South Delta Gates Project

Biannual Meeting #3: August 18, 2026

California Department of Water Resources
with the US Bureau of Reclamation

1

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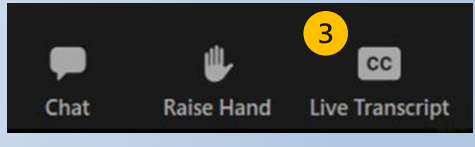

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2

2

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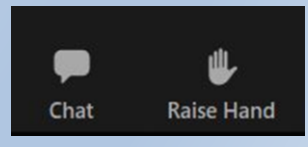

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3

3

Agenda Item	Speaker
1. Welcome, Zoom Webinar and Agenda	Jacob McQuirk, DWR, Program Manager Shay Humphrey, ICF, Facilitator
2. Meeting Purpose, Project Need, and Partnerships	Jacob McQuirk, DWR, Program Manager
3. Project Overview	Jacob McQuirk, DWR, Program Manager Kate Le, DWR, Project Manager
4. Planning Updates • Open Discussion	Kate Le, DWR, Project Manager
5. Operations Framework Modeling • Open Discussion	Michael MacWilliams, FlowWest, Modeling Manager
6. Anticipated Project Schedule & Next Steps • Open Discussion	Kate Le, DWR, Project Manager
7. Closing	Shay Humphrey, ICF, Facilitator

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Disclaimer: This presentation reflects the Department's current thinking about the proposed South Delta Gates project. The Department ultimately may decide not to build the project, or to implement a different design.

4

4

Acronyms

D1641	Water Board Decision 1641
DSM2	Delta Simulation Model II, DWR
FP	Fish Passage
GLC	Grant Line Canal
OMR	Old and Middle River average combined flow
SDG	South Delta Gates
SJR	San Joaquin River
SWP	State Water Project
WL	Water Level
WLC	Water Level of Concern
WQ	Water quality

Meeting Purpose

- Share key project updates
- Engage with interested parties for project planning

Review: Need for Potential Project

In the South Delta, maintaining adequate water levels is a challenge.

Additional challenges include:

- Reduced water quality
- Fisheries issues
- Climate variability

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7

7

Review: Project Partnership and Support

- CA Department of Water Resources (DWR) is managing the project.
- US Bureau of Reclamation (USBR) and DWR share benefits and financial responsibility.
  - Project has federal authorization.
- Project Proponents:
  - South Delta Water Agency
  - Great Valley Farm Water Partnership

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BUREAU OF RECLAMATION

SOUTH DELTA WATER AGENCY

FARMER-TO-FARMER GREAT VALLEY FARM WATER PARTNERSHIP

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8

8

PROJECT OVERVIEW

9

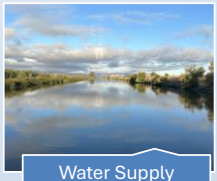
9

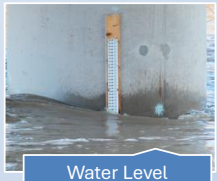
Review: South Delta Gates Project

Purpose

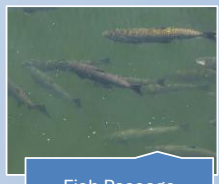
To install permanent operable gates to improve water supply reliability and water level management in the South Delta while improving water quality and fish passage and reducing environmental impacts. SDG is a key action of the federally authorized CALFED Bay-Delta Program.

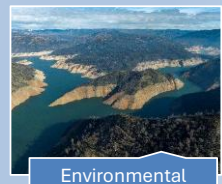
Benefits


Water Supply Reliability


Water Level Management


Water Quality


Fish Passage


Environmental Impacts

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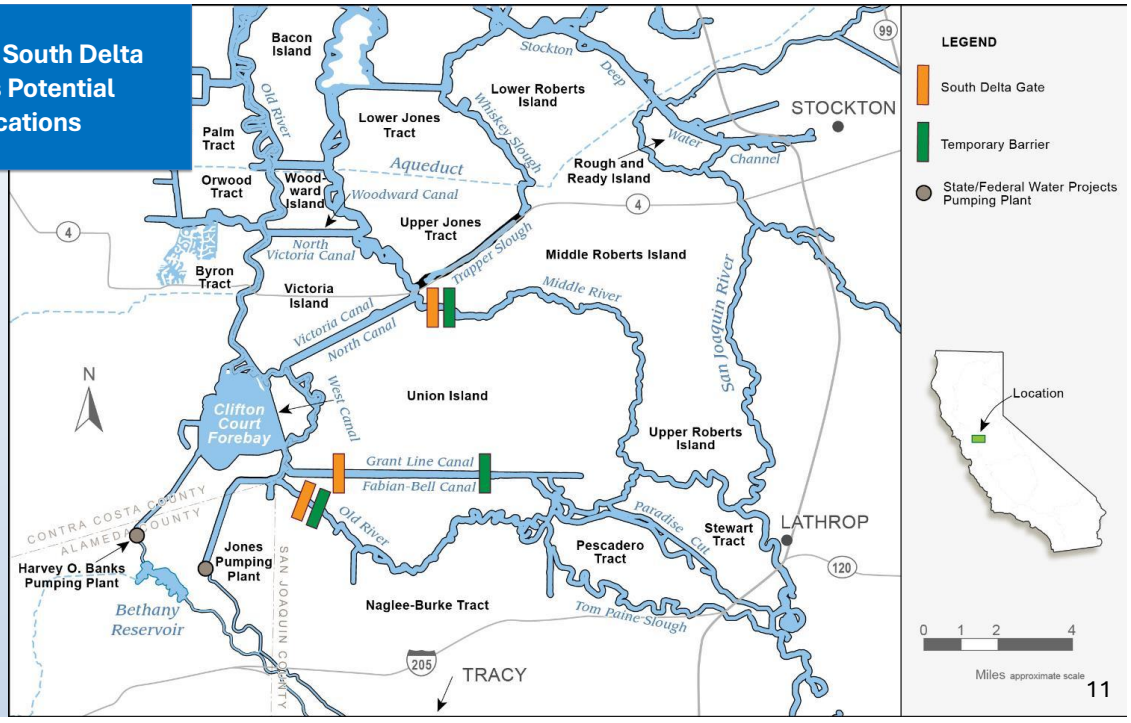
10

