLICY/REGULATORY RESPONSE

Balancing ecosystem health with economic and public safety considerations:

Protecting Native Fisheries: Increasing restrictions on SWP and CVP operations **and** significant habitat restoration, with more coming soon.

Examples:

- “Big Notch Project”: 17,000–21,000 acres of floodplain habitat in Yolo Bypass
- Tidal habitat restoration on 8,000 acres

Promoting “Multi-Benefit” Projects: Infrastructure agencies (USACE/DWR/CVFPB) now integrating ecosystem benefits into projects.

Infrastructure Changes to Meet Modern Demands:

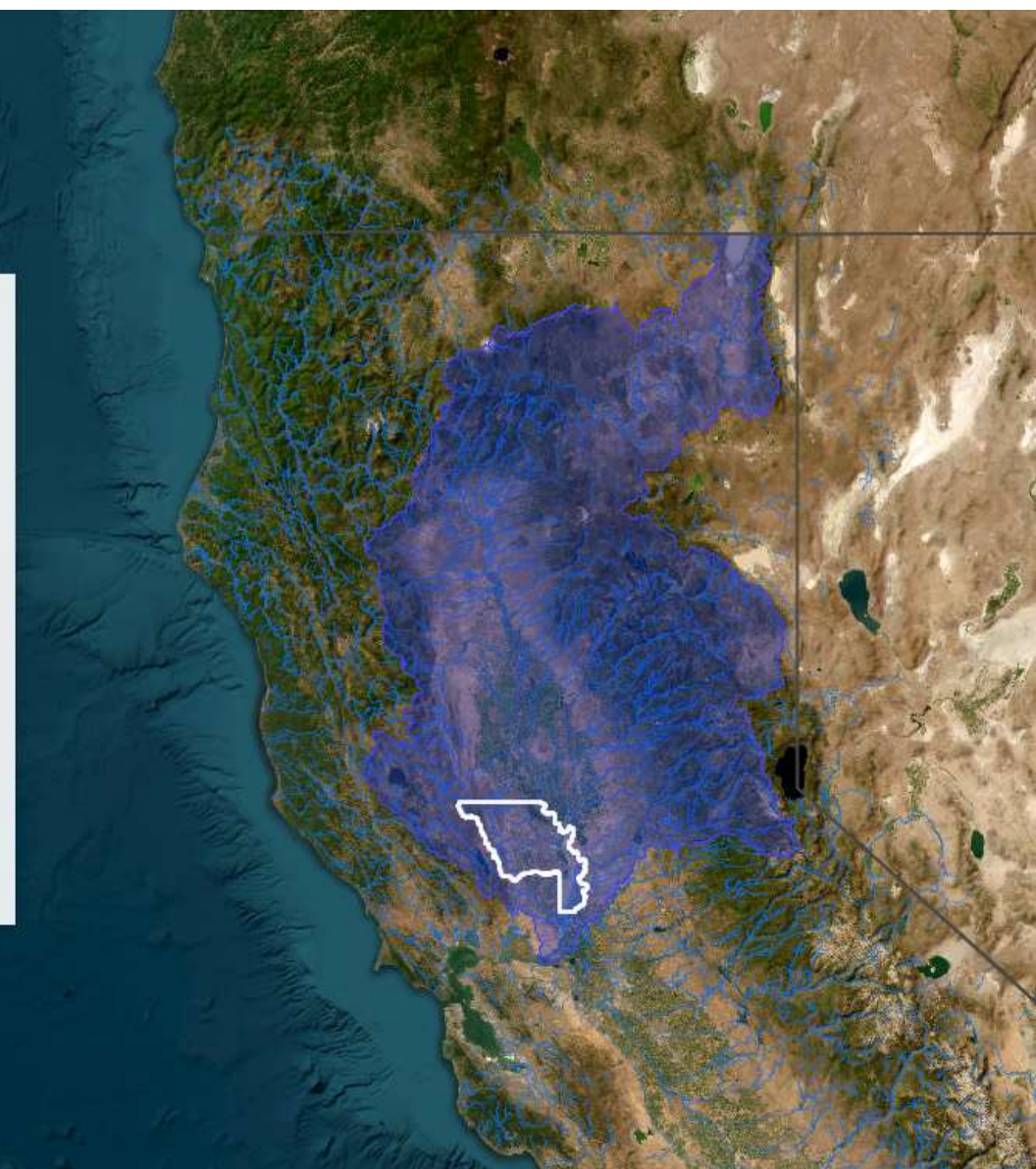
- Delta Conveyance Project will sustain reliance on Delta water via SWP and CVP despite increased regulations, climate change
- Flood system expansions, upgrades, to modernize antiquated (early 20th Century) facilities and better protect expanded urban areas

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Sacramento River Basin Watershed

- Largest watershed in California, covering 27,000 square miles.
- Carries approximately 30% of state's total surface water.
- Supports fish species including: Chinook salmon (fall, winter, spring-run), steelhead, sturgeon, and lamprey.



