



DELTA PLAN PERFORMANCE MEASURES

2021 YEAR IN REVIEW



**Delta
Stewardship
Council**

A CALIFORNIA STATE AGENCY

Performance Measures Takeaways

- Set measurable targets for Delta Plan objectives
- Use science and monitoring data
- Evaluate outcomes of management actions
- Inform adaptive management
- Required by the Delta Reform Act



Performance Measures in Numbers

www.viewperformance.council.ca.gov

By the numbers:

154

Delta Plan performance measures to track environmental and administrative changes

32

Quantitative performance measures with numeric targets and timelines to achieve these targets

122

Administrative measures for implementation status of Delta Plan strategies, polices and recommendations

18

Agencies coordinating under the DPIIC to achieve the coequal goals

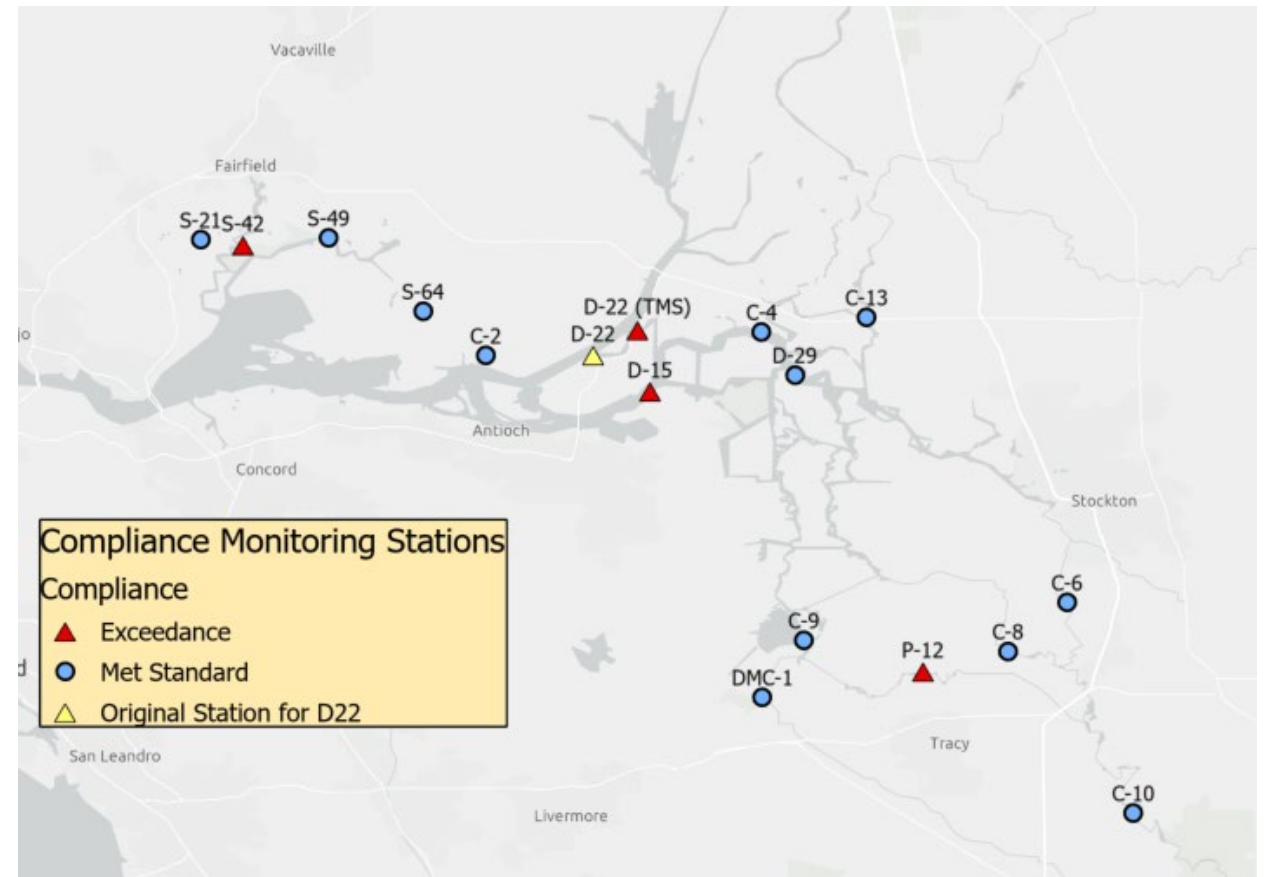
01.