Review: South Delta Gates Potential Locations



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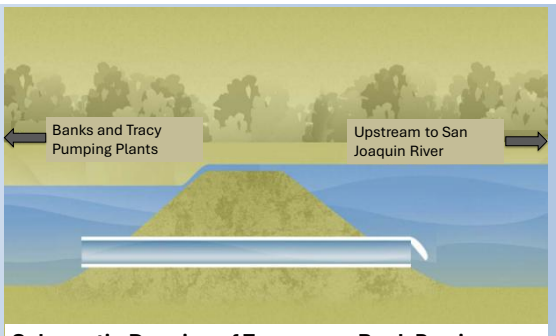
11

Review: Potential Benefits

- State-of-the-art, permanent solution
- Could improve water level management for local diversion
- Could improve water circulation, resulting in improved water quality
- Could reduce environmental impacts—including those on listed fish species—and associated mitigation requirements
- Could improve operational flexibility with gates operating near real-time



Schematic Drawing of Temporary Rock Barrier

Example of Bottom-Hinge Gate Source: steelfabinc.com

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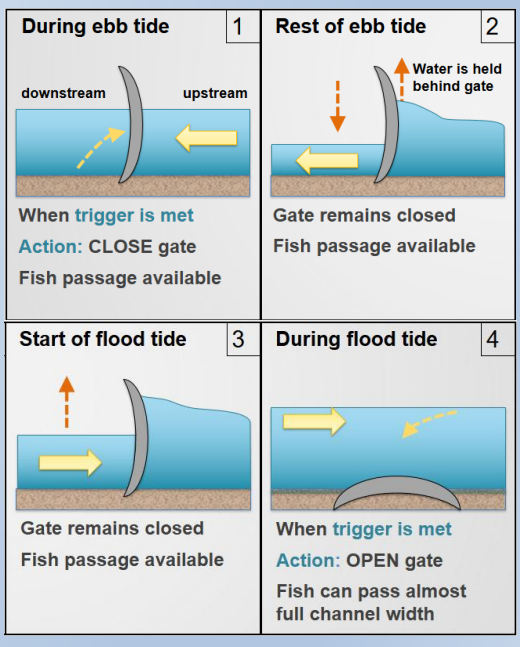
12

12

Conceptual Gate Operations

- Each gate operates independently
- Gates operate every tide cycle, 2x per day, open part of each tidal cycle



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13

13

PLANNING UPDATES

- Geotechnical Investigations
- Design Process
  - Fish Passage
- Tribal Engagement
- Permitting and CEQA/NEPA Processes
- Operational Framework (FlowWest)

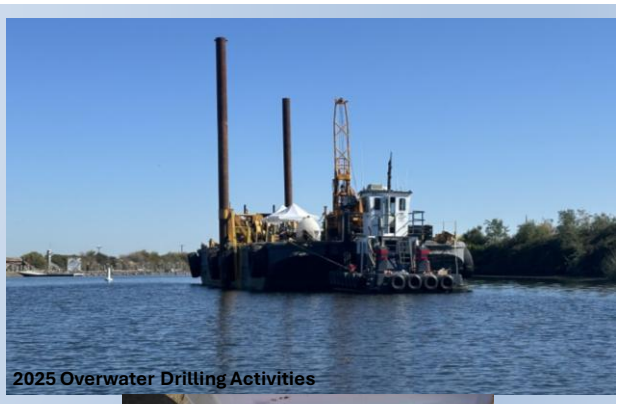
Photo from October 2025 overwater geotechnical investigations

14

14

Planning Update: Geotechnical Investigations

- Permits acquired in spring 2025
- Overwater drilling completed 2025
- Land-based drilling – 2026
  - Site walk: August 12
  - Drilling: August 31 through September
  - Grant Line Canal: 2 drill holes, 8 cone penetration tests (CPTs)
  - Middle River: 2 drill holes, 4 CPTs
  - Old River: 2 drill holes, 5 CPTs



2025 Overwater Drilling Activities

2025 Photo of drilling samples collected

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15

15

Planning Update: Design Process

- Currently in 35% design and held many design focused workshops and conduct technical studies/analysis to gain information to support design
- Completed initial hydraulic impact and Sea Level Rise analysis
- Completed the Basis of Design Report (BODR) and Constructability Analysis Report (CAR) to advance 35% design
- Completed Fish Passage Design and Technical Memos
- Preliminary gate configuration and continue to refine
- Anticipate 35% design complete: end of 2026

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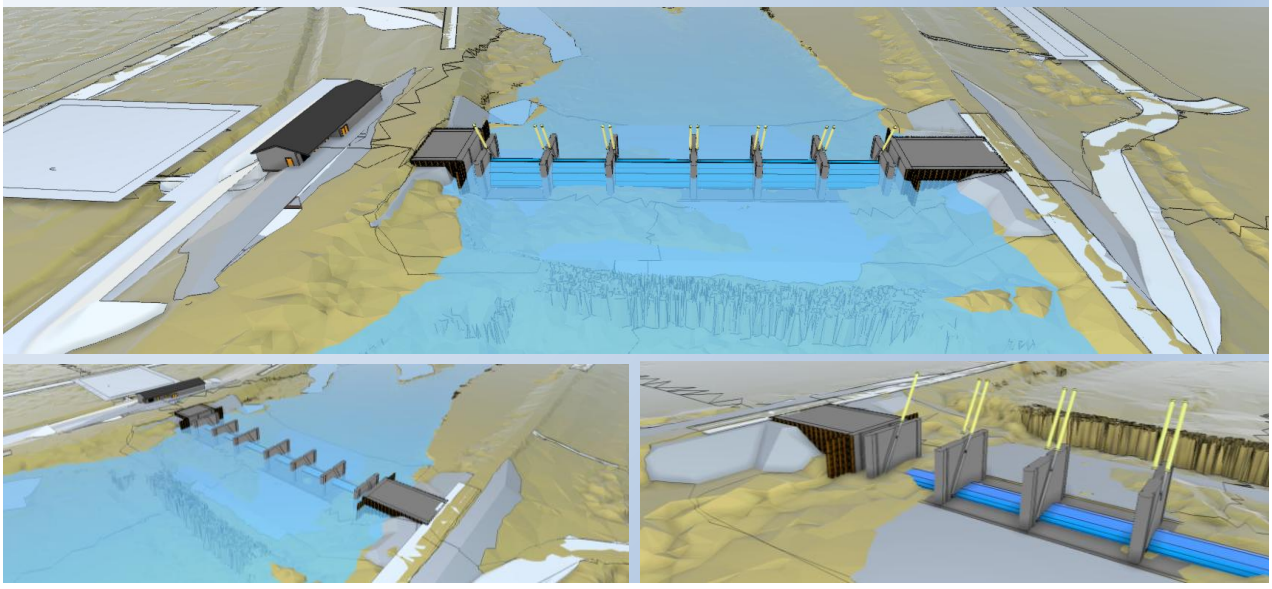
16