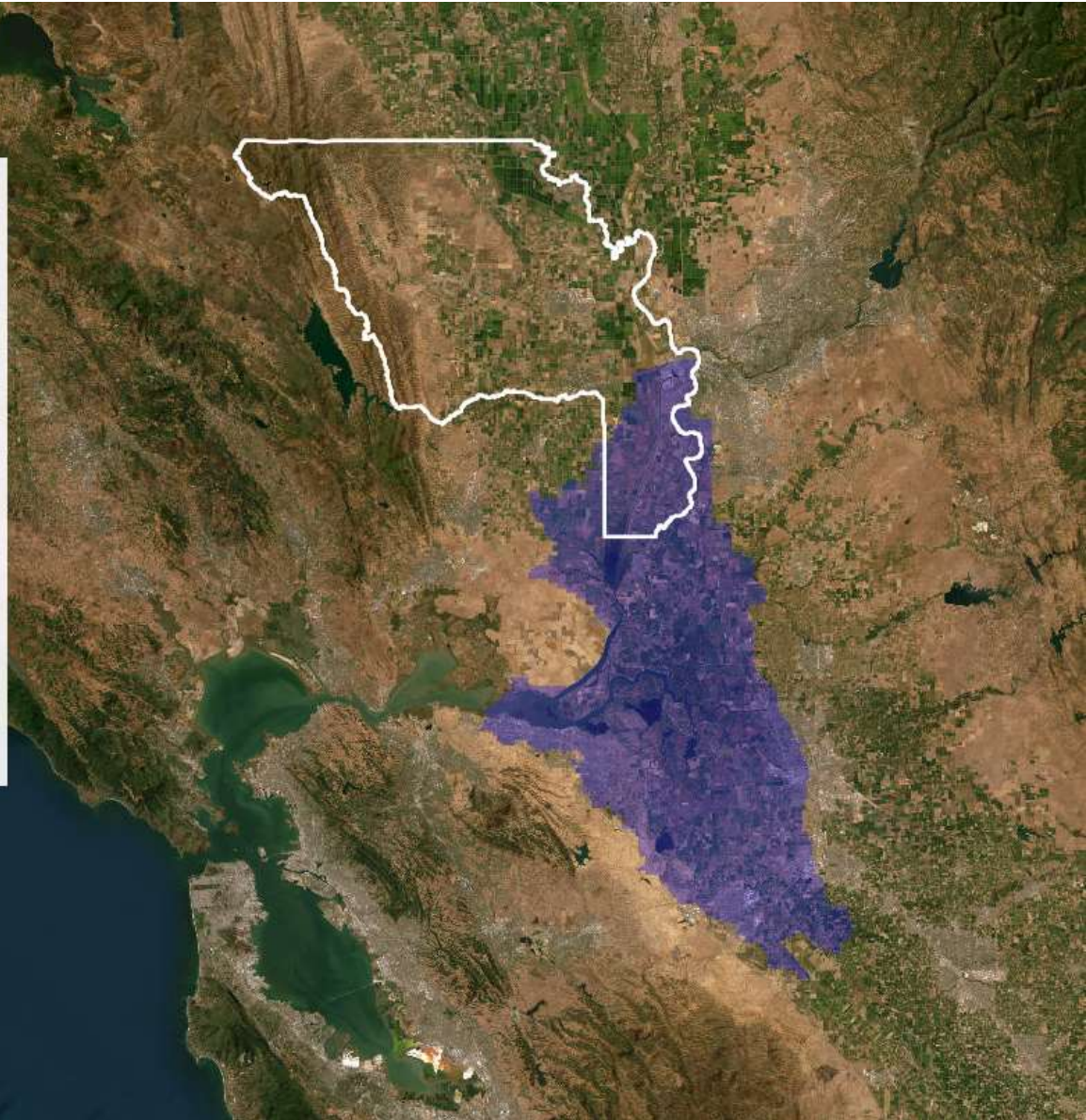
Sites Reservoir

- Proposed by the Sites Project Authority, project is a 1.5-million-acre-foot reservoir located in the Sacramento Valley west of the town of Maxwell.
- Conveyance facilities would include the use of existing Tehama Colusa Canal and Glenn-Colusa Irrigation District Canal diversion and conveyance facilities, plus a proposed new diversion and discharge pipeline.
- Operation would be in cooperation with the operations of existing Central Valley Project (CVP) and State Water Project (SWP) system facilities.
- In December 2023 the County entered into a MOU with the Sites JPA to address construction impacts, Best Management Practices, promote workforce development, and provide other community benefits to Yolo County.



