Delta Conveyance Project Update

SCVWA Board Meeting | Item 5.1

Graham Bradner, DCA Executive Director

Carrie Buckman, DWR Environmental Manager

October 19, 2021

Agenda

1. DCP Introduction
2. DCA Engineering Update
3. DWR Planning Update

New Normal Reinforces Need to Modernize Delta Conveyance

- Less snow and more rain expected over shorter and less predictable durations
- Frequent drought and flood cycles expected
- Our goal: capture water when it is available to potentially store for later use and drought
- Adding diversions—creating flexibility—promotes a more resilient and flexible State Water Project in the face of unstable future conditions

3 of 5 Californians Depend on Water that Flows Through the Delta

The Delta is where rain and snowmelt from the Sierra Nevada mountains collect. It is where the state's main water distribution infrastructure — the State Water Project (SWP) — is located, distributing essential fresh water to homes, businesses and farmlands throughout California, allowing our state to become the 5th largest economy in the world.

State Water Project	
2/3	of California's water originates in the Sierra Nevada mountains
50%	of California's water supply flows through the Delta
29	State Water Contractors purchase and distribute water through the SWP
27m	people receive clean, affordable water from the SWP
Millions	of people in disadvantaged communities depend on the SWP as an affordable water supply
750k	acres of farmland are irrigated with SWP water
$5 trillion	California's economy that is sustained by a reliable water supply

Time to Modernize Now - Risks are Mounting

Purpose

- Modernize the aging SWP infrastructure in the Delta to restore and protect the reliability of SWP water deliveries in a cost-effective manner, consistent with the State's Water Resilience Portfolio.

Objectives

- **Address** sea level rise and climate change
- **Minimize** water supply disruption due to seismic risk
- **Protect** water supply reliability
- **Provide** operational flexibility to improve aquatic conditions

DCP Roles and Responsibilities

Department of Water Resources (DWR)

- Leads environmental review and planning efforts, including CEQA and coordination with USACE
- Leads public outreach, public participation and stakeholder engagement activities
- Ensures transparency
- Responsible for managing planning budget and schedule
- Reports on progress to State Legislature and others
- Directs and oversees work of DCA

Delta Conveyance Design and Construction Authority (DCA)

Under oversight of DWR:

- Conducts engineering and design work to inform the environmental review and planning process
- Identifies potential engineering and design strategies to avoid and/or minimize impacts
- Assists in conducting public outreach, public participation and stakeholder engagement activities
- Board of Directors comprised of PWA representatives

Public Water Agencies (PWA)

- Provide technical expertise to DWR and DCA
- Collaborate on and contribute to public participation and public outreach
- Ensure that planning and project development meet the financial, policy, technical, and long-term planning needs of their retailers, member agencies and ratepayers

