

May 2025

Agenda Item: 9
Meeting Date: May 22, 2025
Page 1

Delta Levees Investment Strategy Risk Reduction Analysis

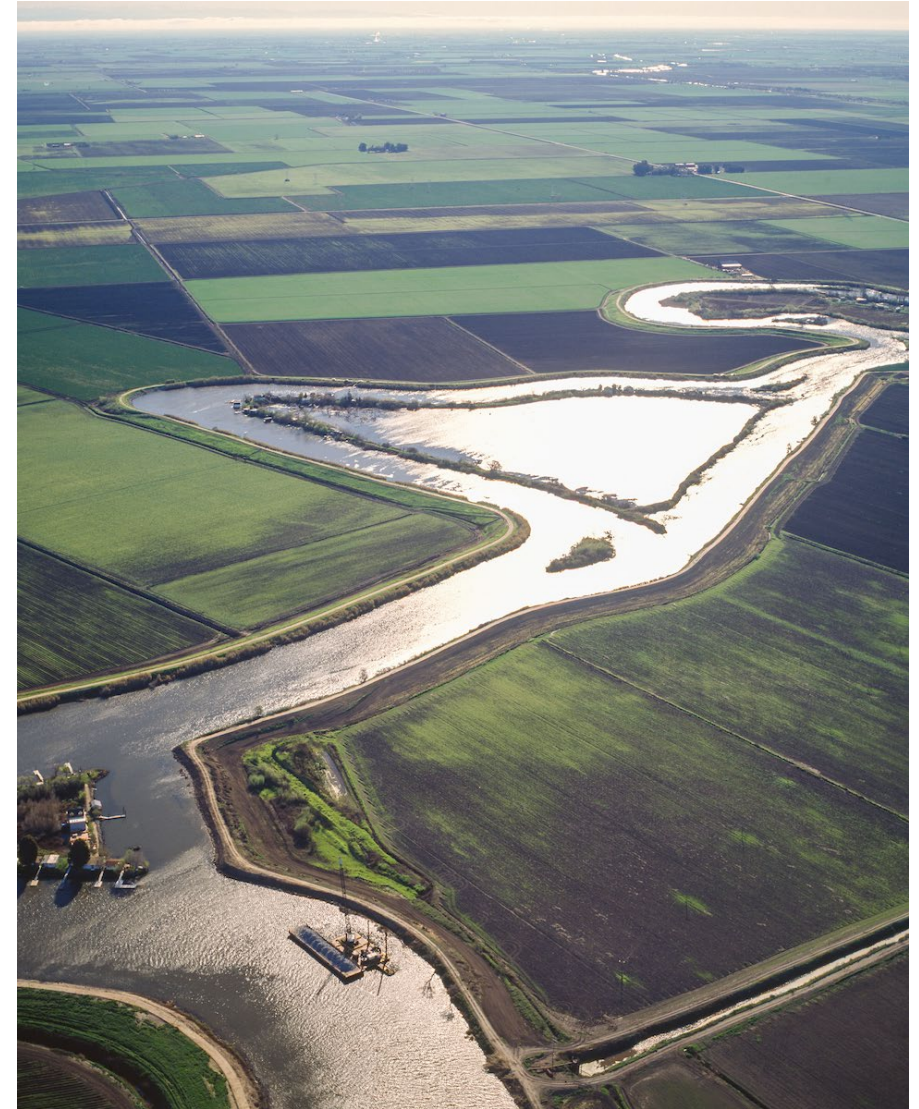


**Delta
Stewardship
Council**

A CALIFORNIA STATE AGENCY

Introduction

- Today's presentation
 - DLIS background
 - What we heard from DWR
 - Flood risk reduction analysis
 - The report in context
 - Follow up on Council's questions
 - Conclusion