Delta Ecosystem and Water Quality

Delta Salinity Performance Measure

Increased salinity negatively impacts beneficial uses of Delta water

- Water quality standard exceedances for beneficial uses in the Delta:
 - Western Delta: D-22 (TMS) and D-15 during the 2021 summer months
 - South Delta: P-12 station on multiple occurrences throughout the year
 - Northwest Suisun Marsh: S-42 station
- Drought affects the amount of freshwater flowing into the Delta and intrusion of salinity deeper into the Delta.
- Exceedances of salinity indicate how difficult it is to maintain salinity standards during severe drought conditions.



Harmful Algal Blooms (HABs) Performance Measure

Toxic algae pose risks to human and aquatic health

- HABs incident reports observed in Delta waterways:
 - 2021: 46 HABs incidents
 - Danger Advisories: 4
 - Caution Advisories: 38
 - 2020: 28 HABs incidents
 - 2019: 27 HABs incidents
- Freshwater and Estuarine Harmful Algal Bloom Program (AB-834)
 - Establish comprehensive monitoring program
 - Coordinate immediate and long-term response
 - Authorize to call HABs emergencies



Invasive Species Performance Measure

Invasive species disrupt native ecosystem processes

- Ribbon weed: submerged aquatic vegetation
 - Newly observed in the northwest central Delta arc near Rio Vista, Liberty Island, and Sherman Lake
 - Establishment may further exacerbate the already stressed Delta ecosystem by disrupting flows and native species
- Nutria: wildlife species
 - Destructive impacts on wetland habitats, agriculture, and levee structures
 - Active control since 2017 with the goal of eradication
 - 3 taken in the Delta in 2021 (640 in 2020)
 - 640 taken in the watershed in 2021 (1,237 in 2020)
- Native fish population and biomass
 - Decrease in native fish population: 4% in 2020 (39% in 2019)
 - Decrease in native fish biomass: 8% in 2020 (22% in 2019)



Delta Mercury Control Program

Mercury toxicity accumulates in Delta fish and the food webs

- In 2021, Independent Scientific Review of methylmercury control studies in wetlands and open water areas completed.
- Program will transition to the implementation phase in 2022.
- Control of mercury is important because fish from Delta waterways that are consumed by people and wildlife may contain harmful levels of mercury.

WOMEN 50 YEARS AND OLDER AND MEN 18+ YEARS

7 TOTAL SERVINGS A WEEK

OR

5 TOTAL SERVINGS A WEEK

OR

2 TOTAL SERVINGS A WEEK

OR

1 TOTAL SERVING A WEEK

OR

0 DO NOT EAT

California Office of Environmental Health Hazard Assessment
 web: www.oehha.ca.gov/fish
 email: fish@oehha.ca.gov
 phone: (916) 324-7572

A GUIDE TO EATING FISH FROM THE CENTRAL AND SOUTH DELTA

Includes all waterbodies in the Delta south of the Sacramento River and San Joaquin River south of Stockton (CENTRAL COSTA, SAN JOAQUIN AND SACRAMENTO DELTAS)

American Shad ♥ high in omega-3s	Asian Clam (Corbicula)	Steelhead Trout ♥ high in omega-3s	Sunfish Species
Catfish	Crayfish	Black Bass Species ♥ high in omega-3s	Common Carp
Crappie	Striped Bass ♥ high in omega-3s	Sacramento Sucker	White Sturgeon
Any fish or shellfish from the Port of Stockton			

Serving Size
A serving of fish is about the size and thickness of your hand. Give children smaller servings.

For Adults

For Children

Eat only the skinless fillet

Eat only the meat

Some chemicals are higher in the skin, fat, and guts.

