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State, Federal Agencies Launch Integrated, Multi-Pronged Effort to Help Delta Smelt

Strategies Aimed at Improving Survival of Endangered Fish

SACRAMENTO, Calif. – Under a comprehensive strategy released today, state and federal agencies will work to rapidly improve conditions for endangered Delta smelt, which are close to extinction after several extremely dry years. The strategy represents a management shift for state and federal water and wildlife agencies, which are addressing multiple stressors on Delta smelt in a systematic way while studying the synergy of the actions.

One action already underway is the release of water drained from Sacramento Valley farm fields into the Yolo Bypass to boost production of the zooplankton that smelt eat. Also planned is the treatment of invasive aquatic weeds in important smelt habitat in the Sacramento-San Joaquin Delta.

Other actions include:

- Generating more brackish water habitat by providing additional outflows at certain times of the year;
- The potential reoperation of salinity control gates in Suisun Marsh in order to attract smelt into high-quality habitat;
- Assessing the feasibility of adding sediment to certain zones in the Delta to create the turbidity smelt use to hide from predators;
- And studying whether to add sand – used by smelt for spawning -- in areas of the Suisun Marsh and Cache Slough.

The Delta Smelt Resiliency Strategy is available [here](#).

“This drought has pushed a struggling species too close to extinction,” said California Department of Fish and Wildlife Director Charlton H. Bonham. “With the best available science as our guide, we’re moving fast to improve conditions so that more young Delta smelt survive this year and reproduce.”

Recent Delta smelt surveys by Fish and Wildlife have found the lowest-ever abundance levels in decades of measurements. The small, slender fish live a single year and are found only in the Delta, where rivers draining nearly half of California empty into San Francisco Bay. Once plentiful, Delta smelt inhabit the brackish zone in the western Delta where fresh and saltwater mix, and move upstream into fresher water to spawn. Factors implicated in the decline of the species include non-native predators and competitors, water project pumping, altered flow patterns, aquatic weeds that reduce water turbidity, pollution, and diminished habitat.

The Delta Smelt Resiliency Strategy released today aims to generate a positive population growth trend for the

species by reducing mortality and boosting the rate at which the fish grow, reproduce, and survive. It focuses on creating better habitat, more food, higher turbidity, and reduced levels of weeds, predators, and harmful algal blooms.

Not all the measures in the strategy may prove successful, but government scientists intend to learn as much as possible from the effort.

“This strategy is about more than taking swift action to reverse the decline of the Delta smelt population,” said Mark Cowin, Director of the California Department of Water Resources. “We intend to learn a great deal about the ecological needs of the species and the effects of our inter-related actions. Better understanding will help bring about better conditions for Delta smelt and, in turn, better management of our water resources.”

The strategy will be implemented by Fish and Wildlife, the California Department of Water Resources, the Division of Boating and Waterways, the U.S. Fish and Wildlife Service, and the U.S. Bureau of Reclamation. The smelt food production action also involves partnering with local agricultural water agencies and farmers.

The overall strategy relies on science and conceptual models developed by the Interagency Ecological Program’s Management, Analysis, and Synthesis Team (MAST). The conceptual models have a tiered structure with Delta smelt performance determined by habitat attributes, environmental drivers, and landscape attributes. There are individual models for each smelt life stage.

Some ecological drivers are not well-understood or monitored and therefore have substantial uncertainty associated with actions intended to address them. However, the strategy is meant to address as many drivers as possible, with acknowledgement that some actions may not yield expected results.

In addition to the measures in the strategy, a number of habitat restoration projects that are highly likely to benefit Delta smelt are planned or underway. Details on the projects can be found at <http://resources.ca.gov/ecorestore>.

To learn more about Fish and Wildlife’s efforts to protect and preserve the state’s fish and wildlife through drought, please visit <https://www.wildlife.ca.gov/Drought>.

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