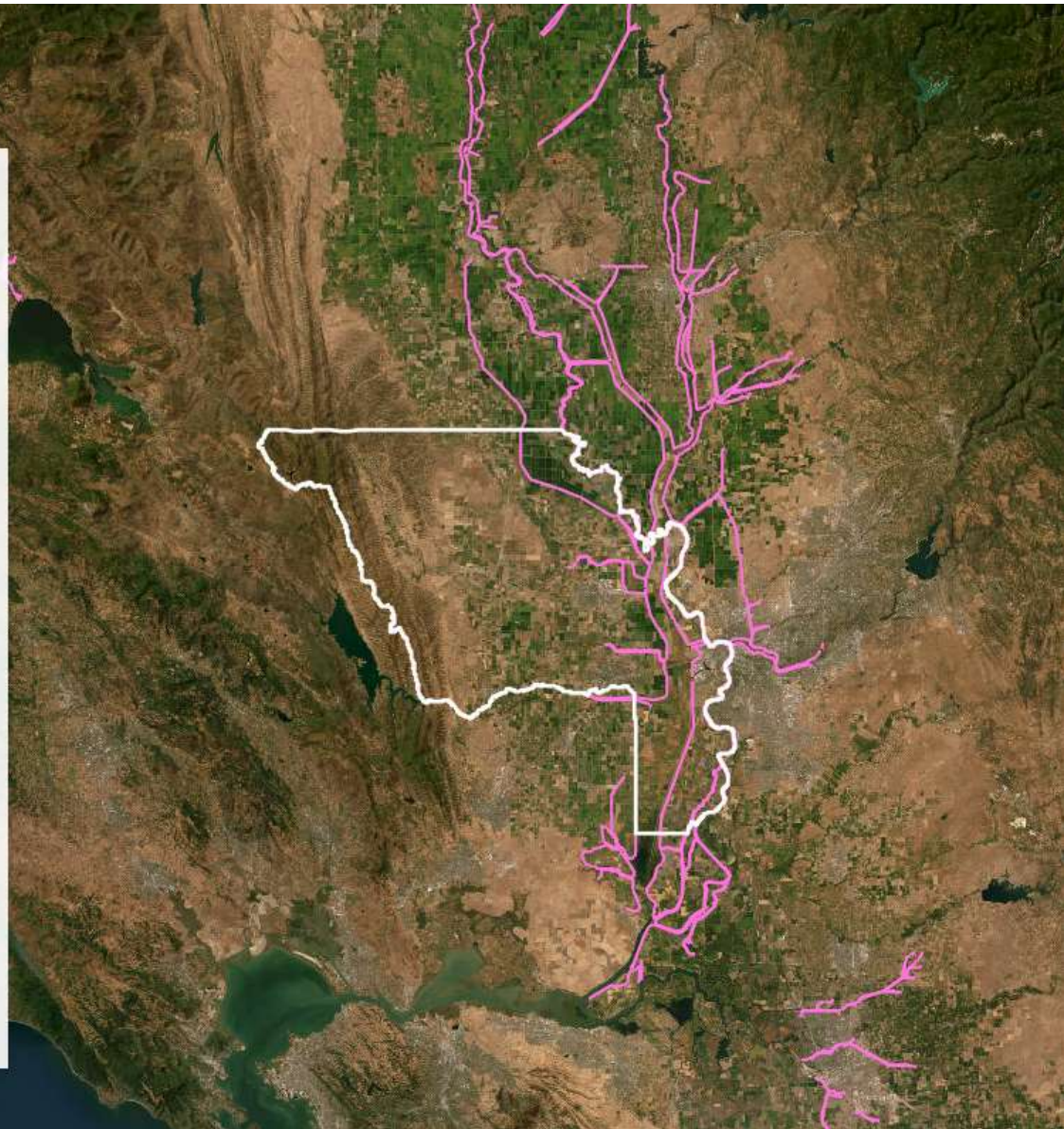
Sacramento-San Joaquin Delta

- Largest estuary on the West Coast California's central water supply for two-thirds of the state's population (~30 million residents) and more than 6 million acres of farmland.
- Approximately 500,000 acres of waterways, levees, and farmland extending over 6 counties.
- Encompassing approximately 48,000 acres of Yolo County.