GRAHAM BRADNER, DCA EXECUTIVE DIRECTOR

DCA Engineering Update

Delta Conveyance – Engineering Summary

Three Alignments

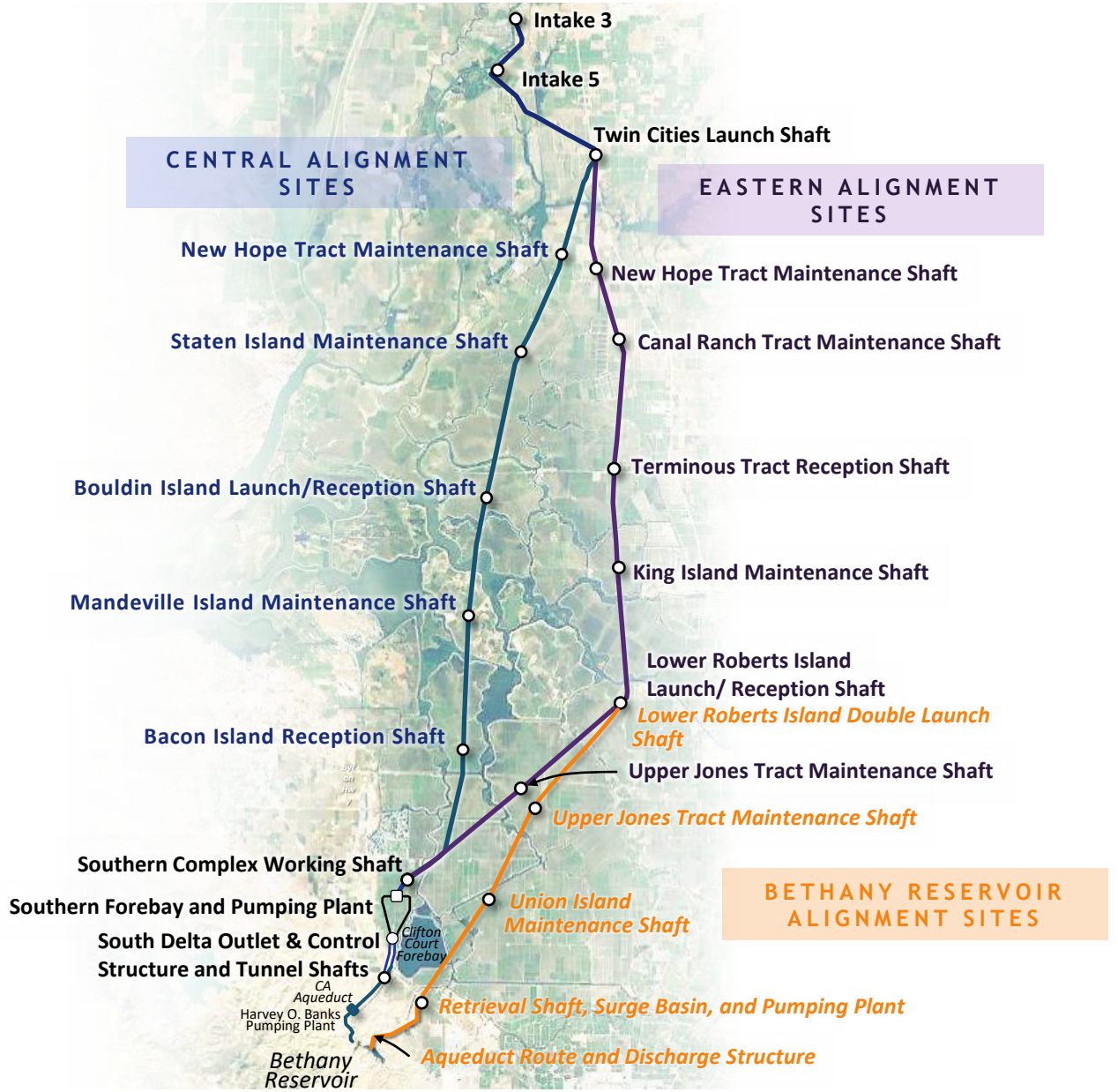
- Central
- Eastern
- Bethany

Two Engineering Project Reports

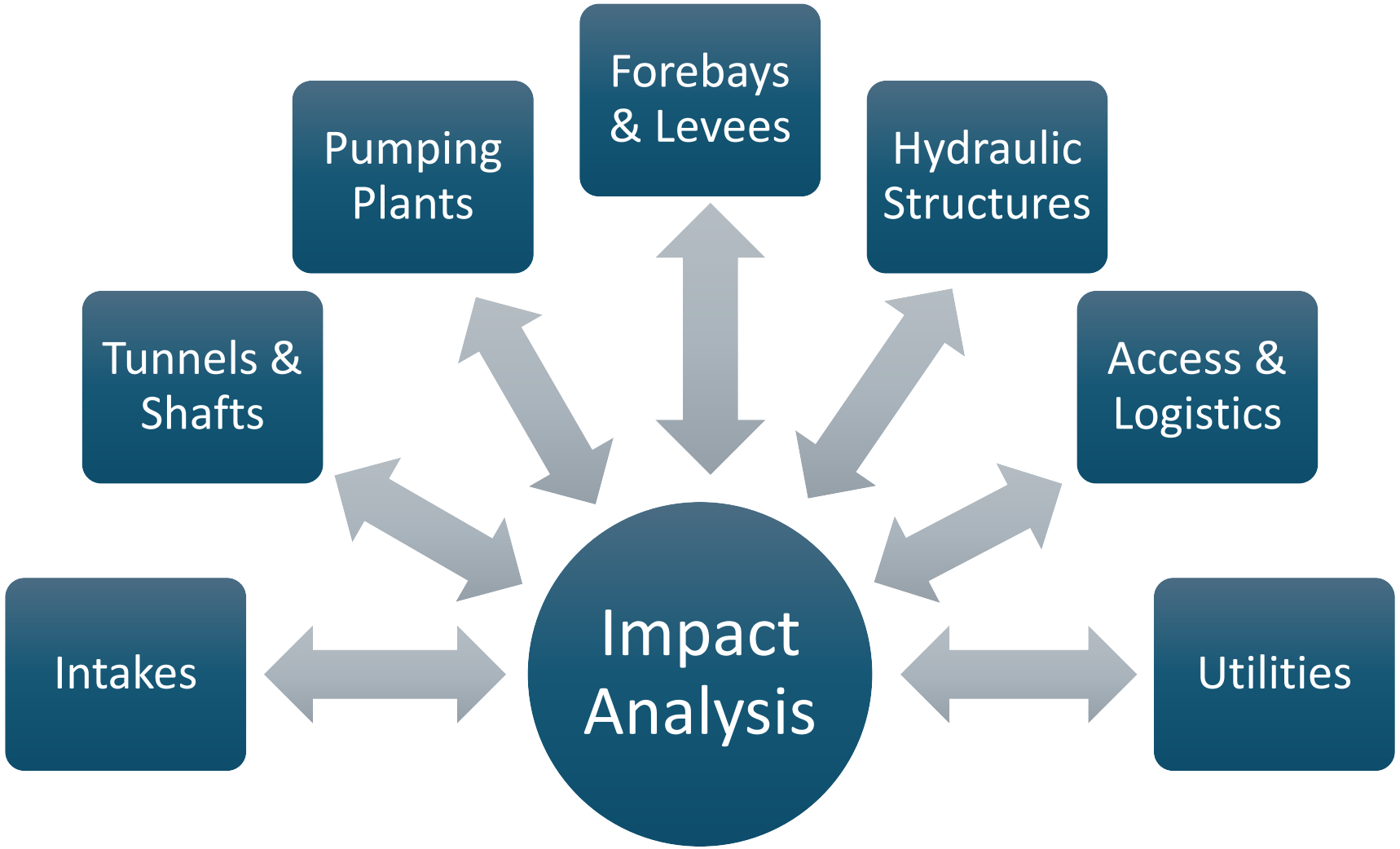
- Central/Eastern Corridors for Proposed Project
- Bethany Reservoir Alternative

