



### ***Bay-Delta Resources***

4/28/2026 Subcommittee on Imported Water

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3a

#### **Subject**

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Delta Smelt Propagation and Research Update

#### **Executive Summary**

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From 2019 to the present, Metropolitan staff and researchers at UC Davis have jointly conducted Delta smelt aquaculture studies at Bouldin Island and at UC Davis. The goal of this work is to develop sustainable smelt rearing practices that would ultimately be used to aid in repopulating smelt in the Delta. This work by Metropolitan staff has been conducted in a manner consistent with the Board's 2022 adopted policies and principles. All of the work was coordinated with technical staff from the U.S. Bureau of Reclamation, the U.S. Fish and Wildlife Service, the Department of Water Resources, and the California Department of Fish and Wildlife. As a permit condition for the long-term operations for the Central Valley Project (CVP) and State Water Project (SWP), 500,000 adult Delta smelt are to be propagated and released into the wild by 2030. The Delta Smelt Supplementation Strategy was developed by agency technical staff managing the Delta smelt. The studies conducted by Metropolitan and UC Davis address critical management questions from the Delta Smelt Supplementation Strategy. Recent results continue to show the viability of less intensive, more cost-effective smelt rearing methods. Currently, a Delta smelt hatchery expansion is being developed to meet the current permit obligations requiring the project to increase Delta smelt release by 2030. Metropolitan staff are collaborating with state and federal agencies to support the adoption of utilizing pond culture as a low-cost alternative to tank-based aquaculture. Metropolitan staff will update the Board on the Metropolitan and UC Davis research findings.

#### **Fiscal Impact**

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None

#### **Applicable Policy**

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Bay-Delta Policies 1A Protect and restore aquatic species and habitats based on best available science, 3C Promote innovative and multi-benefit initiatives,

#### **Details and Background**

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##### **Background**

As part of the permit obligations for the long-term operations for the CVP and the SWP hatchery-raised Delta smelt are to be released into the Sacramento-San Joaquin Bay-Delta. The permit conditions are to produce no less than 500,000 adult Delta smelt on an annual basis, suitable for release into the Delta by 2030. As of 2025, the hatchery has produced approximately 163,000 adult Delta smelt. Increasing production has been determined by Metropolitan's technical staff to require expanding the current hatchery four to five times its current size and operating costs. The Delta Smelt Supplementation Strategy was developed jointly by the U.S. Bureau of Reclamation, the U.S. Fish and Wildlife Service, the Department of Water Resources, and the California Department of Fish and Wildlife to address limited production and optimize wild release and survival.

To support the strategy and help meet the 500,000 by 2030 goal, Metropolitan staff, in 2019, collaborated with state and federal agencies, academics, and non-governmental organizations to develop and implement innovative smelt propagation methods. Metropolitan staff partnered with UC Davis researchers, Drs. Nann Fangue and Florian Mauduit to conduct pond or impoundment culture studies as a potential low-cost alternative to meet the permit goal of 500,000 hatchery-raised smelt by 2030.

Through the collaborative efforts and our partnership with UC Davis, multiple studies have been implemented and are currently in progress. Completed studies include the (1) Pilot Pond Study (2022-2023), which successfully demonstrated the efficacy of ponds for culturing Delta smelt with over 95 percent survival after six weeks and (2) the Pond Harvest Study (2025-2026), which successfully demonstrated that free-swimming Delta smelt could be harvested from ponds with good survival (~80 percent). Studies in progress are (1) Fit for the Wild to use enrichment techniques to improve growth and survival, and (2) Tagging Study to demonstrate the efficacy of using remote sensing to track fish in the wild.

***Project Milestone(s)***

**2022** – Metropolitan becomes the first public water agency to be allowed to receive Delta smelt, a listed species, for research.

**2022-2023** – Conducted pilot studies that demonstrated the feasibility of using ponds for culturing Delta smelt

**2024** – Metropolitan is issued another permit to allow for more flexible use of Delta smelt in their research

**2025-2026** – Pond Harvest Study successfully demonstrated that Delta smelt are resilient enough to be cultured and harvested in an impoundment.