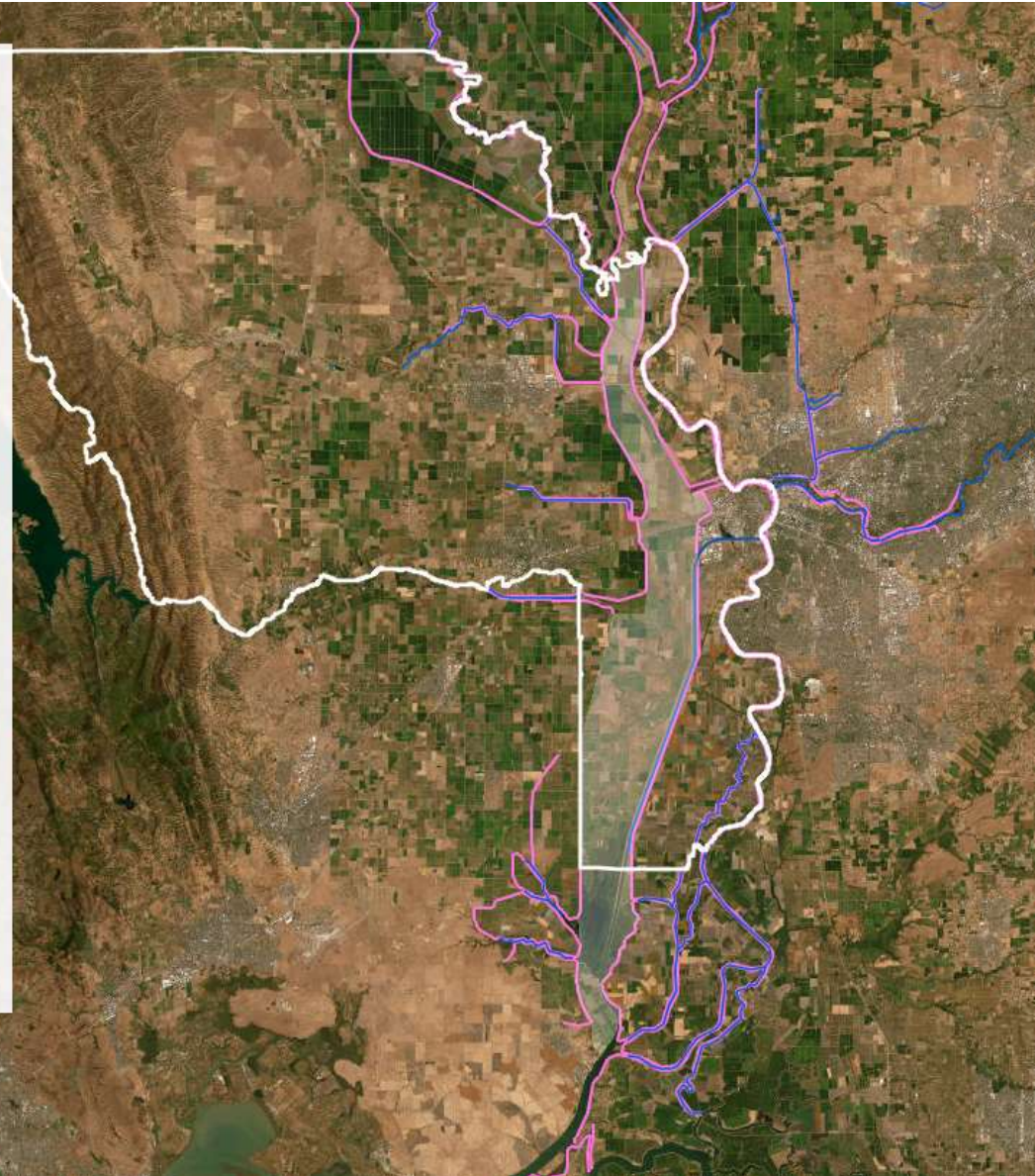
Sacramento River Flood Control Project

- Authorized by Flood Control Act of 1917, expands across the 27,000 square mile watershed.
- System of bypasses, levees, and weirs protecting urban areas including West Sacramento and Sacramento by conveying excess water in high flow events over land used for agriculture and habitat.
- Many levees constructed in early 20th century do not meet current standards.
- Federal, State, and Local agencies are currently evaluating improvement and expansion needs of the system, leading to many active plans and projects affecting County land use and agriculture.



Yolo Bypass

- Last and largest bypass of the Sacramento River Flood Control System.
- Receives high flows from the Sutter Bypass and Sacramento River over the Fremont Weir and additional flows from the Sacramento Bypass.
- 40-miles long, 59,000 acres including nearly 47,000 acres of agricultural land.
- Includes the 16,000-acre Yolo Bypass Wildlife Area, providing critical habitat for millions of migratory waterfowl and shorebirds.
- Agricultural lands are viewed by Federal and State agencies as an opportunity to implement habitat and flood projects.



USACE Comprehensive Study

- Congress authorized the Army Corp of Engineers to perform a comprehensive study of the Yolo Bypass region to, "Identify actions to be undertaken by the Secretary for the comprehensive management of the **Yolo Bypass System** for the purposes of flood risk management, ecosystem restoration, water supply, hydropower, and recreation."
- Army Corp of Engineers signed a cost share agreement with State of California Central Valley Flood Protection Board and Sacramento Area Flood Control Agency to perform this study.
- 5-year study to determine feasibility of increasing flood conveyance capacity in the Yolo Bypass as well as habitat enhancement opportunities.



Upper Yolo Bypass Regional Planning Process

•In response, California Department of Water Resources contracted with Sacramento Area Flood Control Agency to develop flood conveyance and habitat project recommendations for the Army Corps of Engineers in addition to performing necessary outreach for local input.

Current Alternatives:

1.3,000-acre Upper Yolo Bypass Levee Setback into Upper Elkhorn Basin.

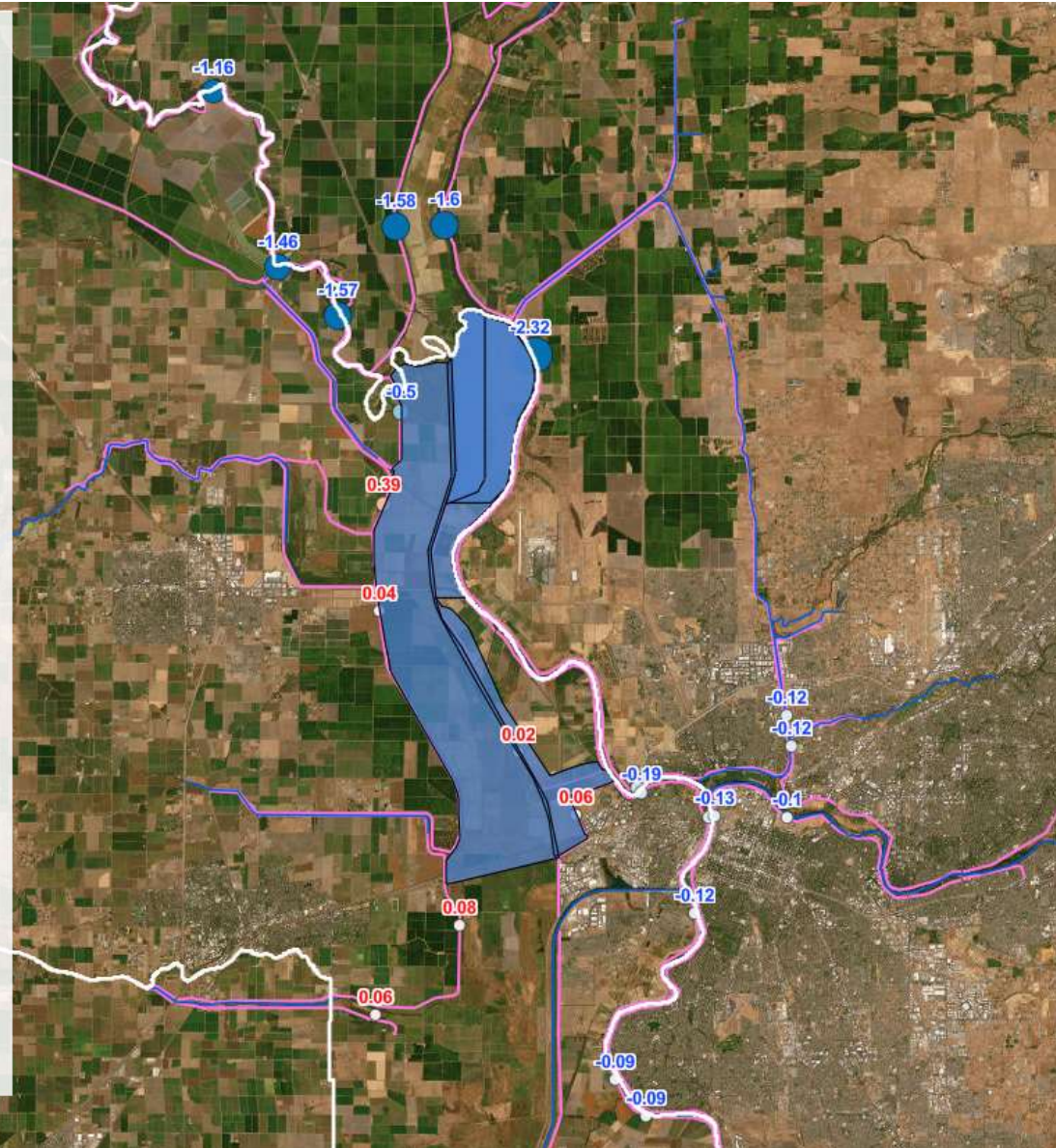
2.6,000-acre Conversion of Upper Elkhorn Basin into a flood conveyance bypass.