* Chinook (King) Salmon: No take permitted in these water bodies per CDFW regulations. Refer to CDFW for regulations on other species. Updated 09/2018

AVISO

WARNING

CEEV FAAJ

Some fish in the Delta have chemicals that may harm your health. Women age 18 – 45, pregnant or breastfeeding women, and children 17 years and under should not eat more than 1 meal of striped bass or sturgeon a month. Other adults should not eat more than 2 meals of striped bass or sturgeon a month.

Algunos pescados en el Delta tienen químicos tóxicos que pueden ser dañinos para su salud. Mujeres entre las edades de 18 a 45 años, mujeres embarazadas o amamantando, y niños menores de 17 años, no deberían comer al mes más de una (1) porción de striped bass o sturgeon. Otros adultos no deberían comer al mes más de dos (2) porciones de striped bass o sturgeon.

ধিলাই মনে মনে হাতে হাতেই লেগে যাচ্ছে। কিছু কিছু মাছের মধ্যে আছে বিষাক্ত রাসায়নিক। ১৮-৪৫ বছর বয়সের মহিলা, গর্ভবতী মহিলা এবং ১৭ বছর বয়সের নিচে শিশুরা মাসে মাসে একবারের বেশি স্ট্রিপড বাস বা স্টার্জিয়ন খাওয়া উচিত নয়। অন্য বয়সের মহিলা এবং শিশুরা মাসে মাসে দুইবারের বেশি স্ট্রিপড বাস বা স্টার্জিয়ন খাওয়া উচিত নয়।

Многие виды рыбы в районе Дельты содержат ядовитые химические вещества. Женщинам в возрасте 18-45 лет, беременным и кормящим грудью женщинам, и детям до 17 лет не следует есть больше одной порции полосатого окуня или осетра в месяц. Другие взрослые не должны есть в месяц больше двух порций полосатого окуня или осетра.

Health Advisory for Striped Bass and Sturgeon

STRIPED BASS **STURGEON**

1 MEAL A MONTH **NO Striped Bass over 27 inches**

2 MEALS A MONTH **NO Striped Bass over 35 inches**

and NO OTHER FISH **and NO OTHER FISH**

Women age 18 - 45, breastfeeding or pregnant women, children, and teens

Other adults

CAUTION

Catfish Carp Pikeminnow Crappie Largemouth Bass

BEST CHOICES

Salmon Sunfish Trout Bluegill

Funded by the California Bay-Delta Authority.

注意
 BHMAMHEI
 警告事項

02.

Water Supply Reliability

Water Supplier Planning

- The Delta Plan supports the “statewide strategy of investing in improved regional supplies, conservation, and water use efficiency”.
- State law requires most urban water supplier to prepare Urban Water Management Plans (UWMPs) every five years.
- State law requires most major agricultural suppliers to prepare Agriculture Water Management Plans (AWMPs) every five years.
- The Delta Plan recognizes that individual actions by water suppliers throughout the state will be vital to achieving the state policy to reduce reliance on the Delta and uses water management planning information to track those actions.



Reduced Reliance Policy

- Delta Plan Policy WR P1 requires covered actions to demonstrate that water suppliers demonstrate a measurable reduction in Delta reliance and improvement in regional self-reliance in a UWMP or AWMP.
- Delta Plan administrative performance measure WR R05-01 tracks DWR's progress toward publishing guidelines for the preparation of an expanded Water Supply Reliability Element.
- For the first time, the 2020 UWMP guidebook includes an example approach to demonstrate reduced Delta reliance.



Delta Plan Performance Measures

Data in 2020 UWMPs/AWMPs will allow new updates to important PMs

Urban Water Use

Tracks project per capita gallons per capita day of water use.

Alternative Water Supply

Tracks desalination, recycled water, and storm water capture project planning and implementation.

Water Supply Reliability

Tracks water supply reliability during dry years.

Agricultural Water Planning

Tracks agricultural water efficiency reporting.

03.