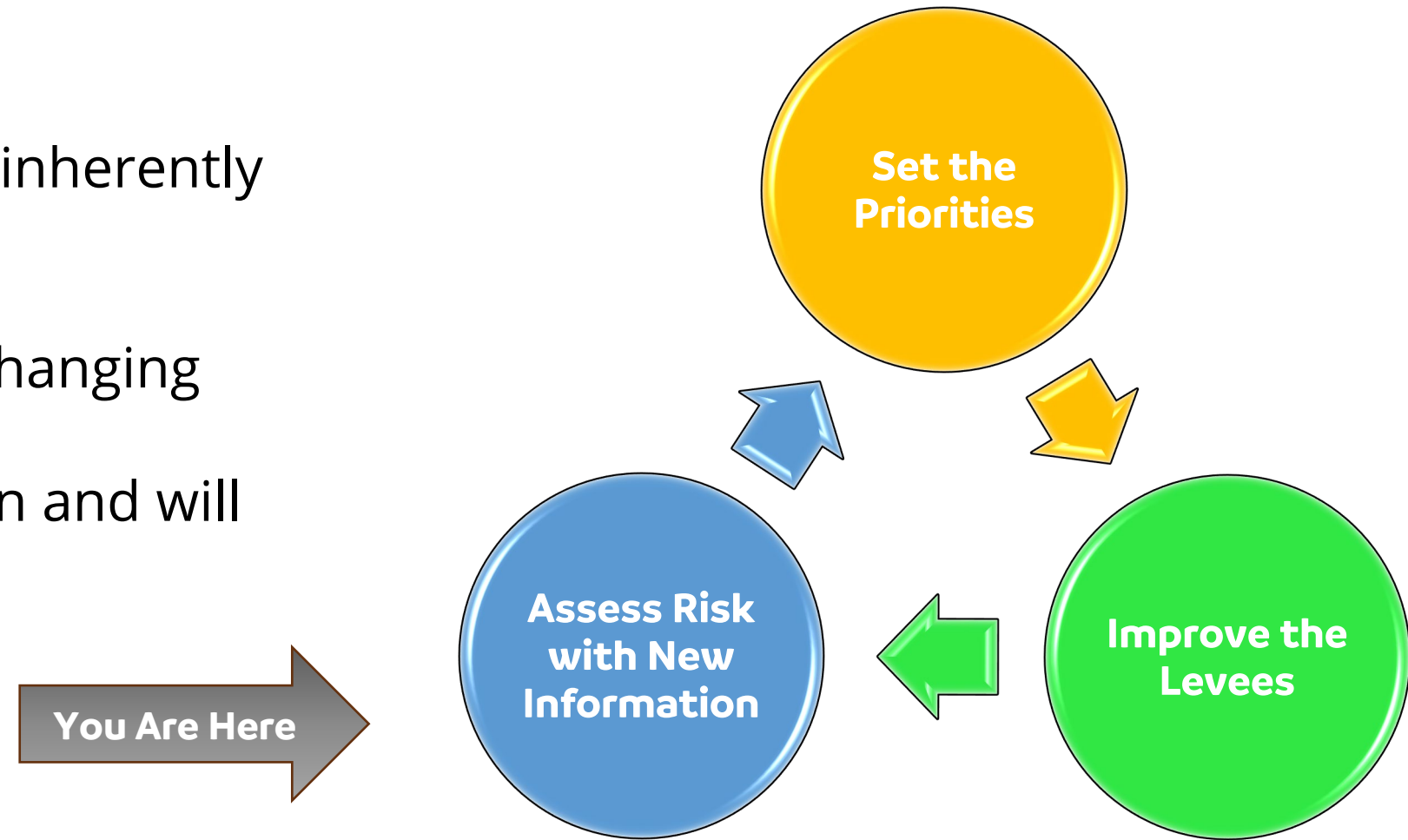


Relevant Laws and Regulations

- 2009 Delta Reform Act
 - 85305. (a) The Delta Plan...reduce risks to people, property, and state interests...by promoting...strategic levee investments
 - 85306. The council, in consultation with the Central Valley Flood Protection Board, shall recommend...priorities for state investments in levee operation, maintenance, and improvements
- 2024 DLIS Regulation – Risk Reduction Policy 1 (**RR P1**)
 - Established priorities for operations, maintenance, and improvements
 - Requires DWR to submit a report describing funding decisions and to present to the Council annually
 - Council staff use report information to monitor and track how investment changes risk over time

Delta Levees Investment Strategy is a Process

- The Delta is an inherently dynamic place
- Risk is always changing
- Investments can and will shift risk