(In addition to one of the two below)

1. 970-acre wetland and riparian habitat installation along the Tule Canal
2. 1750-acre wetland and riparian habitat installation along the Tule Canal

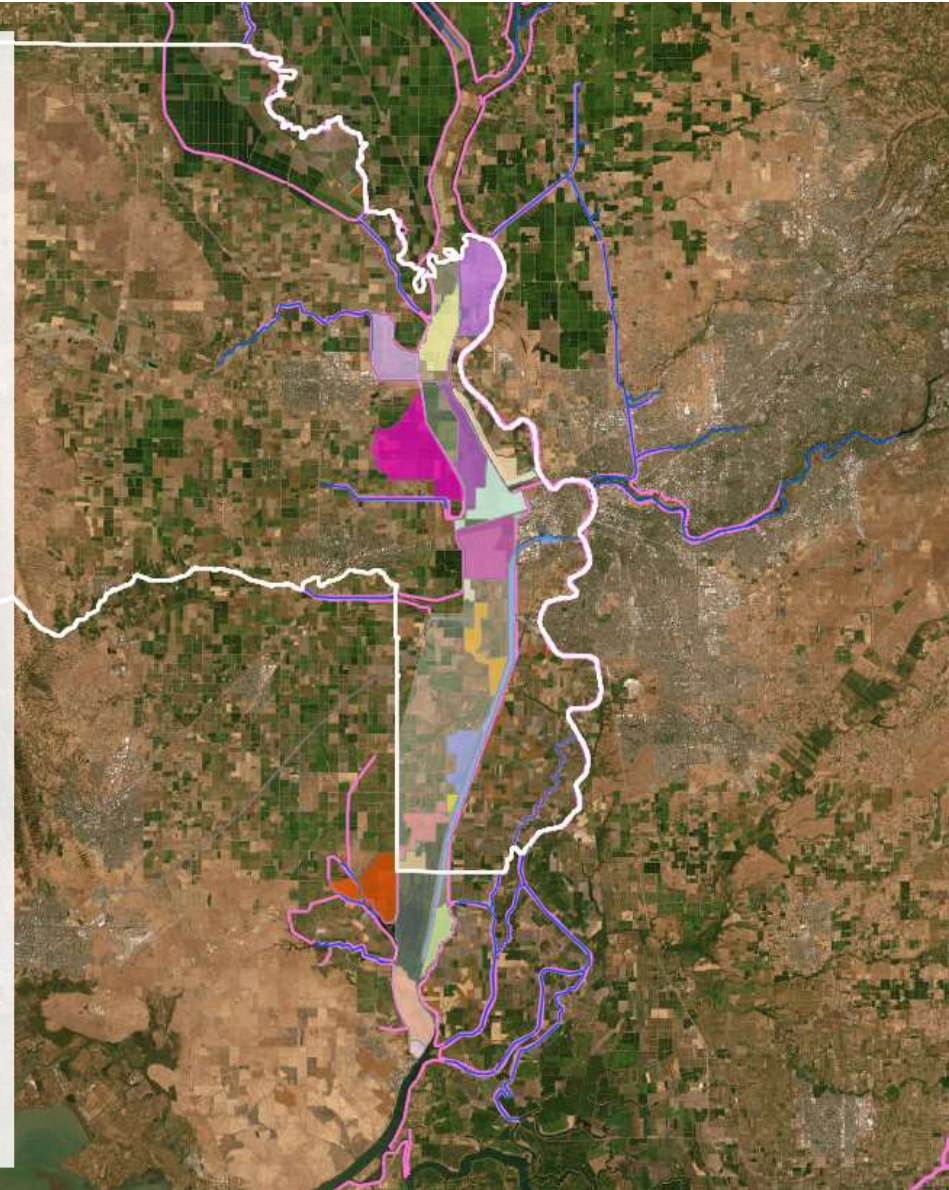
•Flood stage reductions will provide regional benefits to Sutter, Colusa, Sacramento, and Yolo County.