Four Capacity Options

- 3,000 cfs
- 4,500 cfs
- <u>6,000 cfs – Proposed Project</u>
- 7,500 cfs



Engineering Input for Impact Analysis

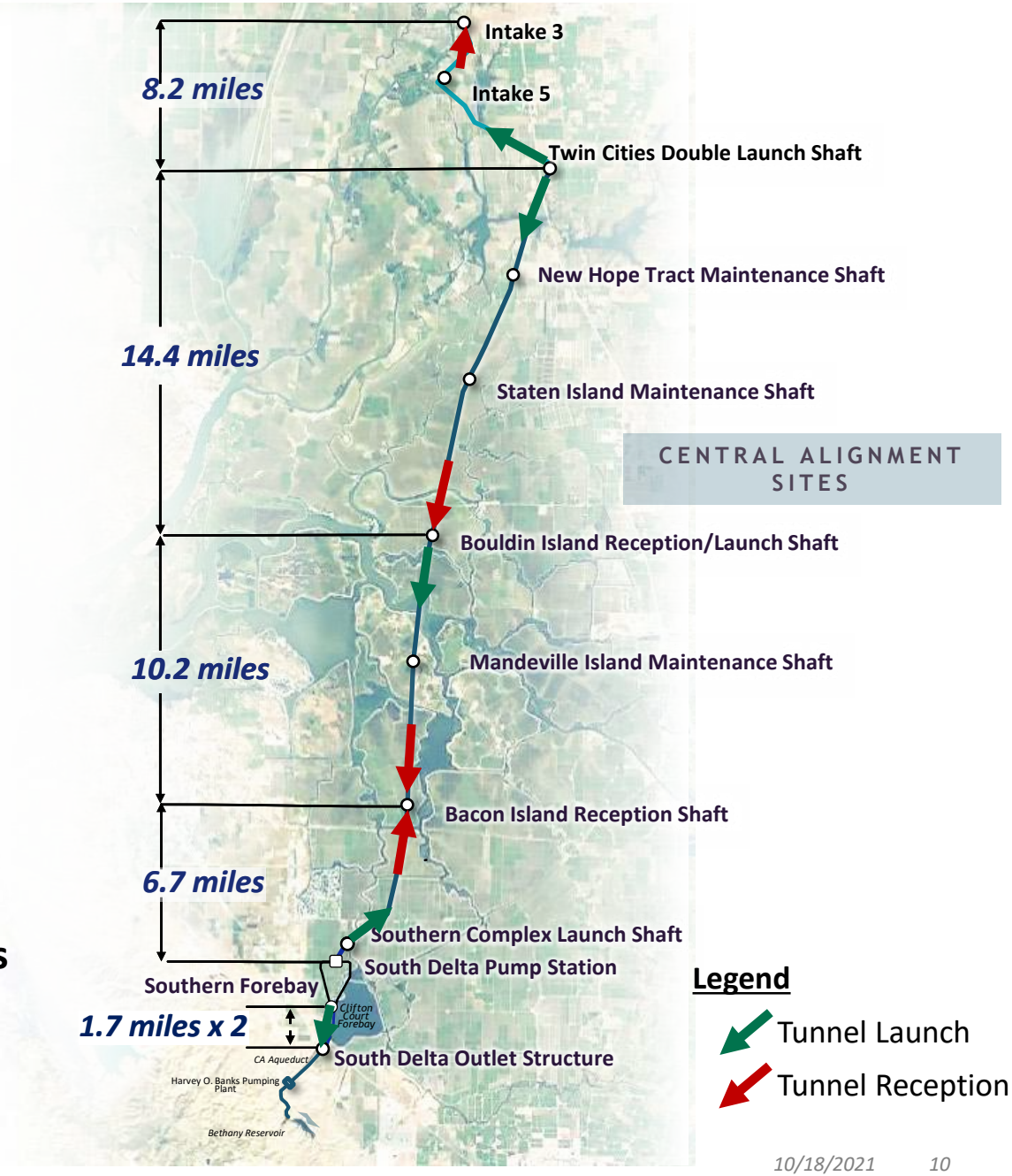


Key Considerations

- Facility Siting
- Geotechnical Conditions
- Roads/Bridges/Rail
- Systemwide Soil Balance
- Reusable Tunnel Mat'l Management (RTM)
- Flood Risk Reduction
- On-site Concrete Batch Plants
- Power and Water
- SCADA/Comms

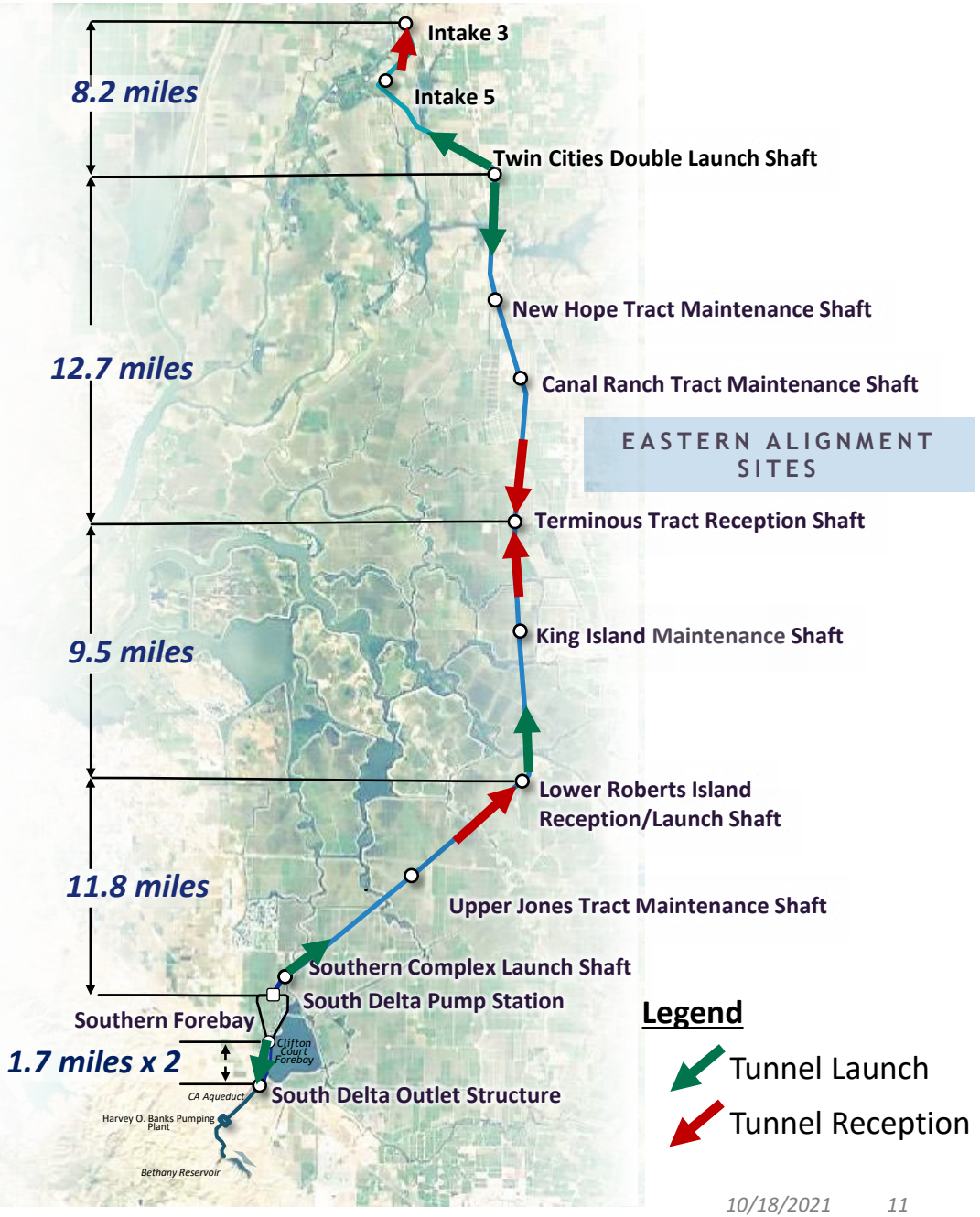
Central Alignment

- Number of Intakes for all alternatives will vary depending on capacity; examples show 6,000 cfs configuration.
- 42.9 miles of tunnel (shortest of the 3 alignments).
- Consists of 3 Launch Shafts (1 double + 2 singles), 3 Maintenance Shafts, and 3 Reception Shafts (One Intake would become a reception shaft).
- Connects to the CA Aqueduct upstream of Harvey O. Banks Pumping Plant – connecting tunnels require added set of Launch and Reception Shafts from Southern Forebay.
- Connection to Central Valley Project for 7,500 cfs option requires additional tunnel to discharge into C.W. Bill Jones Pumping Plant approach canal.