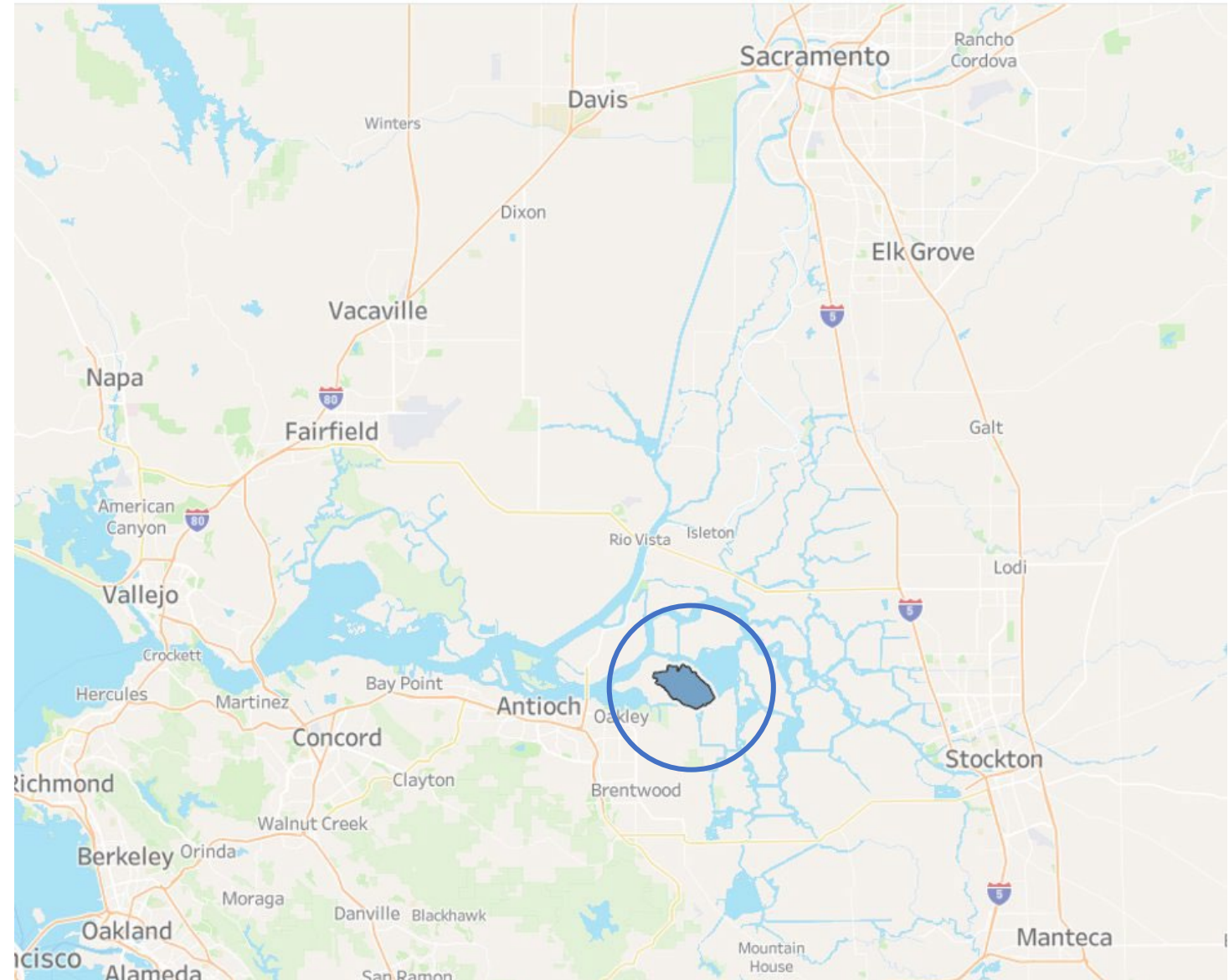
DWR's Report to the Council

- 21 Projects in construction
 - Update risk model upon completion
- 5 Newly funded projects
 - 4 Very High Priority
 - 1 High Priority
- 12 Projects were submitted for funding and not approved
- 1 Project completed
 - Bethel Island
- Justifications provided for deviations from DLIS priorities



Bethel Island

- Located in the Western Delta near Oakley and Frank's Tract
- Classified as a DLIS **Very High Priority** island
- 11.5 miles of levees surround the island; all meet minimum standards
- Population approx. 2,300
- Residential communities, agricultural land, critical ecosystems
- Important for salinity management



Bethel Island



What Did We Learn from Bethel Island Project?