(Flood stage reduction in feet)



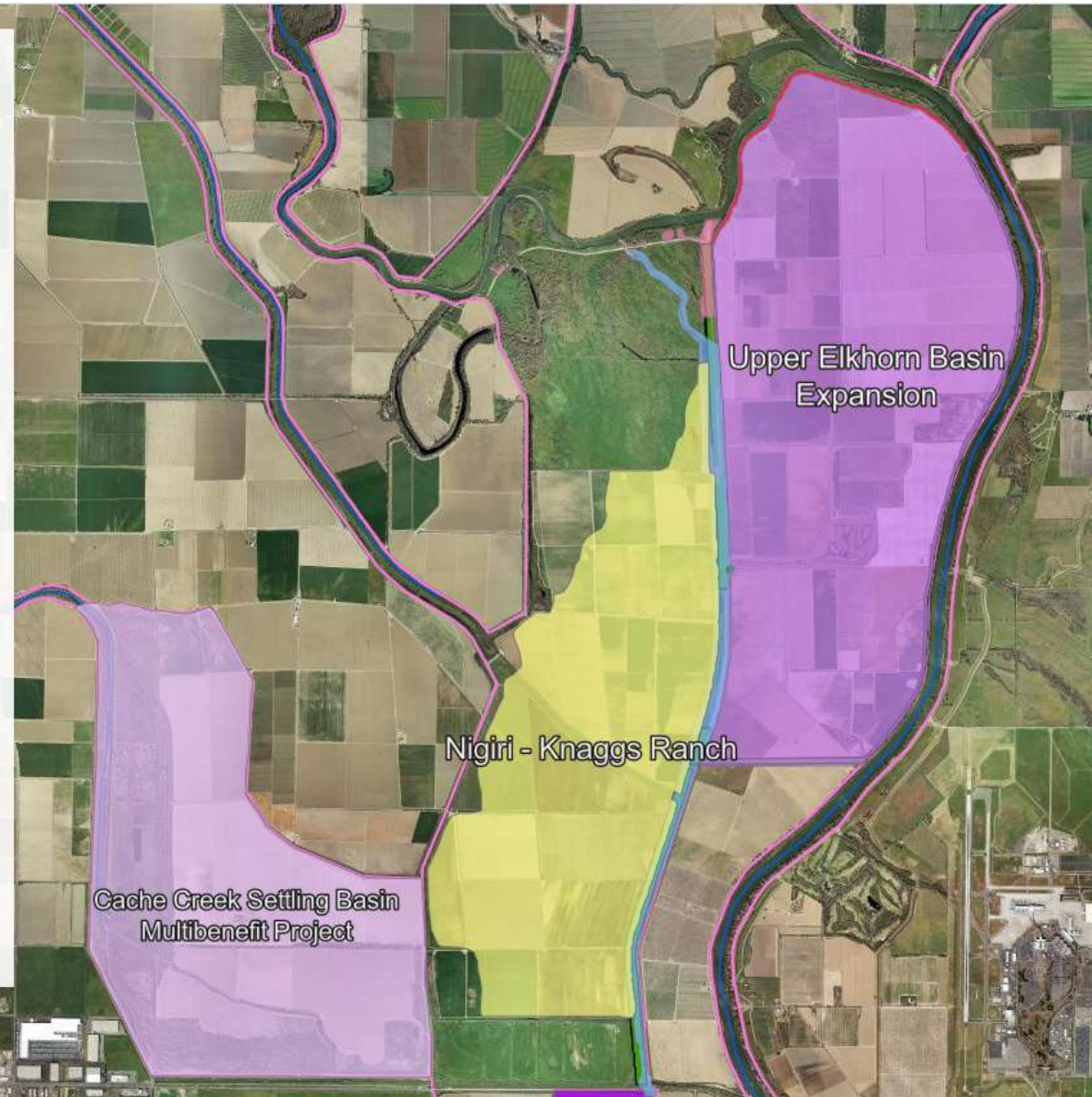
Yolo Bypass Cache Slough Master Plan

- Comprehensive plan that evaluates and supports the implementation of a suite of proposed projects in the Yolo Bypass Cache Slough region.
- Projects primarily benefit flood control and habitat as well as water supply, water quality, recreation, and agriculture.
- Analyzes 22 proposed, planned, and completed projects that have a hydraulic effect on the Yolo Bypass as a whole.
 - Analysis demonstrates it is feasible for all the projects to be implemented, resulting in minimal disturbance to flood control functions.
- Projects proposed by various agencies and private entities.
- Plan Proponents: Department of Water Resources and Central Valley Flood Protection Board.
- Informs Comprehensive Study. Projects not selected by Army Corp of Engineers for federal implementation could be issued key permits for implementation.



