INFORMATION ITEM

Delta Plan Performance Measures: 2025 Year in Review

Summary

Council staff will present an annual update on the Delta Plan performance measures that observed significant changes. Each of these science-based and peer reviewed measures tracks a unique aspect of the Sacramento-San Joaquin Delta and the Suisun Marsh (Delta) and is important in evaluating progress when implementing the Delta Plan.

Background

How do we know if the Delta Plan is having an impact? The Sacramento-San Joaquin Delta Reform Act of 2009 (Wat. Code, § 85000 et seq., Delta Reform Act) requires that the Delta Plan "[i]nclude quantified or otherwise measurable targets associated with achieving the objectives of the Delta Plan." (Wat. Code, § 85308.) To do so, the Delta Plan includes performance measures that track and evaluate environmental and administrative changes associated with the implementation of policies and recommendations in the Delta Plan. Delta Plan performance measures inform the Council's decision-making and track progress toward achieving the state's coequal goals (Wat. Code, § 85054.) for the Delta over time.

The schedule for performance measure-related data collection and evaluation is driven by data frequency and availability. Some performance measures are updated annually, while others are related to a specific water year type, such as critically dry years and wet years, or triggered by specific events, such as emergency-related water delivery interruption. The Council's Performance Management Unit tracks the performance measures and summarizes key findings to the Council to provide an annual "pulse-check" on the hydrological, ecological, and human characteristics of the Delta. Each performance measure consists of multiple metrics, each with an established baseline and desired target.

Interested in learning more? The Council's performance measure dashboard (viewperformance.deltacouncil.ca.gov) tracks performance measure status and trends, boosting transparency of agencies' actions, promoting accountability, and guiding efforts to meet established targets.

2025 Performance Measure Takeaways

This report highlights key trends drawn from a cross section of Delta Plan performance measures based on information available in 2025. The trends describe the following outcomes and policy considerations:

- Overall, progress has been made on managing water supplies and meeting urban water conservation targets. Managing demand through urban water conservation needs to continue to trend positively to support California's preparations for a hotter and dryer climate and population growth.
- Progress restoring a healthy Delta ecosystem is increasing but still not at a scale needed to recover native species and functioning habitats. Despite recent increases in habitat acreage and completion of numerous restoration and multi-benefit projects, restoring ecosystem function is a slow, gradual process. Additionally, implementation of restoration projects, from design and planning to on-the-ground work, is also slow, taking multiple years sometimes even decades. However, recent restoration projects in the Delta have been designed and built to better promote ecosystem functions and acknowledge social benefits. A new alternative permitting pathway for ecosystem projects offers a promising approach to fast-track restoration but must be sensibly balanced with farmland preservation, equal access to restored lands, and Tribal and environmental justice.
- Completion of key projects, like the Yolo Bypass "Big Notch," increase floodplain inundation, providing much needed refuge and food for fish species. Recent increases in some Central Valley salmon populations and success stories of salmon returning to previously blocked habitat, such as in the Klamath River and Russian River, show that collective actions make a

difference but need to continue at a scale and pace that matches the challenges presented by accelerated climate change.

- Meanwhile, human actions in the Delta have contributed to new introductions of nonnative invasive species, farmland conversion, and decreasing community flood rating scores. Increased vigilance and continued and increasing investment in these areas can help redirect these trends in a positive direction.

Performance Measure Evaluations

The remaining portion of this report highlights a cross section of Delta Plan performance measures on the following topics:

- Statewide urban water conservation
- Delta ecosystem restoration
- Central Valley chinook salmon natural production
- Invasive species introductions and habitat enhancement
- Farmland conversions
- Delta community participation in the National Flood Insurance Program (NFIP)

2025 Conditions

Climate and precipitation patterns drive environmental conditions and management outcomes. Performance measures consider this environmental variability and evaluate results within annual hydroclimatic patterns.

In 2025, California experienced average statewide precipitation for a third water year in a row, with rainfall of 96 percent of normal precipitation amounts. Northern California had above-average precipitation, while Central and Southern California had below-average precipitation. In addition, much of the state experienced warmer than average temperatures throughout the year. In Southern California, dry and warm conditions during fall and winter fueled large wildfires. Key water reservoirs were maintained at or above 100 percent capacity for most of the year.

Reliable Urban Water Supply and Local Water Conservation (Delta Plan Performance Measure 3.1)

The Delta is the hub of state, federal, and local water systems, and one of the coequal goals of the Delta Reform Act is to provide a reliable water supply to all California, including reducing reliance on Delta water and improving regional self-reliance. The Delta Plan recommends that water suppliers receiving Delta water develop goals for a measurable reduction in reliance on the Delta and improvement in regional self-reliance and report these outcomes every five years in their respective Urban Water Management Plans (UWMPs) (Delta Plan Recommendation WR R4). One important way to ensure reliable water supplies is to increase water conservation and reduce statewide per capita water use.