16

South Delta Gates: Preliminary Design



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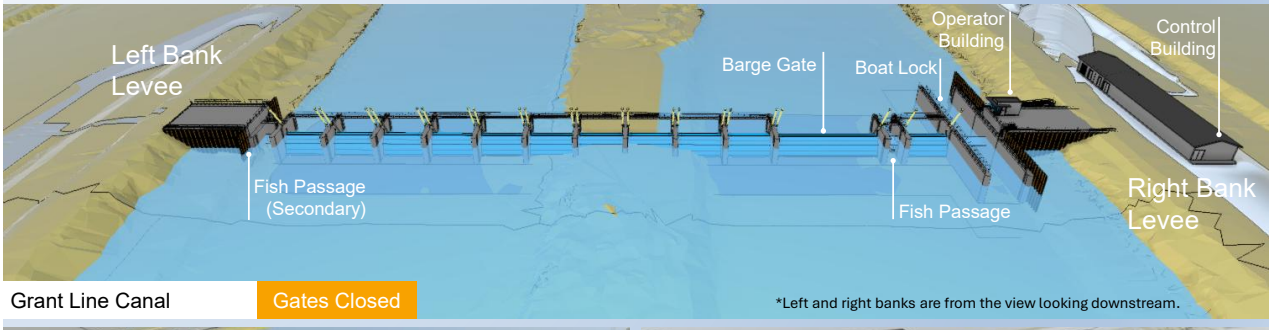

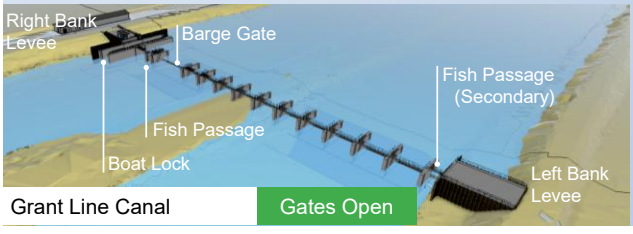

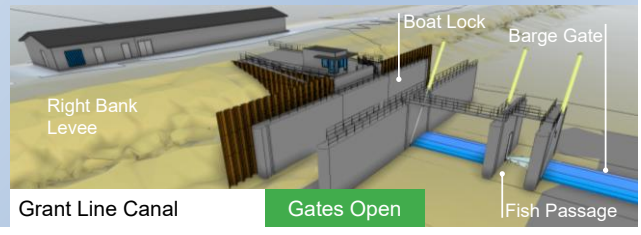

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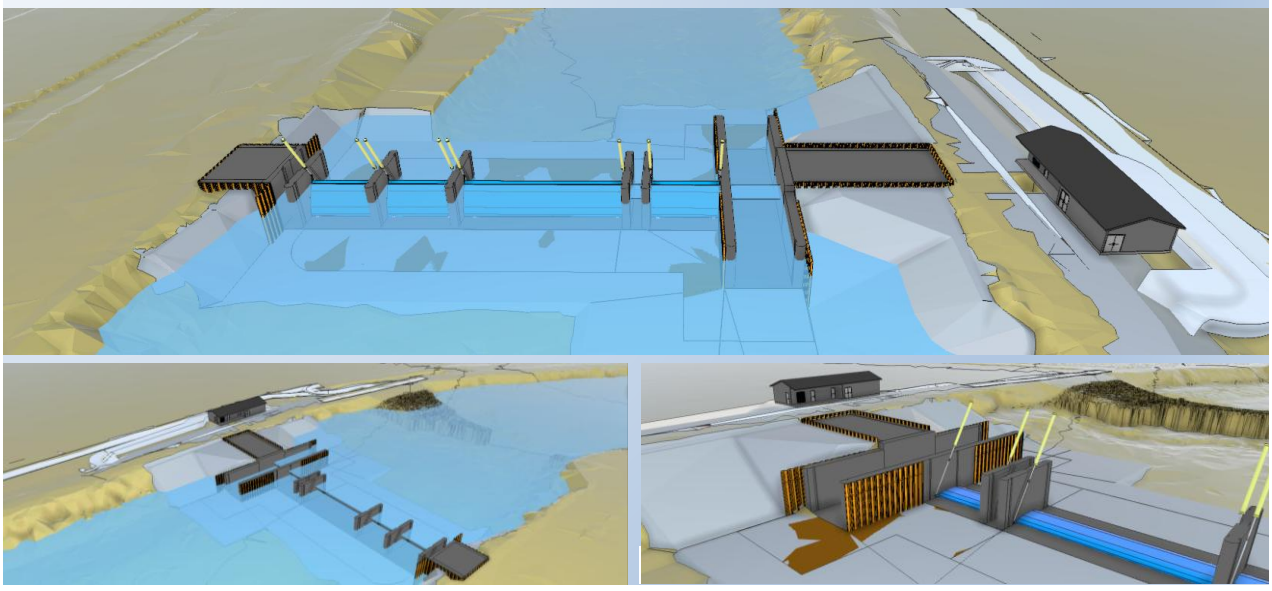
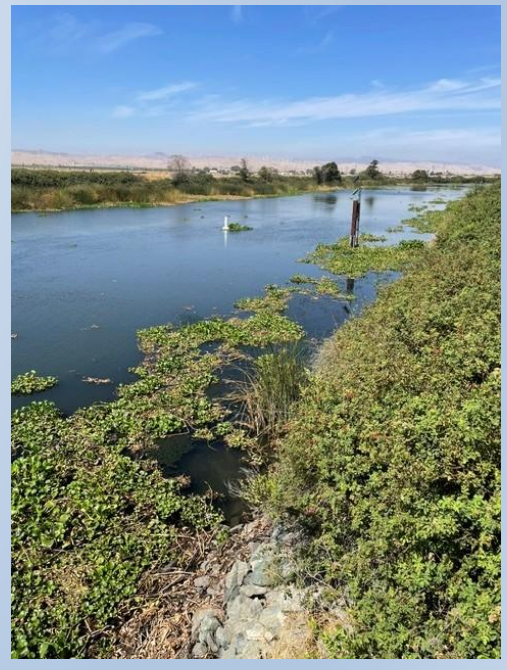
South Delta Gates: Preliminary Design



19

Planning Update: Tribal Engagement

- Assembly Bill 52 notifications to Tribes were issued in early 2025.
- DWR is currently in early stages of Consultation with several Tribal groups.
- DWR will continue conducting outreach biannually to interested Tribes.



