



- **Board of Directors**
Water Planning and Stewardship Committee

8/17/2021 Board Meeting

7-6

Subject

Authorize agreement with the United States Geological Survey for \$357,000 to evaluate existing ponds on Metropolitan's Delta islands for their potential to assist in preserving Delta smelt; the General Manager has determined the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

Staff requests board authorization to enter into an agreement with the United States Geological Survey (USGS) for \$357,000 to evaluate existing ponds on Metropolitan's Delta Islands for their potential to assist in preserving Delta smelt. Pursuant to the agreement, field reconnaissance in ponds on Metropolitan's property in the Delta would be conducted under a contract with the USGS to assess the suitability of the ponds for Delta smelt research. The UC Davis Fish Conservation and Culture Laboratory is a research facility supporting the conservation of Delta smelt, and this monitoring study would support scientific endeavors related to this facility. A total of eight existing ponds, two on each of the four islands, are available as potential sites for Delta smelt research. The reconnaissance would involve monitoring and assessment of water quality conditions and biological characteristics of the ponds. There would be four surveys from October 2021 through January 2022. The cost of the reconnaissance monitoring and assessment would be \$424,165, with a cost share from USGS of \$67,875 and in-kind contributions by the California Department of Water Resources (DWR). Staff is seeking authorization of up to \$357,000 but will also seek funding from the State Water Contractors for a portion of that cost. The lead researchers are from USGS but will include collaborations with technical staff from the DWR, the Bureau of Reclamation (Reclamation), and the United States Fish and Wildlife Service (FWS).

In light of the critically dry conditions in the Bay-Delta watershed, on the heels of the historic multi-year drought of 2012-2015, Delta smelt resiliency is a serious concern for resource managers. To address this concern, Reclamation has committed \$14 million, and DWR has committed \$5 million, to be spent over the next five years for research and the expansion of the UC Davis Fish Conservation and Culture Laboratory, as well as to inform supplementation of Delta smelt into the wild. This monitoring and assessment study provides an opportunity for Metropolitan to work with Reclamation, DWR, UC Davis, and the state and federal fish agencies to provide a controlled environment for future field studies to advance scientific understanding of Delta smelt habitat and life cycle, as well as investigate methods and procedures for potential future Delta smelt supplementation.

Details

Background

The Delta smelt is a small fish species endemic to the San Francisco Estuary. Since the 1980s, the Delta smelt population has exhibited a decline in abundance leading it to be listed as endangered under the California Endangered Species Act and as threatened under the U.S. Endangered Species Act (ESA). Further recent declines in Delta smelt population abundance have prompted grave concern that the species is particularly vulnerable. At the time of its listing under the ESA, only the basics of the species' life history were known. In the intervening 26 years, enough has been learned about the Delta smelt to support its propagation in captivity over multiple generations. The situation has led resource managers to actively pursue options for supplementation of the wild population with fish from a refugial conservation population maintained in culture at the UC Davis Fish Conservation and Culture Laboratory. Through cooperative efforts of several agencies since that time, refinement of these techniques has assisted in the development of a captive refugial population as one level of security

against species extinction and in maintaining the genetic diversity of the species and a reliable supply of captive-reared fish for research. As part of DWR's implementation of California's Delta Smelt Resiliency Strategy, it hosted a Delta smelt extinction workshop in 2016. At that workshop, there was widespread consensus that cultured Delta smelt in captivity should be part of the species recovery toolbox.

More recently, supplementation of the wild Delta smelt population with fish raised in captivity is a conservation measure proposed by Reclamation and DWR through the ESA §7(a)(2) consultation with the FWS on the long-term operations of the Central Valley Project and State Water Project (SWP) (2019 Biological Assessment). Support for studies to inform a conservation hatchery and potential future supplementation is also contained in DWR's Incidental Take Permit (ITP) issued by the California Department of Fish and Wildlife (CDFW) for the long-term operation of the SWP (2020 ITP). The conservation hatchery and future supplementation was to provide a genetic bank, alleviating effects of further population decline, bolstering the resilience of the population in poor recruitment years, and allowing the population to withstand stressful environmental conditions associated with recurring drought.