Baseline: Water suppliers established individual baselines in 2010/2015 UWMPs as gallons per capita per day of water use (GPCD)

Target: Achieve a 20 percent reduction in GPCD by 2020 by individual water suppliers, across regions, and statewide

Current Status: Water conservation targets to reduce 2020 per capita water consumption levels by 20 percent from 2010 baseline conditions were achieved by 2020. The 2025 UWMPs are to be submitted to the Department of Water Resources (DWR) by July 2026. DWR published a draft guidebook for 2025 UWMPs in November 2025 with additional guidance regarding the length of water storage, direct potable reuse, and ocean desalination permitting. The 2025 UWMPs will again include a voluntary option to conduct "*Reduced Reliance on Delta Analysis.*"

Additionally, new State Water Resources Control Board water conservation regulations took effect January 1, 2025, (Cal. Code Regs., tit. 23, § 965 et seq.) requiring urban water suppliers to set and meet new annual urban water use objectives for indoor and outdoor water use. These regulations include an annual reporting requirement.

Restore Ecosystem Function (Delta Plan Performance Measure 4.14)

Achieving a healthy Delta ecosystem requires protecting, restoring, and enhancing tens of thousands of acres of functional, diverse, and interconnected habitat that

maintains resilience under changing climate conditions. The Delta Plan calls for restoring 60,000 to 80,000 acres of habitat by 2050, emphasizing social benefits, tribal engagement, and compatibility with existing land uses. (Cal. Code Regs., tit. 23, § 5005.1; Delta Plan Policy ER PA) Restoration projects need to have specific attributes to ensure that restored areas contribute to the overall Delta ecosystem. These preferred project attributes include restoring ecosystem processes - such as hydrologic, geomorphic, and biological functions - being large scale, improving connectivity, supporting native vegetation, and contributing to special status species recovery. Under ER PA, restoration projects must have at least four of these five attributes to be counted as Tier 1 or Tier 2 projects.

Baseline: Set at zero in 2025

Target: Funding directed to projects with preferred ecosystem attributes (Cal. Code Regs., tit. 23, app. 3a; ER PA Tier 1 or 2 attributes) increases to 80 percent by 2050

Current Status: The pace of ecosystem restoration has increased in recent years: 2019-2025: 15,000 acres; 2014-2018: 1,300 acres; 2007-2013: 1,100 acres. Tidal and non-tidal wetlands located in the northern and central parts of the Delta and Suisun Marsh are the main habitats being restored. In addition to completed restoration projects, about 5,000 acres of restoration are under construction and an additional 13,000 acres are in planning phases. In total, these existing and future restoration projects represent about 35,400 acres.

The Council's Performance Measures Unit recently began tracking the quality of restoration in terms of priority attributes that maximize the effectiveness of individual projects set forth by the Delta Plan's Ecosystem Chapter. Since April 2025, when the Delta Plan Policy ER PA (Cal. Code Regs., tit. 23, § 5005.1.) became effective, three restoration projects disclosed specific ecosystem attributes using the ER PA Checklist (Cal. Code Regs., tit. 23, app. 3a.):[1]

- Webb Tract Wetland Restoration Project (Tier 1)
- Cache Slough Mitigation Bank (Tier 2)

[1] Additionally, DWR certified consistency with ER PA for the Delta Conveyance Project (DCP) in 2025, identifying ecosystem mitigation as a Tier 2 project. Appeals of the certification of consistency for the DCP are before the Council at this time, and, thus, these investments are not further considered in this staff report.

- Georgiana Slough Erosion Control and Habitat Enhancement Project (Tier 2)

These projects will total about $39,000,000 in investments to restore tidal marsh, riparian, seasonal wetlands, and native grassland habitat.[2]

Additionally, Delta Plan Recommendation ER RF calls for establishing a program-level permitting mechanism to streamline and accelerate ecosystem restoration. The Department of Fish and Wildlife's (CDFW) Statutory Exemption for Restoration Projects program (Pub. Resources Code, § 21080.56; SERP) under the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) offers and alternative permitting pathway to fast-track ecosystem projects meeting specific requirements. In the Delta, three projects have utilized the SERP process:

- Knightsen Wetland Restoration and Flood Protection Project
- Staten Island Wetland Restoration and Carbon Farming for Habitat, Climate and Communities Project
- Webb Tract Wetland Restoration Project

These SERP projects were presented to the Council in 2023, 2024, and 2025, respectively.

Salmon Population Doubling Goal (Delta Plan Performance Measure 4.6)

Salmon play important roles in ecosystems and in society. The Sacramento-San Joaquin Delta serves as a migration corridor for the Central Valley salmon runs and the Delta Plan sets a goal of doubling the salmon populations as a measure of a healthy Delta ecosystem. (Wat. Code, § 85302, subd. (c)(5).) More recently, the California Salmon Strategy outlined key statewide actions for restoring salmon populations. The state published a progress report on the California Salmon Strategy in 2025.