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20

20

Planning Review: Permitting for Construction

***No changes since Biannual Meeting #2, October 14, 2025.**

Permit applications planned for submission once 35% design is complete

- Water Quality Certification (Clean Water Act Section 401)
- Individual Permit (Clean Water Act Section 404)
- Rivers and Harbors Act Section 10
- Lake and Streambed Alteration Agreement (Fish and Game Code Section 1600 *et seq.*)
- California Endangered Species Act—Incidental Take Permit
- Delta Plan Consistency
- Endangered Species Act and National Historic Preservation Act consultations (USBR will be federal lead)

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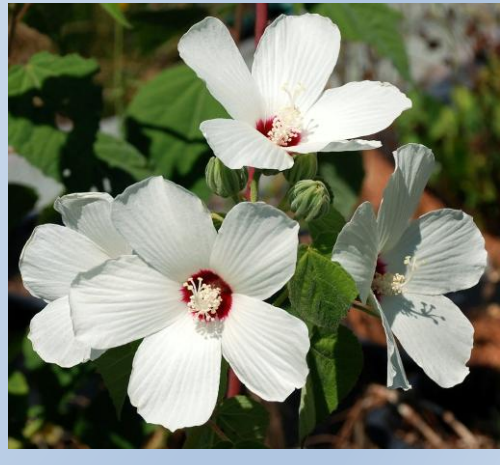
21

21

Planning Update: California Environmental Quality Act (CEQA)

- DWR is the CEQA lead agency.
- Anticipating CEQA Mitigated Negative Declaration (MND)
- Ongoing project description development but pending 35% design completion in October 2026
- CEQA process may result in project changes
- CEQA documents are expected to be circulated for public comment in mid-2027



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22

Planning Update: National Environmental Policy Act (NEPA)

- USBR is the NEPA lead agency
  - Anticipating an Environmental Assessment/ Finding of No Significant Impact (EA/FONSI)
  - NEPA documents are expected to be circulated for public comment in mid-2027

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23

23

Planning Update: National Environmental Policy Act (NEPA)

- NEPA Updates
  - Fiscal Responsibility Act of 2023 – Establishes statutory NEPA reforms intended to improve efficiency, timeliness of federal environmental reviews
  - Executive Order 14154 – *Unleashing American Energy* (2025) – Directs federal agencies to streamline permitting and environmental reviews and reconsider existing NEPA procedures
  - Seven County Infrastructure Coalition v. Eagle County (2025) – Supreme Court decision providing agencies greater clarity and discretion in defining the appropriate scope of NEPA review

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24

24

Open Discussion – 10 minutes

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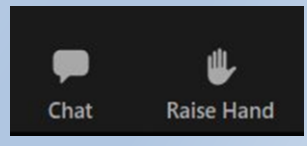

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25

25

OPERATIONAL FRAMEWORK

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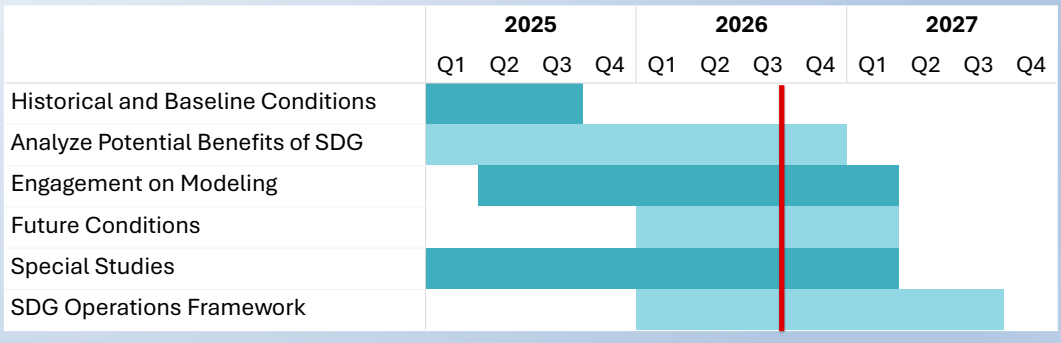
26

Operations Framework Modeling Updates

- SDG Operations Framework purpose – Establish operational triggers for the opening and closing of each of the South Delta gates to balance objectives and benefits.
- Anticipated Schedule



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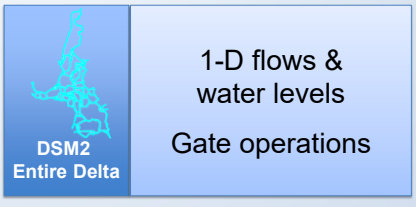
27

Modeling Approach: Fish Passage Design



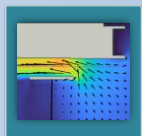
1-D flows & water levels

Gate operations

- *Boundary conditions*
- *Gate operations*

Gate Design

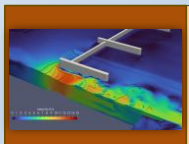
- *Fish passage energy coefficient*
- *Velocity estimates*



2-D flows & velocity through fish passage

Goals

1. Inform DSM2
2. Model velocity distribution in the FP



3-D flows & velocity through fish passage

Refine fish passage design

Boundary conditions

Gate Design

Turbulence coefficients

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28

28

Operations Framework Modeling Updates

- Refined fish passage opening widths:
  - Middle River: 5 ft
  - Grant Line Canal: 15 ft → 10 ft
  - Old River: 10 ft → 5 ft
- Refined DSM2 assumptions about gate geometry and energy losses based on updated gate design and fish passage openings.
  - Full depth at fish passage openings (no gate panel in down position)
- Modeled **bookend scenarios** (SDG Scenarios 1 and 2) to begin evaluation of how different operating strategies affect water-level protection, fish passage performance, and compliance with Delta operational constraints, particularly Old and Middle River (OMR) flow requirements.
- Held Technical Working Group (TWG) meetings on December 16, 2025, and April 30, 2026.