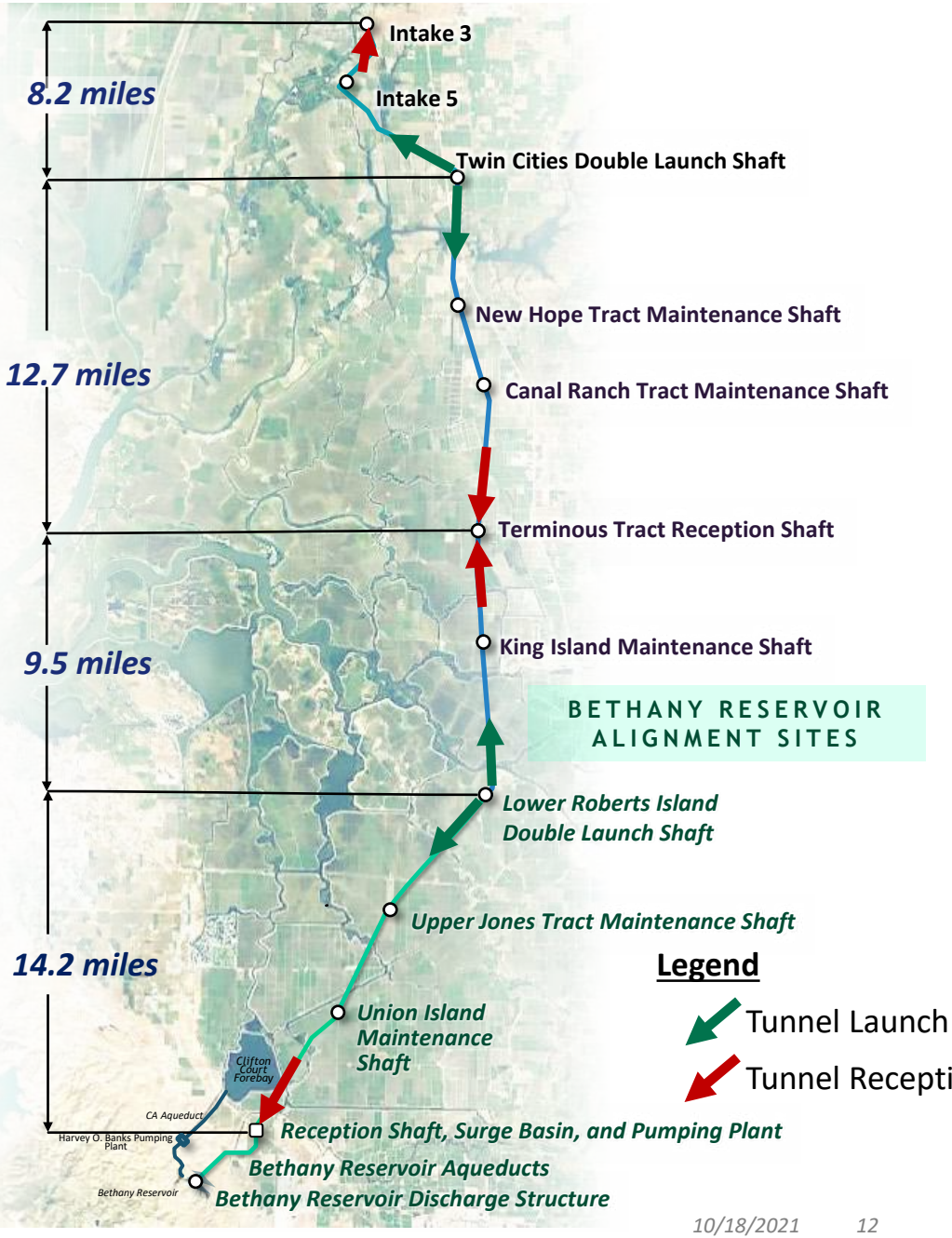
Eastern Alignment

- Uses the same alignment as Central for the Northern Facilities and Southern Facilities for connection to CA Aqueduct and potentially to federal system.
- Alignment follows a route closer to eastern margin of the Delta.
- 45.6 miles of tunnel (longest of the 3 alignments).
- Consists of 3 Launch Shafts (1 double + 2 singles), 4 Maintenance Shafts, and 3 Reception Shafts.



Bethany Reservoir Alignment

- Uses the same Northern Facilities as Central/Eastern and follows Eastern Alignment to Lower Robert Island.
- Delivers water directly to Bethany Reservoir through new pumping plant and discharge structure.
- 44.6 miles of tunnel.
- Consists of 2 Launch Shafts (2 doubles), 5 Maintenance Shafts, and 3 Reception Shafts (including shaft at Surge Basin).
- Requires 3 miles of aqueduct pipelines (# of pipelines varies by capacity), and an additional pipeline for connection to Jones Pumping Plant approach channel.



Stakeholder Engagement Committee

Purpose:

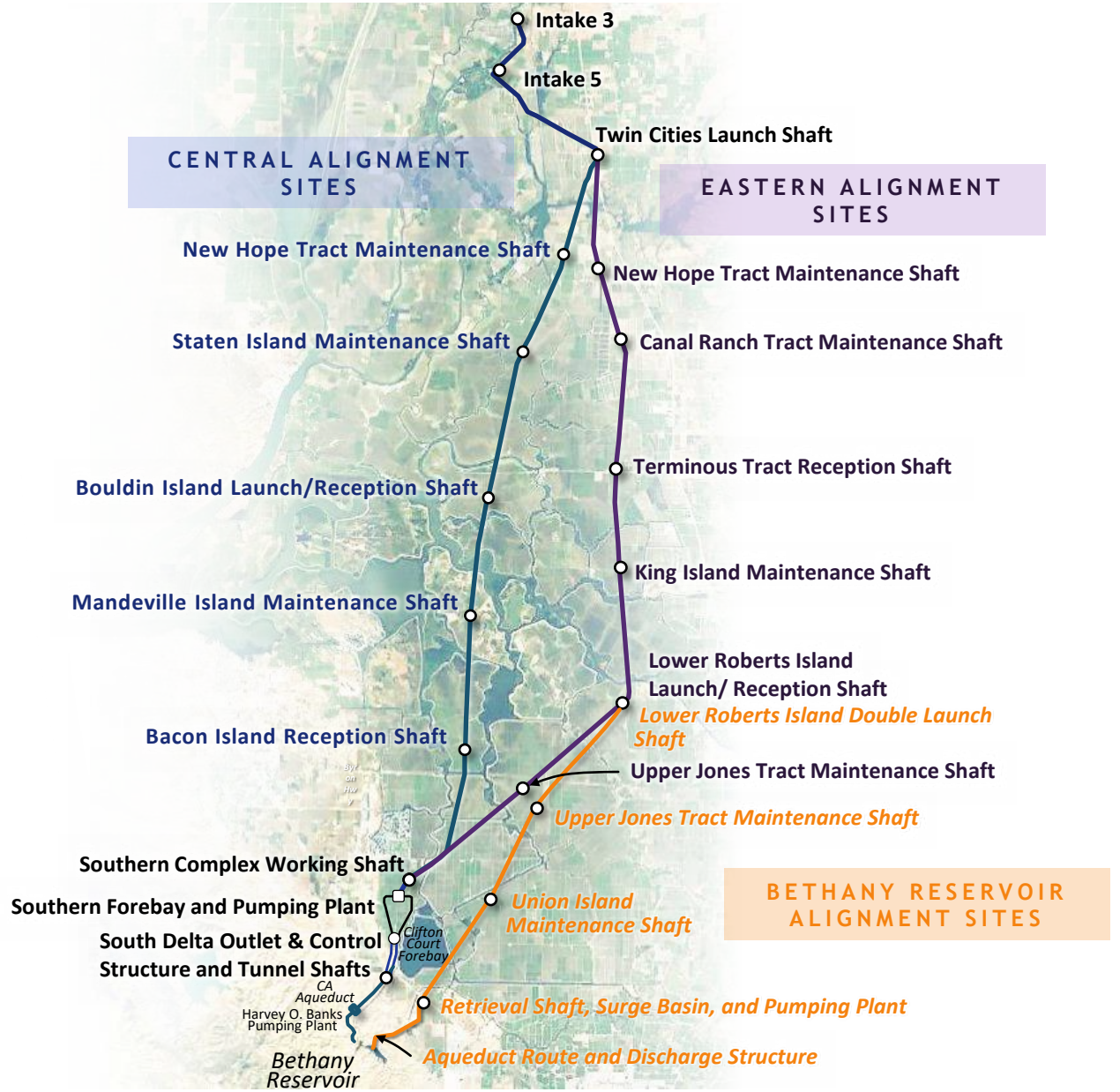
Provide feedback to the DCA on engineering work with focus on reducing potential construction-related impacts.