Baseline: 1967– 1991 Chinook salmon natural production annual average (497,054) for all Central Valley runs

Target: Annual average of natural production for all Central Valley Chinook salmon runs increases for the period of 2035–2065 and reaches 990,000 fish by 2065

[2] These three projects are the only restoration projects to date that have certified consistency with ER PA. (Cal. Code Regs., tit. 23, § 5005.1.) Thus, 100 percent of restoration investments tracked by this performance measure are going toward projects with preferred ecosystem attributes.

Current Status: Central Valley chinook salmon born and raised without human help, or natural production, increased from 44,380 in 2022 to 131,741 in 2023 and 115,125 in 2024. The Feather and American Rivers in the Sacramento River watershed and the Mokelumne, Stanislaus, and Tuolumne Rivers in the San Joaquin River watershed nearly doubled their salmon counts. Salmon continue to decline in other Delta watershed tributaries, and the Sacramento River winter-run and spring-run salmon are approaching extremely low numbers. In 2024, the total natural production estimate for the Sacramento River watershed was 85,653, or about 11 percent of the target. The total natural production estimate for the San Joaquin River watershed was 29,472 fish, or about 34 percent of the target. Overall, population numbers remain below the 1967-1991 baseline levels of 497,054.

Yolo Bypass Floodplain Inundation (Delta Plan Performance Measure 4.2A)

Native fish species in the Delta evolved in response to natural flow patterns, including seasonal and inter-annual variation in streamflow. Restoring Delta flows and channels is specified as a goal in the Delta Reform Act to support a healthy ecosystem. (Wat. Code, § 85302, subd. (e)(4).) The Delta Plan recommends restoring flows that mimic historical timing, duration, magnitude, and frequency (Delta Plan Recommendation ER R1). Specifically, floodplain connectivity and inundation is one of the key functions that support native fish spawning, rearing, and food production. The Yolo Bypass, a large floodplain adjacent to the lower section of the Sacramento River, provides alternate routing for flows and young fish through the Delta. More frequent and longer flooding of the bypass benefits health and survival of native fish species in the Delta.

Baseline: 1997-2012 frequency, duration, and area of bypass flooding events

Target: Achieve at least 17,000 acres of bypass inundation for at least 14 consecutive days in two out of every three years

Current Status: In 2025, the Yolo Bypass flooded in the spring for a third year in a row for a minimum of 14 consecutive days, achieving the desired duration, frequency, and extent targets for floodplain inundation.

Additionally, the Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project, or the Big Notch Project, came online in November 2025. The Big Notch Project gates will allow Sacramento River flows to enter the Yolo Bypass at times

when the river elevation reaches 15 feet through March 15 of each year, allowing for longer, larger, and more frequent floodplain habitat inundation.

Prevent Introductions and Establishment of Habitat for Invasive Species (Delta Plan Performance Measure 4.10)

Nonnative invasive species are both a symptom of a highly degraded ecosystem and a major obstacle to successful restoration of the Delta ecosystem because they can affect the survival, health, and distribution of native Delta plants and wildlife. Native species are impacted by nonnative invasive species through competition, predation, disease, and other interactions. The Delta Plan includes both a regulatory policy (Cal. Code Regs., tit. 23, § 5009.) and a recommendation to prevent introductions of new nonnative invasive species and to manage nonnative species impacts. (Delta Plan Policy ER P5 and Recommendation ER R7)

Baseline: Nonnative invasive species reported as established in the Delta prior to 2013

Target: Zero new nonnative invasive populations establish

Current Status: Despite rigorous prevention efforts, new invasive species have colonized and established thriving populations in the Delta. Recent occurrences include:

- **Golden Mussel** (*Limnoperna fortunei)*, an invasive, nonnative freshwater/brackish bivalve, was discovered in the Delta in October 2024. This discovery is the first known occurrence of Golden Mussels in North America.

  In 2025, Golden Mussels spread throughout the central and southern Delta and to areas farther south via the California Aqueduct. They are now are found as far south as Pyramid Lake in the Grapevine and Riverside in Southern California. The Golden Mussel Response Framework was published in April 2025, a multi-agency effort led by CDFW to prevent further introductions and limit spread, and to contain and suppress the species. In June 2025, the State Lands Commission enacted an emergency regulation to require offshore treatment of ballast water before discharging at inland ports. (Cal. Code Regs., tit. 2, §§ 2292, 2293.) This emergency regulation was readopted in December 2025. Ballast water discharges by ocean cargo ships at the inland ports of Sacramento and

Stockton are the likely entry points of Golden Mussels into the Delta. Also, effective on December 30, 2025, the Fish and Game Commission approved a permanent regulatory addition of zebra, quagga, and Golden mussels to the restricted species list. (Cal. Code Regs., tit. 14, § 671.) In September 2025 in Assembly Bill 149 (ch. 106, stats. 2025), the Legislature appropriated an additional $20 million of Proposition 4 bond funds to CDFW to address invasive mussels and added a definition of "invasive mussels" in Fish and Game Code section 2301.