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29

29

Trade-Offs between Fish Passage Widths

Narrower Fish Passage

- WL protection above current condition
- 0.5–2.5 hr/day reduction in condition favorable to FP
- More flexibility for gate operation

Wider Fish Passage

- WL protection below current condition (but above WLC)
- Smaller FP velocity
- Limited to tidal gate operation at Old River

WL = water level; WLC = water level of concern; FP = fish passage

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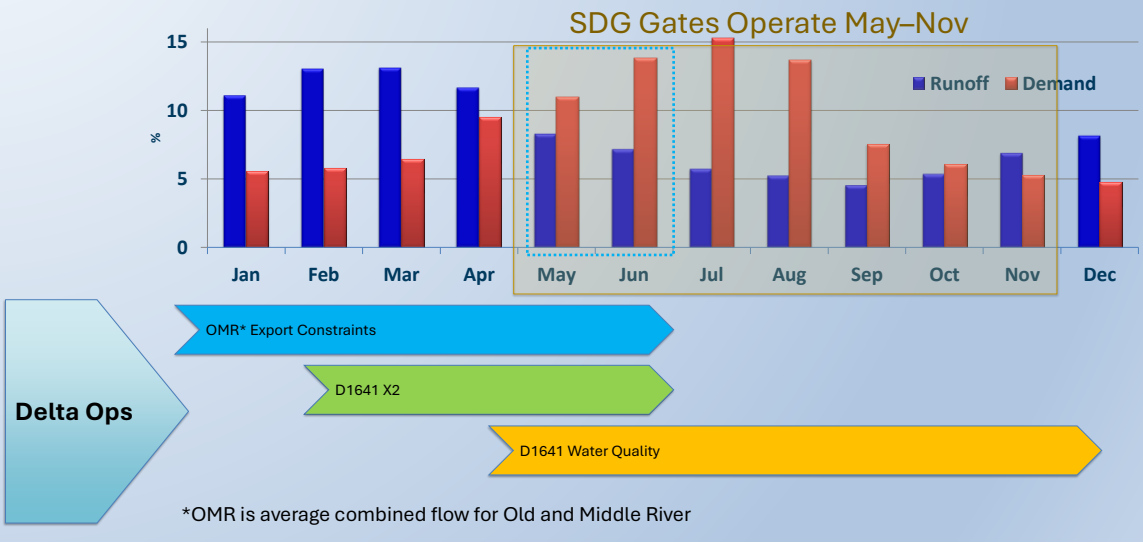
30

30

General Delta Operations: Balancing Water Level, Flow, and Fish Passage Trade-offs

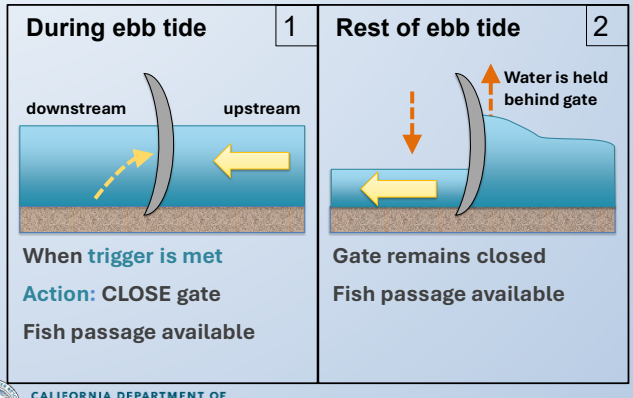


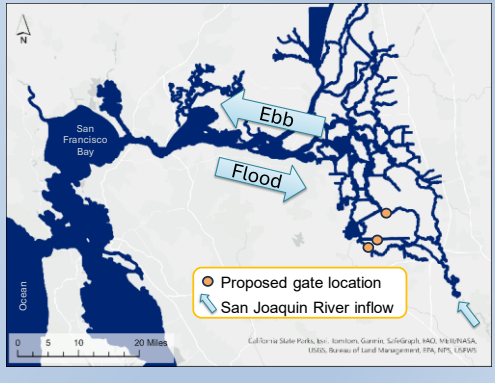
*OMR is average combined flow for Old and Middle River

31

Conceptual Gate Operations

- From May 1 to Nov 30
- Operation starts when San Joaquin River flow < 5,000 cubic feet per second
- Each gate operates independently
- Gates operate every tide cycle, 2x per day, open part of each tidal cycle
- Modeling is exploring gate operations to meet water level targets and provide other benefits





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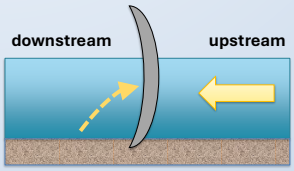
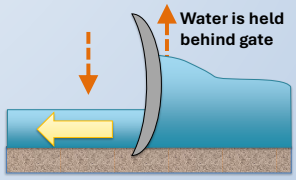
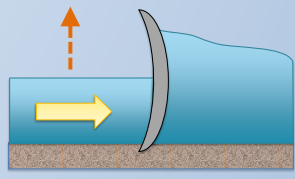
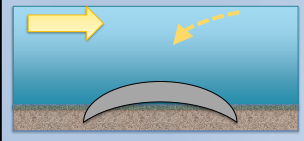
32

Conceptual Gate Operations

- From May 1 to Nov 30
- Operation starts when San Joaquin River flow < 5,000 cubic feet per second
- Each gate operates independently
- Gates operate every tide cycle, 2x per day, gates open part of each tidal cycle
- Modeling is exploring gate operations to meet water level targets and provide other benefits

During ebb tide 1	Rest of ebb tide 2	Start of flood tide 3	During flood tide 4
			
When trigger is met Action: CLOSE gate Fish passage available	Gate remains closed Fish passage available	Gate remains closed Fish passage available	When trigger is met Action: OPEN gate Fish can pass almost full channel width

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Gate operation **triggers being developed**; triggers can be time, flow, water levels, or EC