The first step in the process described was the development of a supplementation strategy by the FWS. The approaches, research, and experiments identified in the supplementation strategy are intended to increase the likelihood that the population of Delta smelt will be sustained in the wild. The FWS has recently developed its Delta smelt Supplementation Strategy (DSSS) to provide a scientific and regulatory roadmap for achieving successful reintroduction of Delta smelt. The strategy outlined in the DSSS capitalized on an initial period of research, monitoring, and evaluation of the efficacy and effects of hatchery production and contained release of cultured Delta smelt. An important next step that was highlighted in the DSSS is the development of science to guide uncontained releases of Delta smelt into the wild. A fundamental problem facing managers right now with Delta smelt supplementation is that it is unknown if cultured Delta smelt will survive and complete their life cycle when introduced freely into a natural habitat. Delta smelt supplementation could be informed by the proposed research on Metropolitan's properties. However, it is currently unknown if the existing ponds on Metropolitan's islands are suitable for supporting Delta smelt from the conservation hatchery.

Metropolitan is working with multiple state and federal government agencies to advance those agencies' research objectives through multiple collaborative study efforts. Metropolitan is coordinating with the interagency Culture and Supplementation of Smelt (CASS) process. This process is a critical coordination forum among four agencies (FWS, Reclamation, CDFW, and DWR) that will be involved in supplementation implementation efforts. Each of the CASS agencies plays an important role in each step described in this strategy. Interagency coordination allows for focus on (1) the use of fish for research, (2) policy direction, and (3) identification and coordination on regulatory steps. In addition to coordination with the CASS, Metropolitan would be working closely with staff from DWR, FWS, and USGS as well as researchers from UC Davis to implement the studies. As part of Reclamation and DWR's conservation actions, Reclamation has committed approximately \$14 million, and DWR has committed approximately \$5 million, to be spent over the next five years for research and introduction of Delta smelt hatchery fish into the Delta. The FWS is the lead agency in efforts to introduce conservation hatchery Delta smelt into the Delta channels for the first time, with the first release anticipated in fall-winter 2021. For the uncontained releases of Delta smelt to be successful, additional research is required. This monitoring project would provide important information about the water quality and biological resources in existing ponds on Metropolitan's properties. If conditions in one or more of these ponds are capable of supporting hatchery Delta smelt, or if new ponds could be constructed utilizing the information gained through these monitoring studies, the FWS, DWR, Reclamation, USGS, UC Davis, and Metropolitan could partner to complete studies to test hypotheses related to best methods and procedures for introducing non-contained hatchery Delta smelt into the wild using the controlled conditions provided by these existing ponds. If suitable conditions exist, or could exist, on Metropolitan's properties, staff would bring future research and/or habitat development opportunities to the Board for consideration.

An early investment from Metropolitan in monitoring and assessment will provide data necessary to inform whether future partnerships and research opportunities on Delta islands should be part of Reclamation, FWS, and DWR's research efforts. If these monitoring studies are successful, it could lead to valuable partnerships and future opportunities to complete vital research targeting the conservation of Delta smelt utilizing Metropolitan's properties.

For a summary of the key terms in the agreement, see **Attachment 1**.

Policy

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

2021 Legislative Policies and Principles [Adopted December 8, 2020, Section III(A)(2)]: Support funding to improve scientific understanding of listed Delta fish and wildlife species and water project operations in the Delta, including data collection real-time monitoring, and modeling. Promote the use of best available science to enhance flexibility for water project operations while maintaining regulatory and statutory protections for species listed under state and federal endangered species acts

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed action consists of basic data collection, research, experimental management, and resource evaluation activities, which do not result in a serious or major disturbance to an environmental resource. These may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded. Accordingly, the proposed action qualifies as a Class 6 Categorical Exemption (Section 15306 of the State CEQA Guidelines). Additionally, the proposed action involves feasibility or planning studies for possible future actions which the agency, commission or board has not yet approved, adopted or funded. Accordingly, the proposed action qualifies as a Statutory Exemption (Section 15262 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

Authorize the General Manager to enter into an agreement with USGS for up to \$357,000 for water quality and biological monitoring and assessments on Metropolitan's Delta properties.