Delta Tourism

Delta Tourism Performance Measure

Protecting and enhancing the recreational value of the Delta

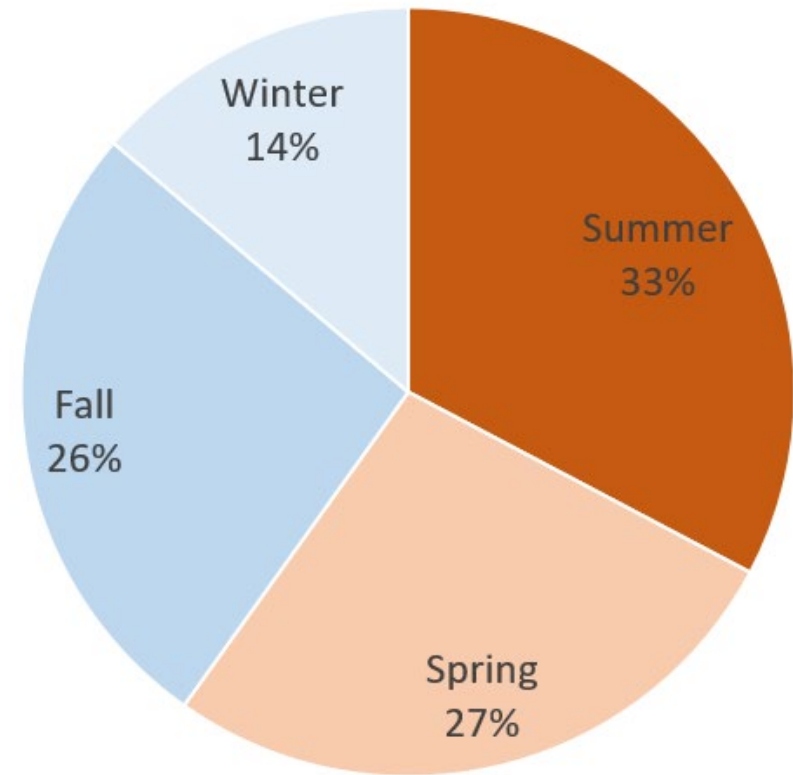
- One of the Delta Plan strategies is to "Encourage recreation and tourism that allow visitors to enjoy and appreciate the Delta, and that contribute to its economy".
- Performance Measure 5.8 identifies metrics related to tourism:
 - Fishing license sales
 - Land that is publicly accessible
 - Publicly accessible shoreline
 - Web/social media traffic
 - First time visitors
 - Offseason visitors
- For the first time we are reporting data on visitor seasonality.



Results

- Source: a 2019 survey funded by the Delta Protection Commission to support the Economic Sustainability Plan Update
- Winter offseason experiences significantly fewer visitors than the summer peak season.

Percent of Delta visitor by season



04.