- **2.5 Mile levee upgrade** completed in FY 23-24
- **Total cost** of \$9.6 million
- **Ran DLIS model** to evaluate risk change
- **Evaluated** expected annual damage, annual fatalities, levee failure probability
- **Minor risk reductions** across metrics
- **Risk profile** largely unchanged
- **Why?** Model considers overtopping, not seepage, habitat, stability berms

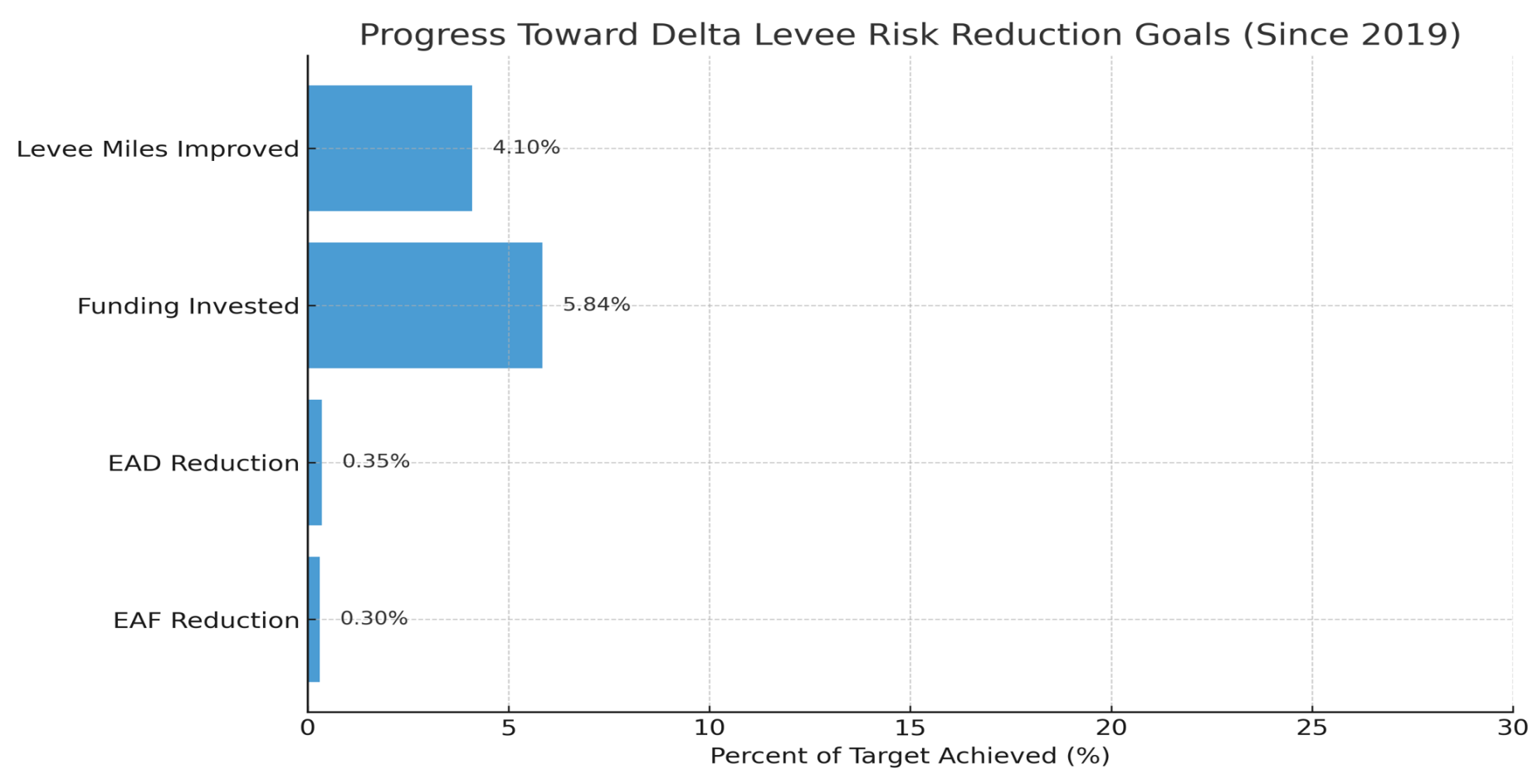
Bethel Island Project Evaluation

Metric	Before	After	Change
Expected Annual Damage	\$6,058,743/yr	\$6,034,216/yr	-\$24,527/yr (↓ 0.4%)
Expected Annual Fatalities	0.233/yr	0.232/yr	-0.001/yr (↓ 0.4%)
Levee Failure Probability	4.36%	4.35%	↓ 0.01%
Flooded Leveed Habitat	15.1 ac/yr	15.0 ac/yr	-0.1 ac/yr (↓ 0.2%)
Damage to Delta as Place	\$168,125	\$167,469	-\$656 (↓ 0.4%)

Levee Improvements Reported Since 2019

Year Complete	Location	Project Title	Miles Improved	Protection Standard Achieved	Total Cost	EAD Change	EAF Change
2020-21	Bethel Island	Horseshoe Bend Levee Improvement	1.0 mile	Bulletin 192-82	\$5,280,851	-\$45,526/yr↓	-0.005/yr↓
2020-21	Sherman Island	Non-project Levee Upgrade	6.0 miles	PL 84-99	\$5,300,000	-\$5/yr↓	0.000/yr↓
2022-23	Terminus Tract	Levee Improvement	1.2 miles	HMP (future 192-82 ready)	\$2,072,175	-\$230,475/yr↓	-0.007/yr↓
2022-23	Dutch Slough	Tidal Marsh Restoration & Levee	1.6 miles	Urban Levee Design Criteria (200-year)	\$42,355,977	n/a	n/a
2023-24	Bethel Island	Northwest & Marina Levee Improvements	2.5 miles	Bulletin 192-82	\$9,600,000	-\$24,527/yr↓	-0.001/yr ↓
TOTAL			12.3 mi (4.1%)		\$64,209,003	-\$300,000/yr (0.35%↓)	-0.013/yr (0.30%↓)

Progress Toward Delta Levee Risk Reduction Goals (since 2019)



Council Questions from April

Q: Why are some islands listed in the report as "not included" in DLIS?