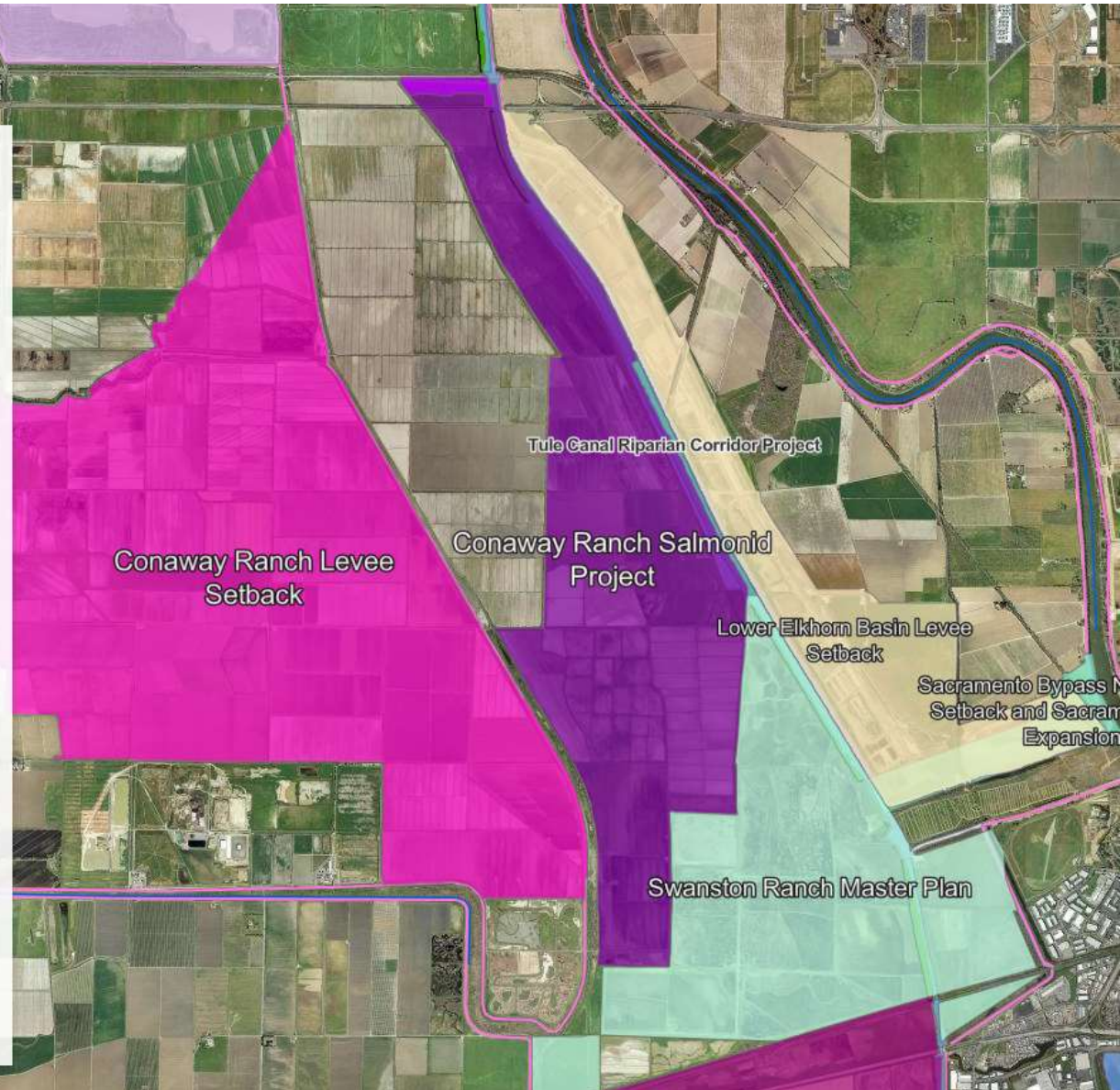
Yolo Bypass Cache Slough Master Plan Proposed Projects

- **Upper Elkhorn Basin Expansion:** Levee setback near the middle of the Upper Elkhorn Basin or conversion of the entire basin into a flood protection bypass with the potential for continued agricultural activities (3,000-6000 acres).
- **Nigiri – Knaggs Ranch:** Managed seasonal floodplain habitat to support juvenile salmon growth by impounding water for longer periods of time over rice fields. Project complements the Big Notch Project (3,350 acres).
- **Cache Creek Settling Basin Multibenefit Project:** Removal of sediment from basin improves trapping efficiency, with possible habitat enhancement features.
- **Master Plan Total Proposed Acreage:**
 - Flood Expansion with Ag: 3,000-6,000
 - Managed Floodplain with Ag: 3,350
 - Riparian Habitat with no Ag: 0 acres



Yolo Bypass Cache Slough Master Plan Proposed Projects

- **Conaway Ranch Levee Setback:** Levee setback of the Yolo Bypass west levee along Conaway Ranch, with the objectives of addressing levee stability concerns, and reducing flood risk to adjacent areas including the City of Davis and City of Woodland (9,400 acres).
- **Conaway Ranch Salmonid Project:** Managed seasonal floodplain habitat to support juvenile salmon growth by impounding water for longer periods of time over rice fields. Project complements the Big Notch Project (3,700 acres).
- **Tule Canal Riparian Corridor Project:** Installation of riparian habitat buffer parallel to the 10-mile stretch of the existing Tule Canal (970-1,750 acres).
- **Master Plan Total Proposed Acreage:**
 - Flood Expansion with Ag: 12,400-15,400
 - Managed Floodplain with Ag: 7,050
 - Riparian Habitat with no Ag: 970-1,50



Yolo Bypass Cache Slough Master Plan Proposed Projects

- **Tides End Multibenefit Restoration Project:** Proposed tidal habitat restoration project that includes mixed land uses of tidal marsh, managed wetlands, and agriculture. The project will connect a 10 mile stretch of floodplain and floodplain and wetland habitat for protected fish species. The project will amplify the benefits of the Big Notch flows (2,212 acres).
- **Yolo Flyway Farms: Completed Project:** The project involves converting irrigated pasture to tidal marsh habitat and seasonal wetlands by grading benches to connect to tidal influence (330 acres).
- **Lower Yolo Ranch Restoration Project:** Completed Project - The Westlands Water District acquired this land to convert irrigated pastureland into tidal marsh habitat to meet federal requirements (2,149 acres).