Emphasis on facility siting, traffic affects, waterway affects, and land area/use affects.

- **17 Committee Members**
- **Represent wide array of interests and geographies**
- **19 Committee Meetings**
- **November 2019 thru December 2021**
- **Over 65 agendized presentations**

Work to Date

- ✓**Introduction to the Delta Conveyance System**
- ✓**Detailed review of key project elements:**
  - Intakes
  - Tunnel and Shafts
  - Southern Facilities
  - Bethany Complex
- ✓**Siting Alternative Studies**
- ✓**Construction Footprints**
- ✓**Logistics Plans and Traffic Impacts**
  - Proposed roads, barge landings and rail spurs
  - Routes to each site
  - Traffic histograms
  - Project Impacts to Level of Service
  - RTM Management
- ✓**Design changes to reflect SEC comments**

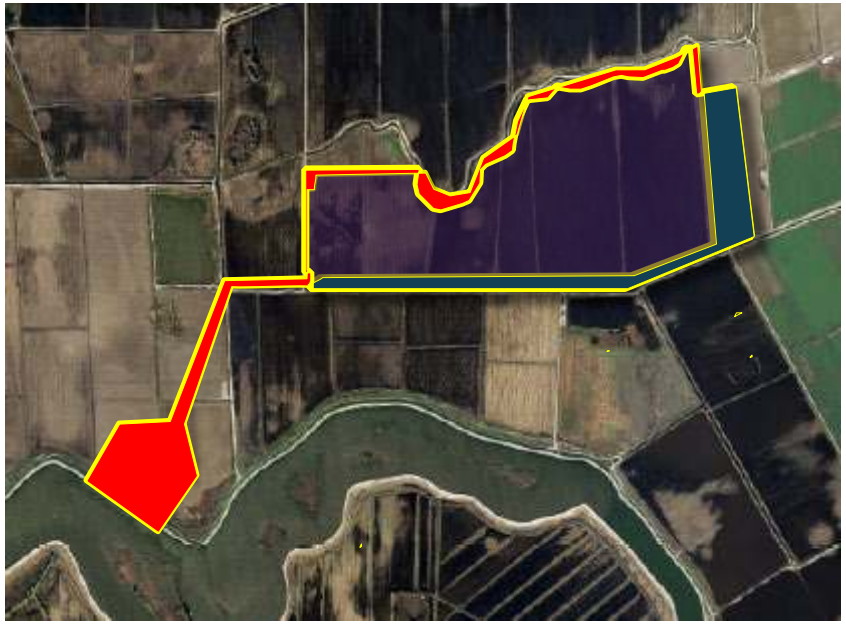


Incorporated Valuable Input

- Reduced site footprints throughout and maximized reclamation of impacted agricultural land
- Shifted facilities away from natural areas including Stone Lakes and Woodbridge Reserves
- Eliminated most barging and associated affects to recreational boating
- Added rail, expanded roads, or eliminated structures to maintain acceptable levels of service
- Reduced borrow and import requirements to reduce traffic loads
- Focus on “eco-friendly” tunnel conditions
- Reduced pile driving impacts at intakes by 80% through cofferdam re-design

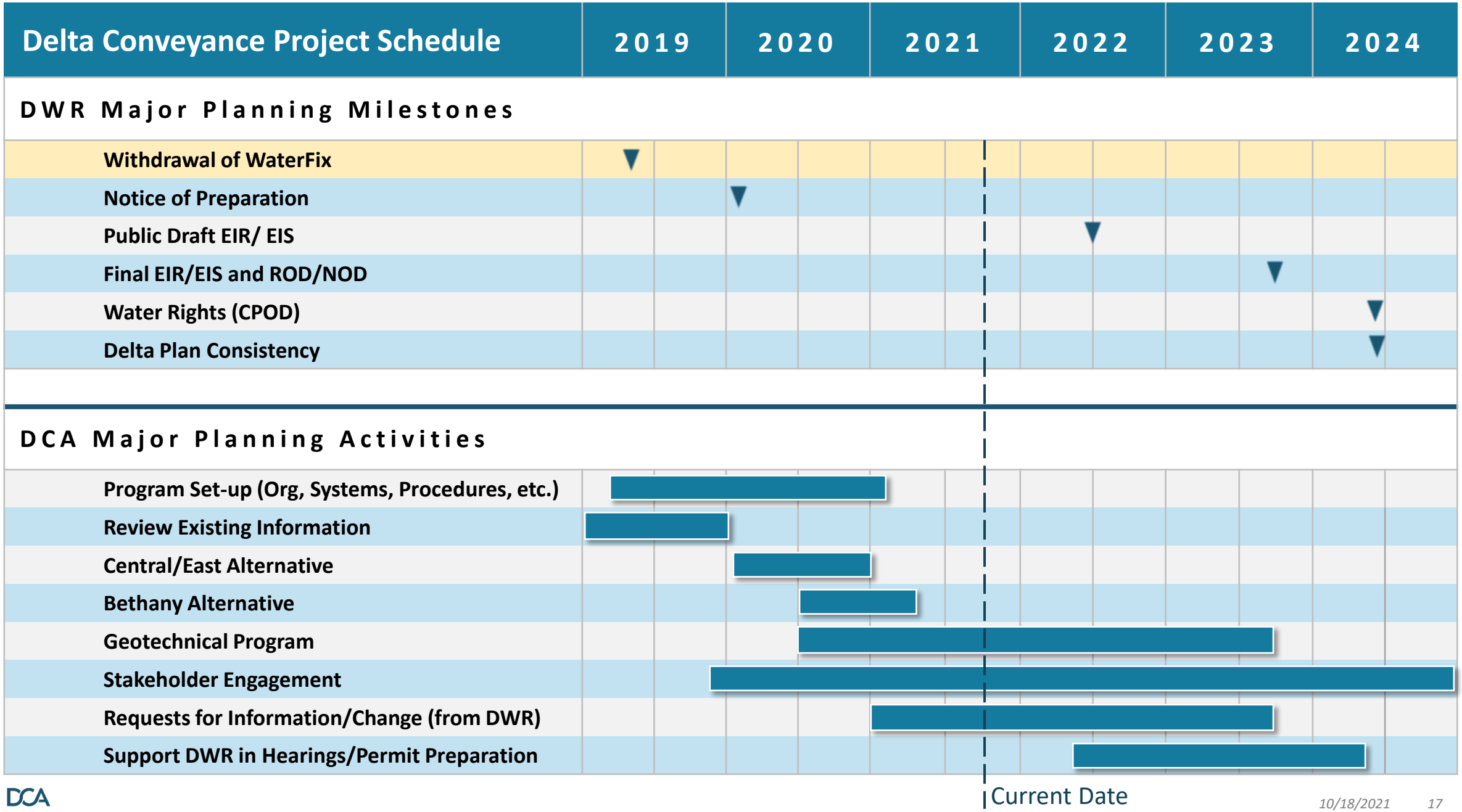
Moved shaft one mile from Woodbridge Reserve Boundary to Canal Ranch Maintenance Shaft Site