A: All islands were included in DLIS, but names and IDs in the report didn't match.

			Total Eligible Levee Miles	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24***
RD #	District (DWR Name)	DLIS ID (DSC Name)		State Reimbursement**	State Reimbursement**	State Reimbursement**	State Reimbursement**	State Reimbursement**
2	Union Island, West	Union Island, West	16.2	\$ 21,951	\$ 34,511	\$ 10,743	\$ 15,167	
404	Boggs Tract	Central Stockton	0.7	\$ 10,572	\$ 19,019	\$ 8,469	\$ 24,573	
828	Weber Tract	Central Stockton	1.7	\$ 7,621	\$ 8,048	\$ 30,646	\$ 23,119	
1607	Van Sickle Island	Grizzly Island Area	3.7	\$ 20,413	\$ 60,549	\$ 102,300	\$ 88,130	
1608	Lincoln Village West	Central Stockton	3.6	\$ 126,993	\$ 148,176	\$ 133,352	\$ 306,314	
1614	Smith Tract	Central Stockton	2.8	\$ 16,881	\$ 96,141	\$ 251,416	\$ 156,407	
2074	Sargent-Barnhart	North Stockton	3.5	\$ 149,253	\$ 1,058,658	\$ 263,367	\$ 221,719	
CLD	Collinsville Levee District	DLIS-62	1.0	\$ 10,603	\$ 11,203	\$ 11,231	\$ 21,669	

Q: Why is DWR investing in West Sacramento when it's in the other category?

A: The commitment to fund this project dates back to a funding agreement signed in 2009 with the federal government to improve West Sacramento's levee system. This was not a new investment decision and predates the adoption of the current prioritization.

Conclusion

- DLIS is a continuous process
- We're making progress, but the need remains great
- Challenges
 - Securing reliable funding
 - Getting projects in the ground
- Report reveals levee spending decisions and continued needs
- Future updates to DLIS priorities as risk changes

Thank you

Connect with us



Scan the QR code
to subscribe to our
listserv



Deltacouncil.ca.gov



@DeltaCouncil



@deltastewardshipcouncil



Delta Stewardship Council



@deltastewardshipcouncil