33

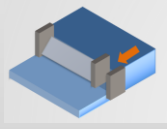
33

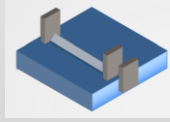
SDG Scenario 1

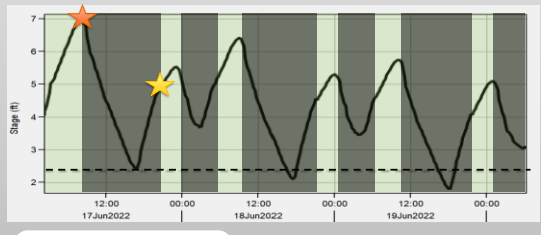
Tidal – Maximized Time Closed

Closes when flow toward Ocean

Opens when WL equalizes







Gates open
Gates Close
WLC

Gates Open
~7–9 hours per day

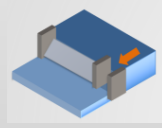
SDG Scenario 2

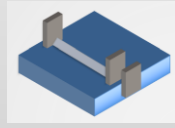
Delayed – Maximize Time Open

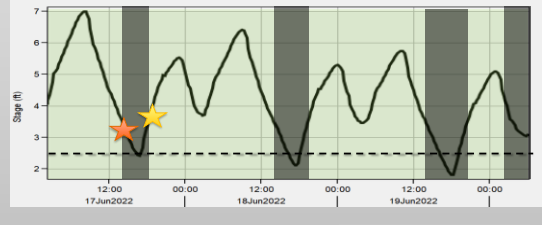
GLC only

Closes when flow toward Ocean + WL<2.5 ft

Opens when WL equalizes







Gates Open
~19–20 hours per day

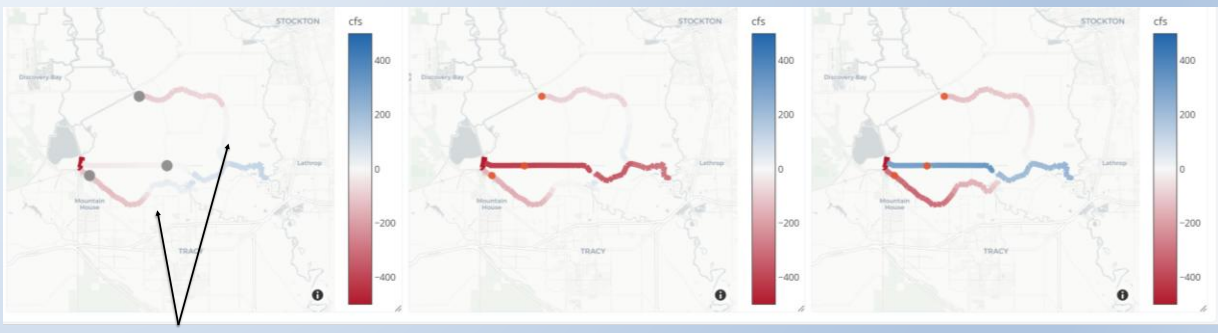
34

Flow: June–September 2022

Baseline

SDG Scenario 1: Max Tidal

SDG Scenario 2: Delayed Closing GLC



Null Zones (areas with small net flow)

Upstream Net Flow toward SJR

Water draw into Grant Line C.

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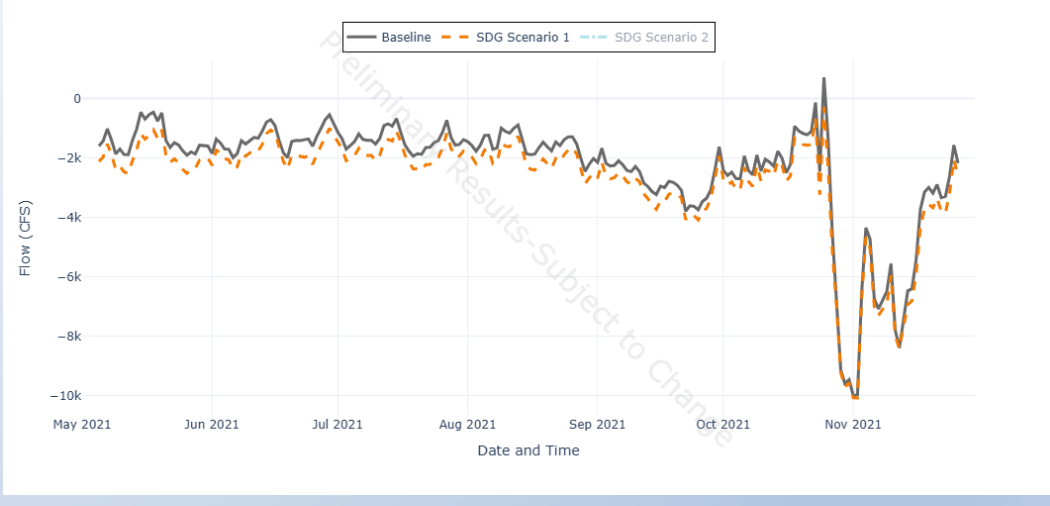
35

35

Effect of SDG on OMR Flow



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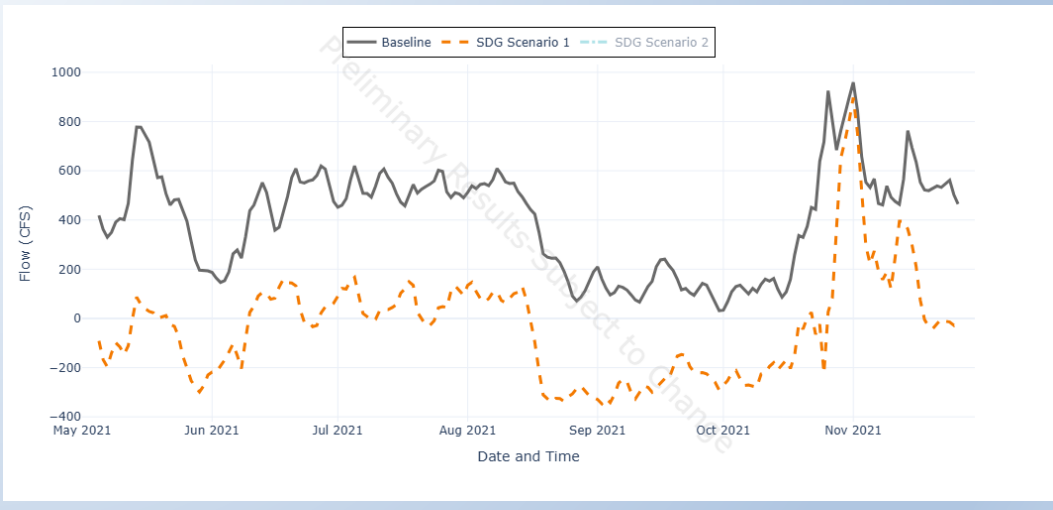
36