Eliminated the Barge Landing at Bouldin Island Launch Shaft Site



DCA Outreach and Engagement Next Steps

- **DCA completed conceptual designs for DWR impact analyses – time to sunset the SEC**
- **Continue Outreach Efforts in the Delta**
    - Local Community Engineering Briefings
    - Publication and Distribution of DCA Materials and Content
- **Transition to DWR-led engagement consistent with CEQA**

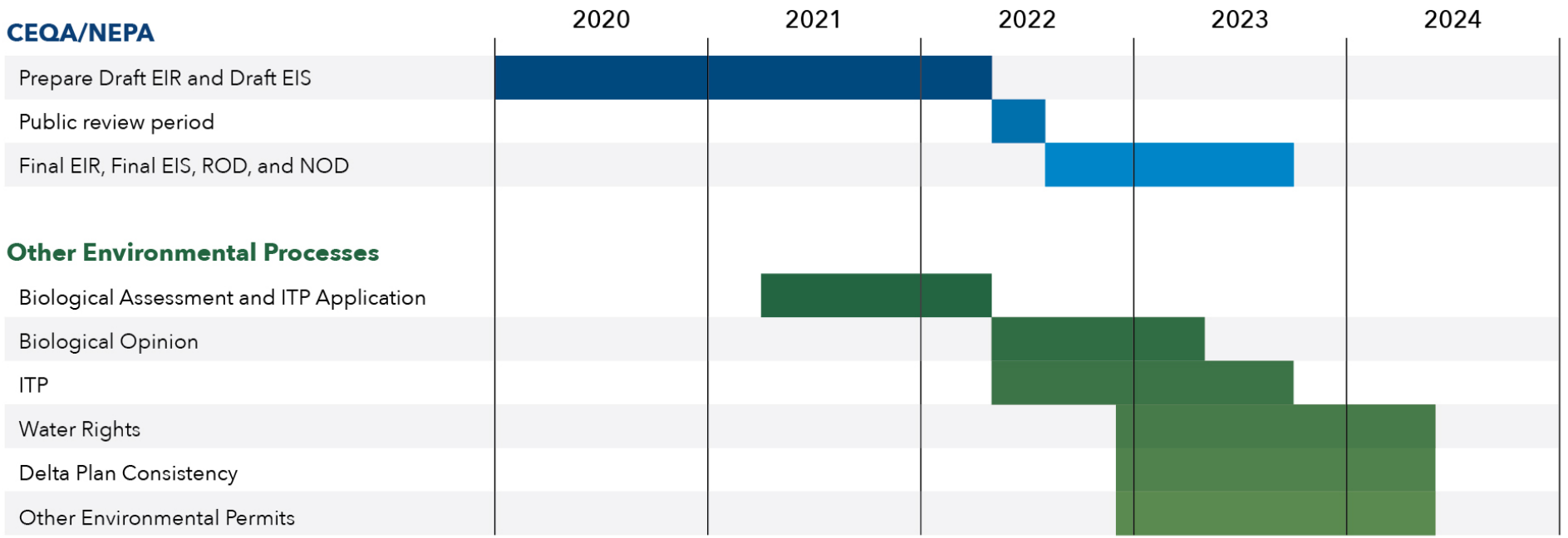

Delta Conveyance Project Schedule
2019
2020
2021
2022
2023
2024
DWR Major Planning Milestones
Withdrawal of WaterFix
Notice of Preparation
Public Draft EIR/ EIS
Final EIR/EIS and ROD/NOD
Water Rights (CPOD)
Delta Plan Consistency
DCA Major Planning Activities
Program Set-up (Org, Systems, Procedures, etc.)
Review Existing Information
Central/East Alternative
Bethany Alternative
Geotechnical Program
Stakeholder Engagement
Requests for Information/Change (from DWR)
Support DWR in Hearings/Permit Preparation
Current Date

