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## New Strategy to Improve Conditions for Delta Smelt Shows Promising Results

Comprehensive Approach Seeks to Reverse Decline in Smelt Population

**YOLO BYPASS WILDLIFE AREA** – The initial monitoring of a new strategy to improve conditions for the endangered Delta smelt shows significant promise in creating a bloom in the plankton that nourish these imperiled fish. State and federal leaders were joined today by Sacramento Valley farmers and water providers along the banks of the Yolo Bypass to describe the successful experiment and deliver the first update on the State's comprehensive Delta Smelt Resiliency Strategy. The effort is intended to improve ecosystem conditions so more young Delta smelt survive this year and reproduce.

"Acting on a scientific hunch with cooperation that extended deep into the Sacramento Valley, we moved quickly to see if we could boost the Delta smelt food supply in the western Delta in this fifth year of drought," said Charlton H. Bonham, Director of the California Department of Fish and Wildlife. He added, "The results surpassed our expectations and give us hope that in future years we can relatively quickly and easily take advantage of the Yolo Bypass floodplain to improve conditions for a species on the brink of extinction."

State, federal and local water district officials partnered this summer to send water through a wetland and tidal slough corridor of the Sacramento River system and into the Delta where it created a phytoplankton bloom, the critical base of the food web for smelt. The plan was developed based on observations by agency scientists in the fall of 2011 and 2012 following larger-than-normal agricultural drainage flows from the Yolo Bypass. These flows produced an unusual plankton bloom in the Rio Vista area of the lower Sacramento River. Scientists theorized that this production of plankton could be generated in other years if the conditions in the Yolo Bypass could be repeated.

This finding led to a cooperative effort earlier this summer between state and federal governments and various water agencies along the Sacramento River including the Glenn-Colusa Irrigation District, Reclamation District 108, Reclamation 2035, Knaggs Ranch, and Conaway Ranch. The Tehama-Colusa Canal Authority and the U.S. Bureau of Reclamation

assisted, along with many other local agricultural partners in the Valley. The result was a redirection of water from the Sacramento River down the Colusa Basin Drain, through the Knights Landing Ridge Cut Slough, past Wallace Weir, through the Yolo Bypass and into the Delta to provide the optimal conditions to create the critical food source for growing Delta smelt. A recent substantial Delta plankton bloom at Rio Vista indicates that this strategy was effective in boosting downstream food web resources for smelt.

"This effort provides a good example of the application of scientific research to address complex management issues," said Dr. Ted Sommer, lead scientist for the California Department of Water Resources. He added, "The overall strategy of the smelt plan was based on an intensive effort by a multi-agency team to isolate the major factors affecting different life stages of Delta smelt and to identify the habitat, environmental and landscape conditions that could be improved to support better growth, health and reproduction."

Other actions included in the Delta Smelt Resiliency Strategy include treatment of invasive aquatic weeds in critical smelt habitat in the Delta; generating more brackish water habitat at certain times of the year; studying the potential of re-operating salinity control gates in the Suisun Marsh to attract smelt into high-quality habitat; assessing the feasibility of adding sediment to certain zones in the Delta to create the turbidity smelt need to hide from predators; and studying the feasibility to add sand in certain areas of the Delta which is used by smelt to spawn. In addition, a number of habitat restoration projects that are highly-likely to benefit Delta smelt are planned or underway.

"There is not one simple solution to save the smelt, but a complex set of challenges which must be identified and addressed to secure smelt survival," said Lewis Bair, general manager, Reclamation District 108. He added, "This is why we are actively working to implement this part of the Delta Smelt Resiliency Strategy in the Sacramento Valley—providing vital nourishment and improving habitat in the Yolo Bypass for smelt to thrive and reproduce. We are very proud of this partnership between state and federal agencies, the environmental community and local water districts because these actions are making a difference for birds, fish and farms."

The <u>Delta Smelt Resiliency Strategy</u> is being implemented by the California Department of 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 plan is being executed through a partnership involving local, state and federal agencies teaming up with Sacramento Valley agricultural water users and farmers. This is the latest chapter of cooperation involving a coalition of farmers, water providers, conservationists and regulators who are driven by the mindset to "fix it" rather than "fight it" to improve fish and wildlife habitat throughout the Sacramento River region.

"It is critical – and possible with these partnerships – to improve fish and wildlife habitat through the efficient use of our region's water resources while managing a productive farm economy," said David Guy, President of the Northern California Water Association. He added, "The drought has not only impacted smelt, but it has also affected the ability to deliver water

for farms, wildlife refuges and recreation throughout the region. Farmers and the rural communities throughout the Sacramento Valley care deeply about our rivers, they understand how the rivers function and they have made significant investments in efforts to preserve and improve fish and wildlife habitat. This cooperation is unique and truly benefits all Californians."

To learn more about California EcoRestore and other habitat restoration projects underway in the Delta, go to <a href="http://resources.ca.gov/ecorestore/">http://resources.ca.gov/ecorestore/</a>.

To download video related to the pulse flow and plankton bloom, visit <a href="http://ftp.wildlife.ca.gov/OCEO/Wallace%20Weir/">http://ftp.wildlife.ca.gov/OCEO/Wallace%20Weir/</a>.

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## Delta Smelt Food Web Flow Action Summer 2016



Base map courtesy of NOAA Fisheries