36

Effect of SDG on OH1 Flow



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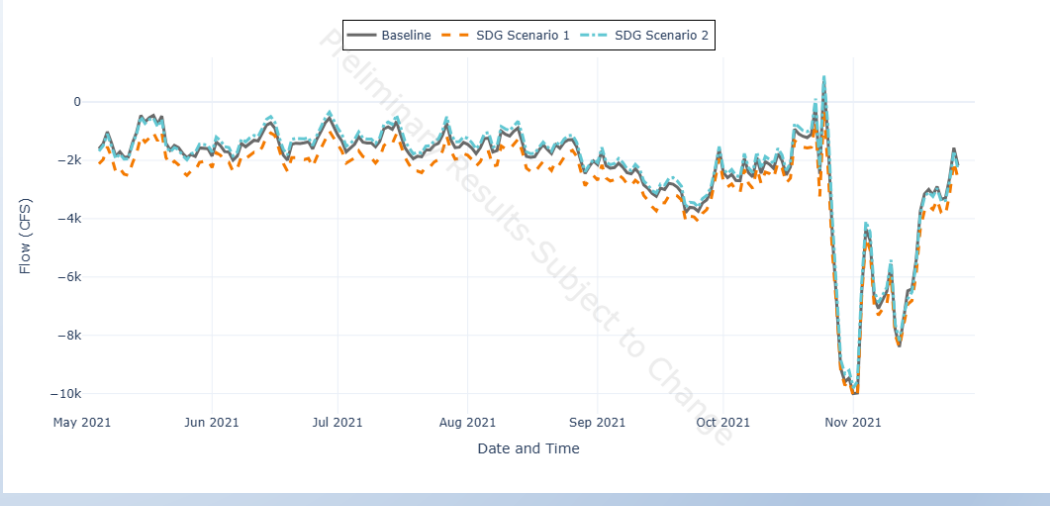
37

37

Effect of SDG on OMR Flow



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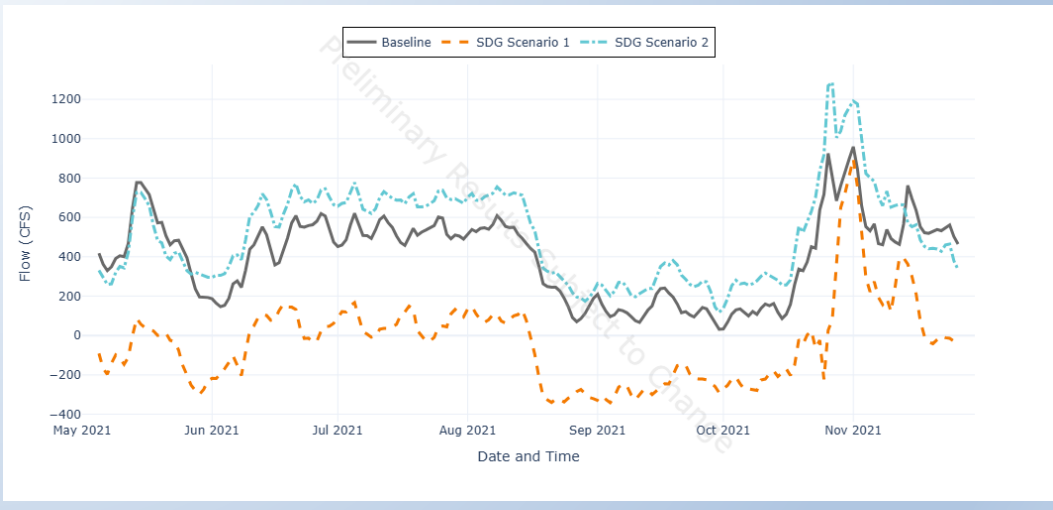
38

38

Effect of SDG on OH1 Flow



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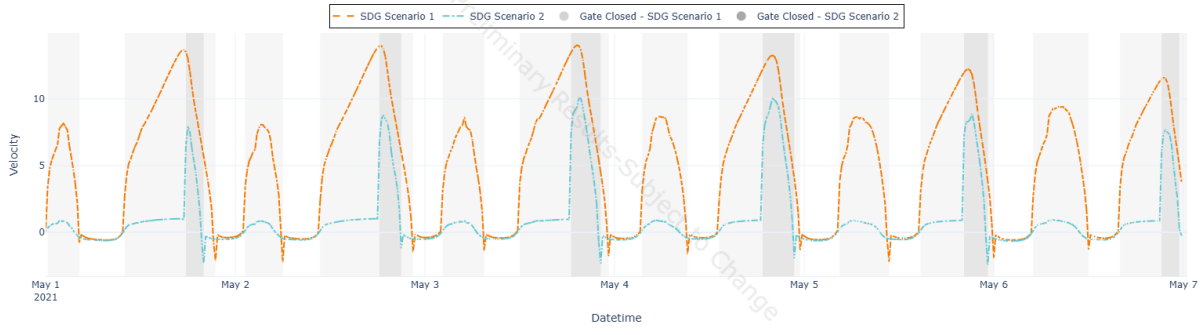
39

39

Effect of Delayed GLC Closing FP Velocity



Baseline – historic data with Temporary Barriers Project
SDG Scenario 1 – tidal gate operation
SDG Scenario 2 – tidal gate operations at OR/MR, delayed gate operation at GLC

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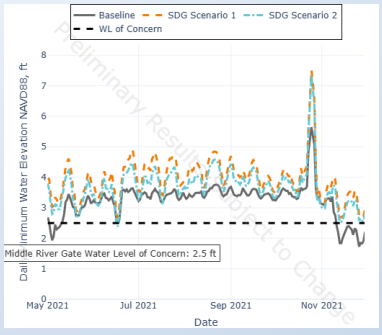
40