CARRIE BUCKMAN, DWR ENVIRONMENTAL MANAGER

DWR Planning Update

Current Project Schedule

Delta Conveyance Project Schedule



Dual Conveyance Operations

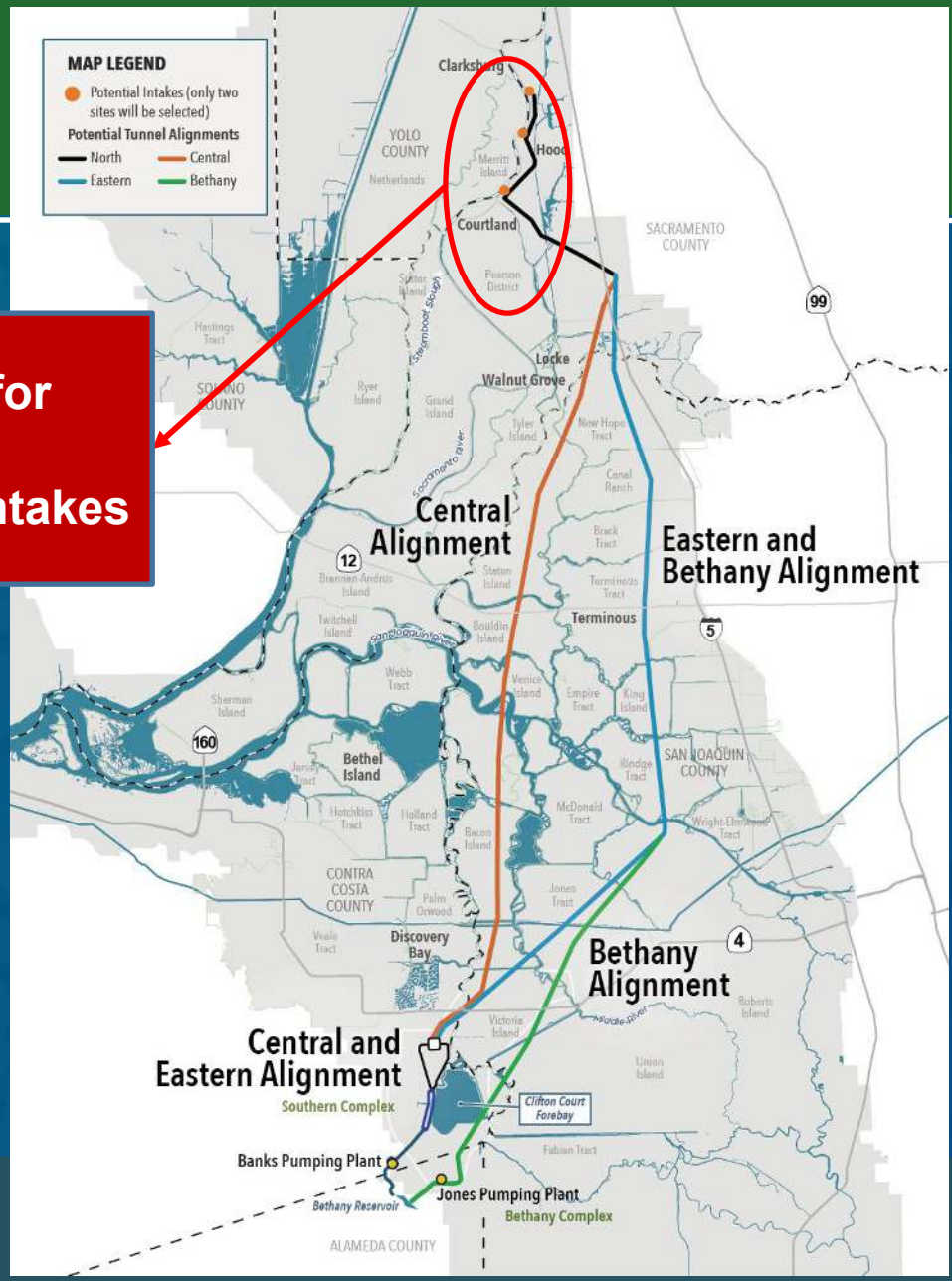
- Preliminary operations discussed during technical webinars
- Proposed North Delta Diversion (NDD) intakes would operate in conjunction with the existing south Delta intakes (Dual Conveyance)
- Potential flexibility in using either south or north Delta intakes with proposed NDD
- Current assumptions:
  - Use NDD to augment excess flow diversions on top of permitted diversions at south Delta intakes – winter/spring
  - Use NDD to manage salinity and realize potential carriage water savings – summer/fall
  - Maximizes benefits while minimizing impacts

Operational Criteria for New Intakes

Existing Delta Operations
(Use 2020 ITP Criteria)

- Delta Outflow Requirements
- D-1641 E/I Ratio computation (Account for ND diversion as part of export)
- OMR
- Export limits