Reducing Delta Flood Risk

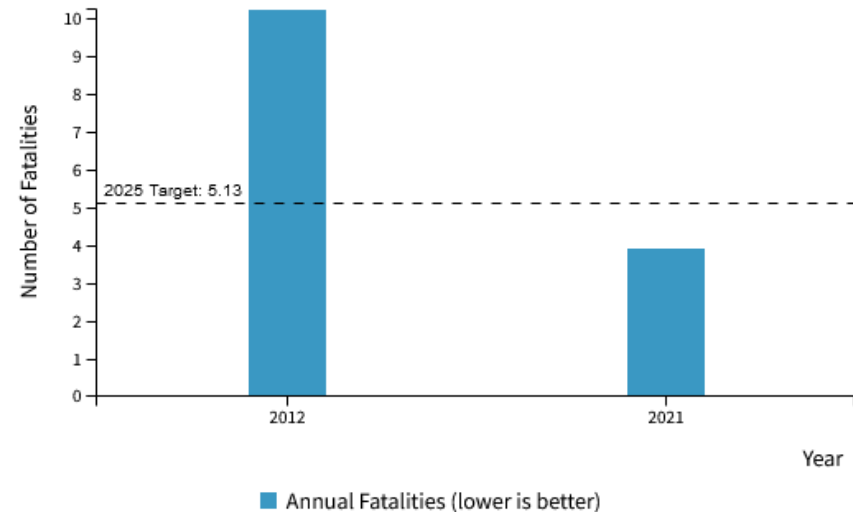
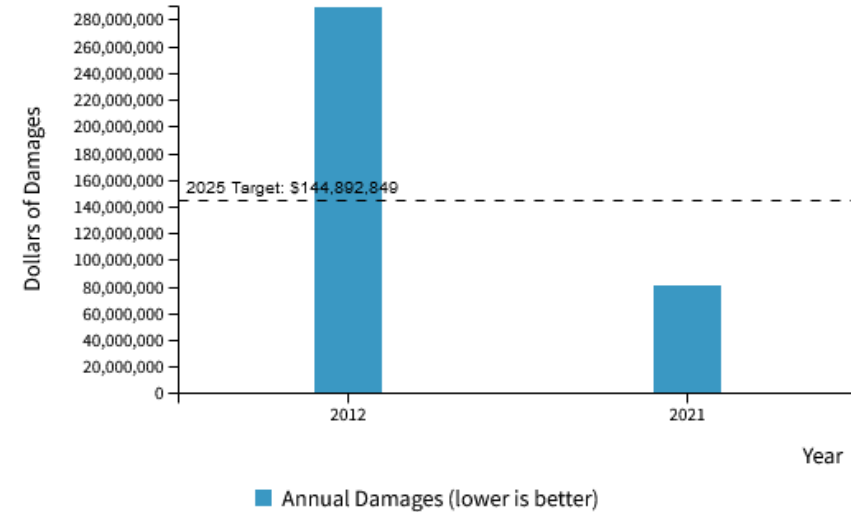
Flood Risk

- Water code 85305(a): "The Delta Plan shall attempt to reduce risks to people, property, and state interests in the Delta by promoting effective emergency preparedness, appropriate land uses, and strategic levee investments."
- The Council has developed the Delta Levees Investment Strategy (DLIS) to support strategic levee investments.
- The DLIS analysis tool generates annual expected fatalities (EAF) and annual expected damages (EAD).
- PM 7.2 tracks EAD and EAF toward a target of 50% reduction in each.



Results

- New EAD and EAF estimates have decreased by 50% putting them on target to meet the performance measure
- This is the result of 2 factors:
 - Improved methods using updated hydrology and improved fragility estimates
 - New data which accounted for a decade of levee improvement investments in the region
- Risk is not stationary. Investment in levees remains important to reduce risk to people and property in the face of climate change.



05.

Communicating Performance Measures

Performance Measures Dashboard

- Explore performance data
- View updated status and trends
- Engage to learn and understand

www.viewperformance.council.ca.gov



Water Supply

Urban Water Use
Alternative Water Supply
Water Supply Reliability
Agricultural Water Planning
Sustainable Groundwater
Water Exports
Administrative Measures



Water Quality

Delta Water Quality
Salinity
North Bay Aqueduct
Protect Groundwater
Dissolved Oxygen
Critical Pesticides
Inorganic Nutrients
Measurable Toxicity
Harmful Algal Blooms
Administrative Measures



Delta Ecosystem

Functional Flows: Yolo Bypass Inundation
Functional Flows: Peak Flow
Functional Flows: Recession Flow
Functional Flows: In-Delta Flow
Terrestrial and Aquatic Invasive Species
Administrative Measures



Protect People and Property

Multi-Hazard Coordination Task Force
Flood Casualties and Damages
Delta Levees
Delivery Interruptions
Sea Level Rise Planning
Flood Insurance Community Ratings
Administrative Measures



Delta as an Evolving Place

Subsidence Reversal and Carbon Sequestration
Farmland Loss
Legacy Communities
Recreation Opportunities
Delta Tourism
Delta Economy
Administrative Measures



Administrative Measures

Governance
Water Supply
Delta Ecosystem
Delta as an Evolving Place
Water Quality
Protect People and Property
Funding Principles

06.

Next Steps in 2022

In 2022:

- Perform performance measure data updates, summarize findings and provide key take-aways.
- Engage with agencies and stakeholders to inform decisions.
- Prepare outreach products to increase awareness and promote understanding.
- Revise administrative measures to align with current policies and climate resilience actions.
- Support program and project reviews.