Master Plan Total Proposed Acreage:

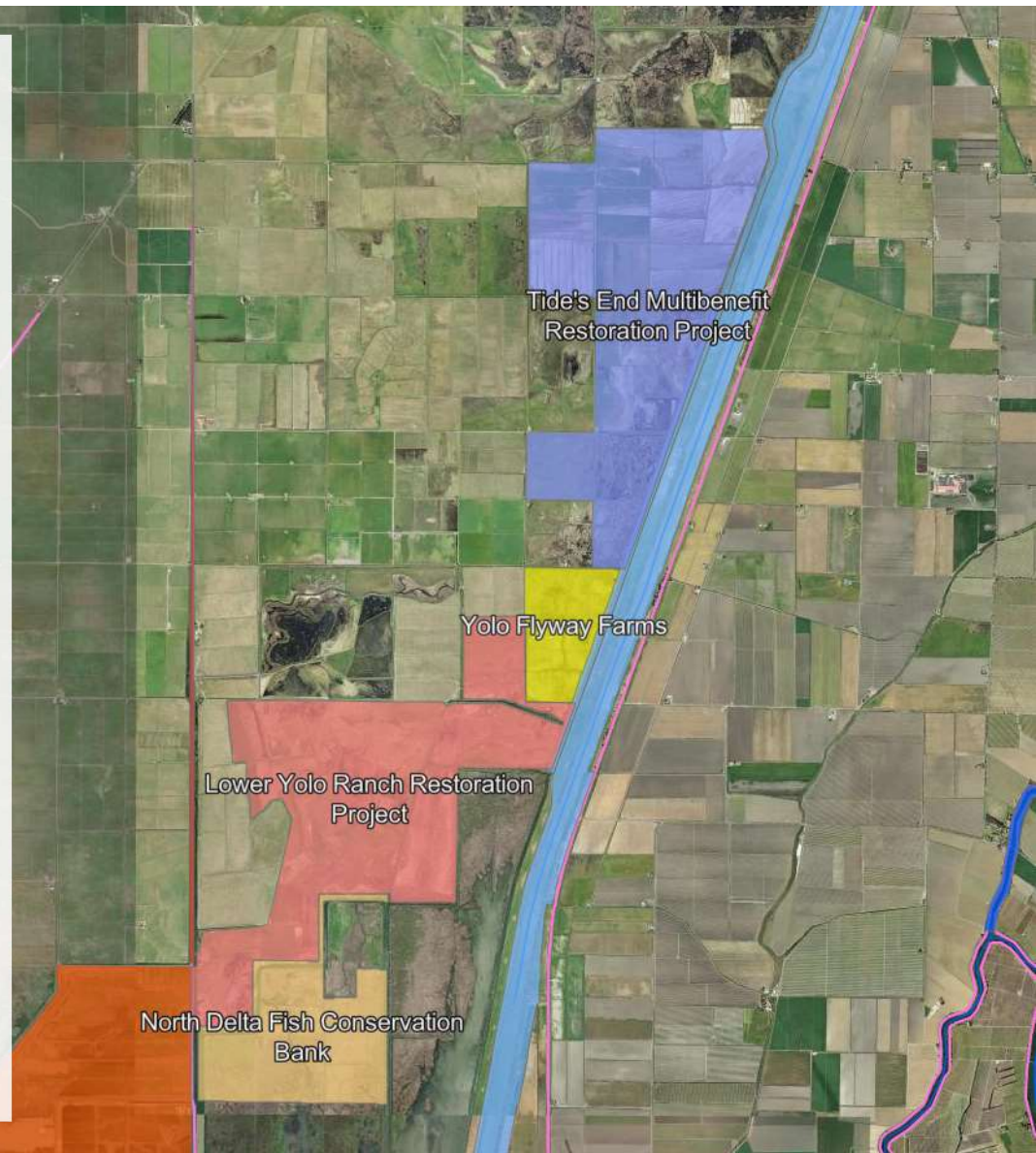
Flood Expansion with Ag: 12,400-15,400

Managed Floodplain with Ag: 7,465

Riparian Habitat with no Ag: 2,766- 3,547

Total Affected Acreage: 22,631 – 26,412

Public Draft: September 16, 2024.



Bay Delta Plan Update

- One of State Water Resources Control Board's primary responsibilities is to protect the Bay Delta watershed and its many beneficial uses.
- Responsible for adopting and updating the Bay-Delta Water Quality Control Plan (Bay-Delta Plan), which establishes water quality and flow requirements needed to protect watershed uses.
- In 2018, the State Water Board adopted amendments to the Bay-Delta Plan with goals for the protection of fish and wildlife, as well as updates for southern Delta salinity for the protection of agriculture. Biological Goals finalized in 2023.
- Diversions of water in the north have a direct impact on water quality in the Delta.
- Draft Plan proposes water agencies supply 30-55% of unimpaired flows to help meet the biological goals that support threatened fish species.
- Water Agencies responded with a separate proposed pathway for implementing the Bay Delta Plan and its biological goals.



Healthy Rivers and Landscapes

- Formerly known as Voluntary Agreements.
- Alternative pathway to implementing the Bay Delta Plan Update and meeting its biological goals.
- Water suppliers would take a comprehensive approach to integrate flow and non-flow measures, including habitat restoration.
- Non-flow measures include restoration of 45,000 acres of aquatic habitat in the Sacramento and San Joaquin Rivers and Bay Delta.
- Habitat restoration projects are currently underway with many potential projects under consideration.
- Proposed to occur for 8 years after which the State Water Board will evaluate on this Program's effectiveness.
- Staff is concerned about large scale habitat restoration projects associated with water exports; per DWR 4-12 projects are contemplated within Yolo County.

Total Funding: \$2.9 B
(\$740M unsecured Federal Funding)

Potential Total Acreage:

- Habitat with Ag: 7,050
- Habitat with no Ag: 1,850- 2,050
- Total: 8,900 – 9,100

Turning Point Preserve

Nigiri

Tule Canal Corridor Enhancement Project

Conaway Ranch
Salmonid Project

Tide's End



Conclusion

- In alignment with Board feedback and the Strategic Plan, draft policy statement document encapsulating the County's broad position on projects and matters impacting the Bypass.
 - Impacts vs. benefits to Yolo County.
 - Avoidance of impacts and mitigation/compensation for unavoidable impacts.
 - Agricultural sustainability.
 - Importance of local land use authority and equal weight partnerships