New Criteria for the proposed North Delta Intakes

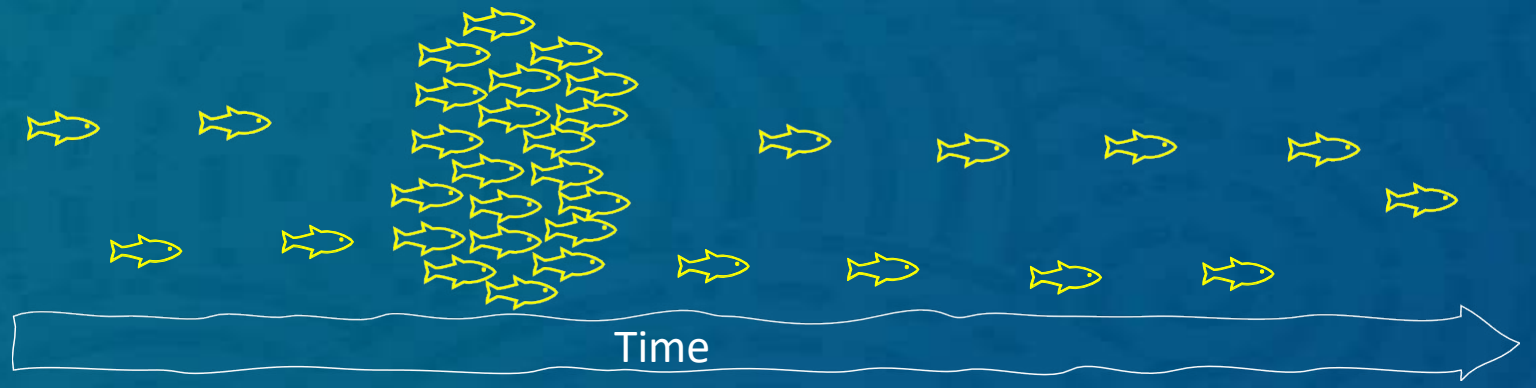


Components of Proposed NDD Operations Criteria

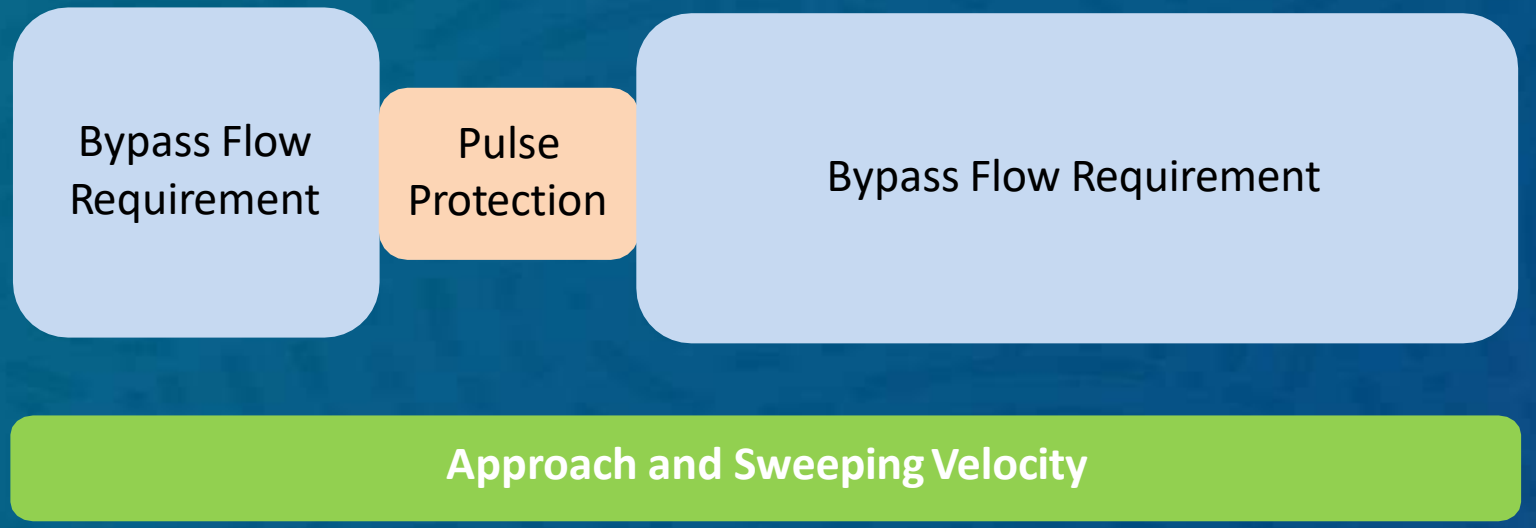
- Fish screen approach/ sweeping velocity criteria: *Minimize near-field effects*
- Bypass flows: *Protect survival in the intakes reach & through-Delta*
- Pulse protection: *Protecting pulse of migrating fish*
- Low level pumping: *Diversion level with minimal effects*

NDD Operations Criteria Concepts

Concept of Fish Migration in the Intake Reach



Layering of Protections for NDD Operations



Impact Analysis

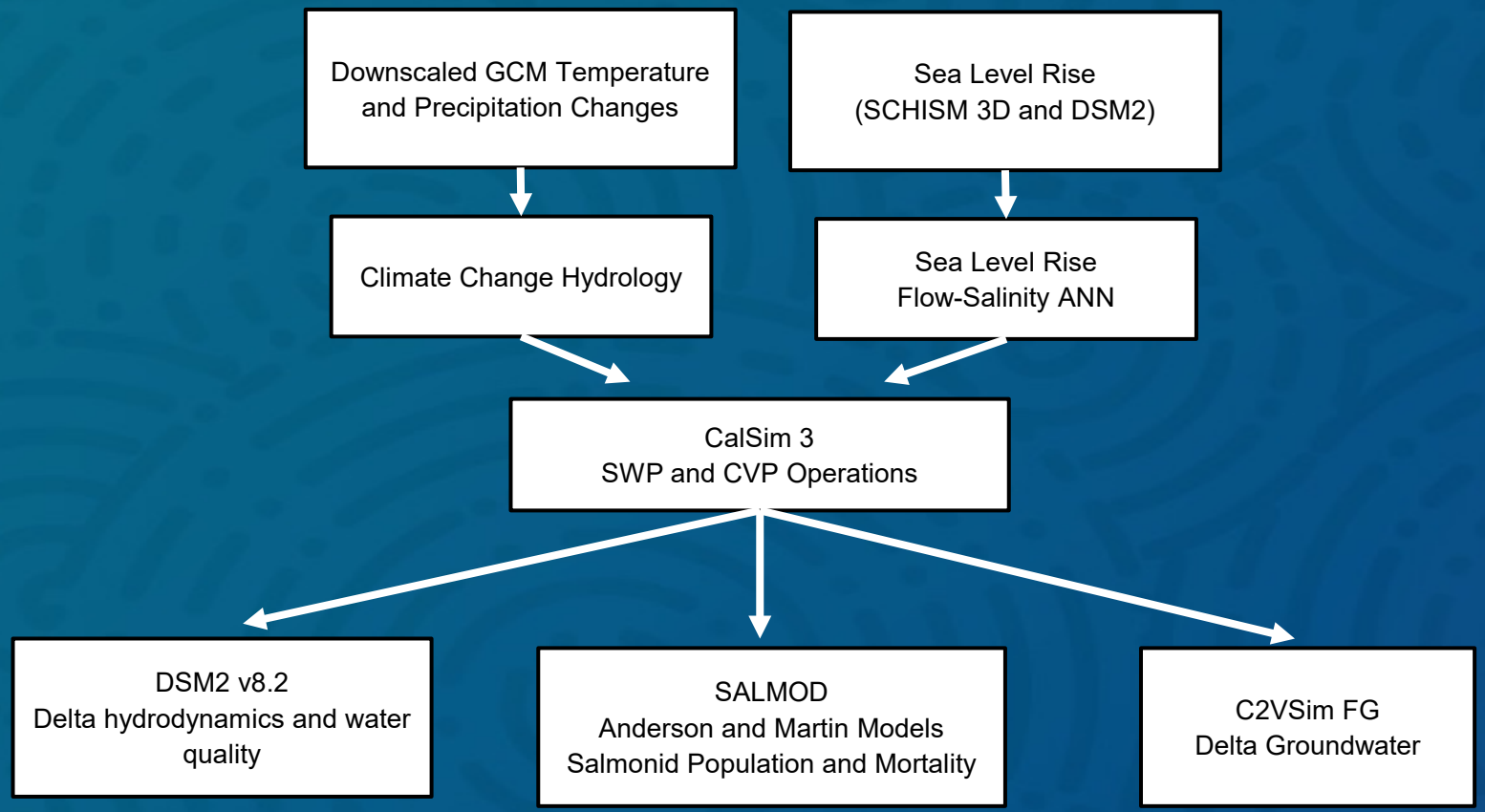
- Analysis underway to consider potential impacts and mitigation for the project alternatives
- Assessment of impacts from construction, operations and maintenance
- Analysis of construction impacts is driven by conceptual designs from the DCA
- Analysis of operational effects uses modeling tools

DCP Draft EIR Modeling Framework

Input Data

Simulation of proposed North Delta Diversion Operations

'Downstream' models



Modeling Scenarios

- Baselines:
  - Existing Conditions (2020)
  - No Project Alternative (2040)
    - includes projected land use, urban growth, climate change, and sea level rise
- Proposed Project and Alternatives layered on existing conditions
- Proposed Project and Alternatives layered onto the No Project Alternative
- Provides the basis for an assessment of impacts and benefits

Public Outreach and Community Engagement Plan for 2022

Public outreach in 2022 will focus on the release of the Draft EIR

Public Information

- Provide informational resources to help the public review, understand and react to the DEIR.
- Videos, website updates, fact sheets, graphics, social media, flyers, eblasts.

Public Outreach + Engagement

- Proactive outreach to inform and engage.
- Encourage and assist in participation.
- Emails, phone calls, meetings, briefings, presentation.

Public Participation + Notification

- Provide meaningful opportunities to access public review documents and respond through formal public input processes.
- Workshops, publicity, flyers, libraries, translations.

Thank You!