- **Nutria** (*Myocastor coypus*), a highly invasive, nonnative, semiaquatic mammal, continues to proliferate within the Delta despite eradication efforts by CDFW and other state, local, and federal agencies.

  In 2025, Nutria continues to proliferate, as evidenced by the highest take since the program began in 2017. During the year 2025, 2,076 nutrias were taken (560 in legal Delta and 532 in Suisun Marsh). The total take of nutria between 2017 and 2025 was 7,503 individuals (1,253 in legal Delta and 1,053 in Suisun Marsh.

- **Mute Swans** (*Cygnus olor*), large, nonnative birds weighing around 30 pounds and measuring about 5 feet in length with a wingspan of 8 feet have proliferated in the Delta, particularly within Suisun Marsh. Mute Swans are very territorial and aggressive, outcompeting native species for limited wetland habitats. They have been reported to attack people and critically injure pets and other waterfowl.

  Mute Swans were first detected in the Suisun Marsh in 2007 and now have an estimated population of 6,900 birds. Effective January 1, 2026, Fish and Game Code section 3801 allows for the take and possession of the bird by those with a valid California hunting license. The law currently has a repeal date of January 1, 2031.

Protecting Farmland from Urban Development (Delta Plan Performance Measure 5.3)

Agriculture remains the Delta's predominant land use and economic foundation. Preserving farmland supports local communities and sustains the region's rural character. The Delta Plan prohibits new unplanned residential, commercial, and industrial development outside designated urban areas, thereby reinforcing the Delta's agricultural heritage. (Cal. Code Regs., tit. 23, § 5010; Delta Plan Policy DP P1)

The Sacramento-San Joaquin Delta National Heritage Area Management Plan, adopted in 2025, promotes the unique agricultural character of the Delta and further advances historic preservation, farming legacy, cultural interpretation, and natural resource stewardship.

> **Baseline**: Number of acres of Delta farmland designated for agriculture in Delta Plan regulations at the time of Delta Plan adoption in May of 2013
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> **Target**: By 2025, no conversion of farmland to urban development as defined by Delta Plan regulations (Cal. Code Regs., tit. 23, § 5010.)
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> **Current Status**: Between 2018 and 2020, a total of 667 acres of Delta farmland were converted to urban uses, adding to the 2,150 acres that had already been converted since 2014. However, all of these conversions occurred within areas previously designated for development in city and county general plans when the Delta Plan was adopted in 2013. According to a draft report prepared by the Delta Protection Commission, restoration actions have contributed to the conversion of more than an additional 16,000 acres of agricultural land between 2014 and 2020. Delta farmland, as defined by the Delta Plan, includes prime farmland, grazing land, and farmland of local and statewide importance.

National Flood Insurance Program Community Rating Score (Delta Plan Performance Measure 7.7)

Flood insurance is crucial to the Delta, where approximately 77 percent of the land is designated as Special Flood Hazard Zone (SFHA) by the Federal Emergency Management Agency (FEMA). Property transactions in a SFHA require a purchase of flood insurance if the buyer is using a government-backed mortgage. The NFIP offers a community rating system as a voluntary incentive program to encourage activities that promote flood safety beyond minimum NFIP requirements. Flood insurance policyholders in communities achieving high rating scores receive discounts on their insurance premiums. The Delta Plan recommends increasing Delta community participation in the NFIP's Community Rating System discount program to promote flood insurance availability and limit state liability in the event of a flood.

> **Baseline**: Community Rating System credit points at the time of Delta Plan adoption, May 2013 or nearest available date

Target: One percent increase in Community Rating System credit points by 2025

Current Status: Following a modest increase in Community Rating System scores in Delta communities between 2013 and 2023, 2025 rating scores have decreased by 5 percent since 2023 and by 15 percent since 2013. Additionally, Lathrop and Manteca, both of which are partially located within the Delta, participated in the program in 2013 but no longer meet minimum requirements to receive NFIP discounts for their residents in 2025. This data highlights a decrease in Delta community flood management investments, especially within smaller communities. In 2025, FEMA experienced funding constraints and the federal government shutdown stalled the ability to purchase NFIP insurance plans. Alternatives to the NFIP program are being tested. A pilot parametric-based insurance program provided to Isleton residents through the Geological Hazard Abatement District program is funded by a DWR grant through Fall 2026.

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