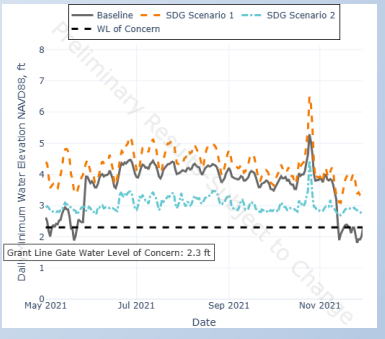
40

Effect of Delayed GLC Closing on Min Daily WL

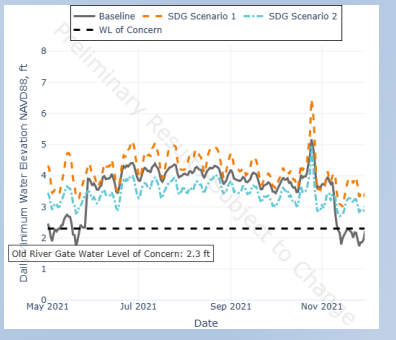
Middle River



Grant Line



Old River



Baseline – historic data with Temporary Barriers Project
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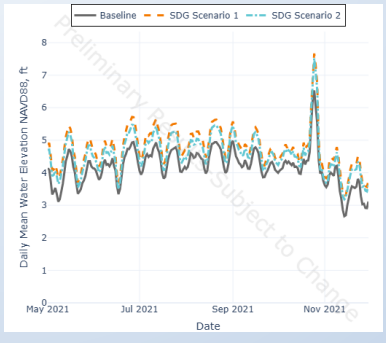
41

41

Effect of Delayed GLC Closing on Mean Daily WL

Middle River



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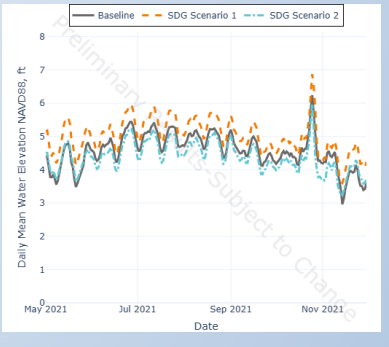
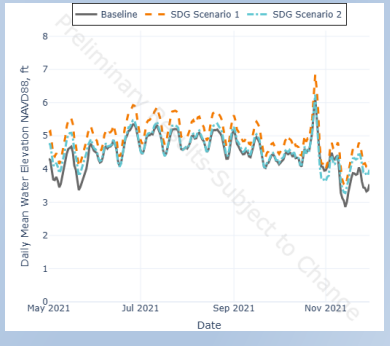


Old River



Baseline – historic data with Temporary Barriers Project
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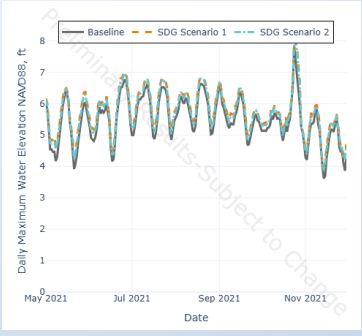
42

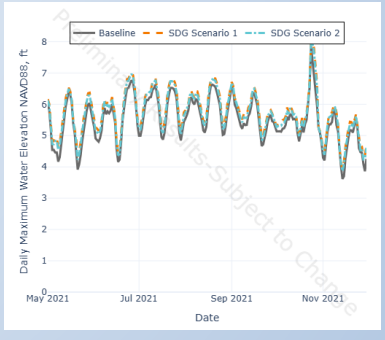
42

Effect of Delayed GLC Closing on Max Daily WL

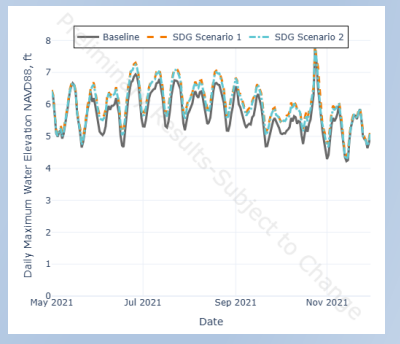
Middle River



Grant Line



Old River



Baseline – historic data with Temporary Barriers Project
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43

43

Trade-Offs between Type of Gate Operations

Tidal Gate Operation

- Makes OMR more negative
- Offers most WL protection
- Less favorable for FP
  ~7 hr/day less at GLC
  1–3 hr/day Middle & Old R

Delay GLC Gate Op

- Neutral impact on OMR
- Less WL protection on GLC
- Improved FP (lower velocity, more time open)
- Improved S Delta Circulation

Continuing to evaluate strategies to modulate gate operation through the season to satisfy most pressing need: OMR or WL protection

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44

44

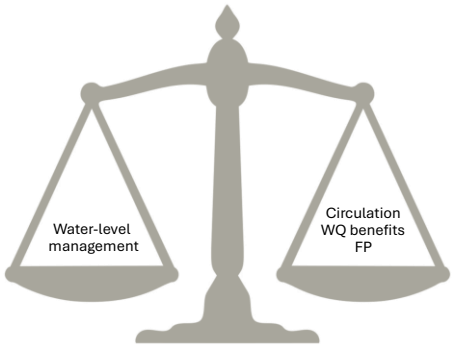
Planned Modeling

Complete

- Fish Passage Velocities
- Surface Water Elevations
- Net Flows and Water Circulation

In Progress

- Water Quality / Salinity
- Water Velocities / Residence Time
- EcoPTM



SDG Project Goal

Manage water levels relative to temporary barrier performance and water levels of concern and provide additional benefits ***without changing water project operations.***

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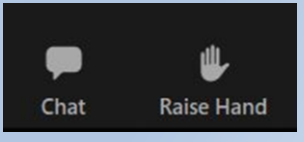
45

45

Open Discussion – 10 minutes

- If you have a question or comment, click on the **Chat** icon ① and then type in the chat box that opens at the bottom or side of your screen.
- If you would like to comment, click on the **Raise Hand** icon ② to be called on.
  - If you are on the phone, press ***9** to "raise your hand."
- Commenters will be called on in the order in which they "raise their hands."
- When called on, you will receive a prompt to unmute.
  - If you are on the phone, unmute and mute your phone as needed by pressing ***6.**
- Please focus your comments on the SDG project scope and effects.
- Please respect everyone's time and each other.



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46

46

Anticipated Project Schedule

	2025	2026	2027	2028	2029	2030	2031	2032
Geotechnical investigations – Water	*							
Design	*	*	*	*				
Geotechnical investigations – Land		*						
Environmental review and permitting		*	*	*				
Construction (if approved)					*	*	*	
Gates operational (if approved)								*

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47

47

Next Steps

- 35% Design Completion: Late 2026 / Early 2027
- Next Bi-Annual Meeting: Early 2027
- Operations Framework Report: Fall 2027

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48

48

Open Discussion – 10 minutes

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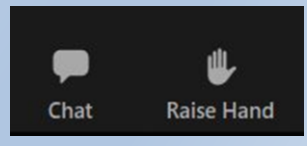

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49

49

Contacts

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Thank you!

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50

50