Fiscal Impact: Expend existing budgeted funds of up to \$357,000 from the FY 2021/22 budget by reprioritizing studies and expenditures.

Business Analysis: Provides funding for research to support Delta smelt monitoring and assessments using Metropolitan's Delta properties that could help improve prospects for Delta smelt conservation.

Option #2

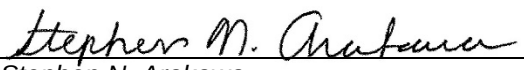
Do not authorize the General Manager to enter into an agreement with USGS for up to \$357,000 for water quality and biological monitoring and assessments on Metropolitan's Delta properties.

Fiscal Impact: No reprioritizing of budgeted funds

Business Analysis: Would not provide funding for research to support Delta smelt conservation efforts using Metropolitan's Delta properties. Instead, there would be greater reliance on the state and federal agency efforts being conducted per regulatory obligations in the federal Biological Opinion and state ITP to improve prospects for Delta smelt preservation.

Staff Recommendation

Option #1


Stephen N. Arakawa
Manager, Bay-Delta Initiatives

8/11/2021

Date


Adel Hagekhalil
General Manager

8/11/2021

Date

Attachment 1 – Term Sheet – Delta Smelt Augmentation Research

Ref# eo12681053

Term Sheet - Delta Smelt Augmentation Research

Purpose: To provide \$357,000 in funding to the US Geological Survey to evaluate existing ponds on Metropolitan's Delta islands for their potential to assist in preserving Delta smelt.

Objective: This project will assess the water quality and biological attributes of the existing on-island ponds. That information will be used to decide whether to use, enhance, or build new on-island impoundments for the purpose of assisting Delta smelt supplementation.

The project will assist in the transition of Delta smelt from the existing small tank enclosures located in the south Delta near the Skinner Fish Collection Facility to a more natural habitat maintaining and enhancing the wild genetic traits that will allow for successful reintroduction to the Delta. Creating healthy on-island aquatic conditions beneficial for smelt can help other at-risk fish species (Sacramento-splittail, longfin smelt, etc.), which can be explored in future years.

Benefits: Metropolitan's reliable supply of water from the State Water Project (SWP) is dependent on a healthy Delta ecosystem and stable native fish populations. Saving the Delta smelt benefits Metropolitan by reducing regulatory constraints and potentially improving operational flexibility of the SWP facilities. Furthermore, continuing to work collaboratively with state, federal, and local agency partners builds trust, relationships, and collaboration to achieve shared ecosystem restoration and sustainable Delta goals. Finally, a healthy ecosystem prevents the listing of additional species that could increase regulatory restrictions, decrease flexibility to respond to changing conditions, and decrease water supply reliability.

Parties: The US Geological Survey and The Metropolitan Water District of Southern California

Term: The Agreement is drafted to include a two-year term.

Cost: The total cost of this research agreement is \$424,875. The cost share breakdown is as follows:

- \$357,000 Metropolitan
- \$67,875 US Geological Survey
- In-kind (California Department of Water Resources, US Fish and Wildlife Service, California Department of Fish & Wildlife, University California at Davis).

Key Tasks:

- Determine whether water quality is within tolerance of Delta smelt. Sample and assess water and soil for potential legacy herbicides, pesticides, and add fungicides that could impair Delta smelt survival.
- Determine whether water in ponds is of a quality within tolerance of Delta smelt. Sample water for the following constituents: dissolved oxygen, temperature, turbidity, salinity, chlorophyll, and dissolved oxygen.
- Determine whether ponds support other fish that may compete with Delta smelt. Sample using a variety of survey methods. Sample composition and density of zooplankton, a food source for Delta smelt.