

Suisun Marsh Salinity Control Gates Action Pilot Study - August 2018

Who is working on the project?

- Department of Water Resources is leading the effort as part of the *Delta Smelt Resiliency Strategy*.
- The project is a major collaboration between scientists, modelers and engineers, and includes staff from DWR, MWD, SWC, UC Davis, USGS and several consulting firms.

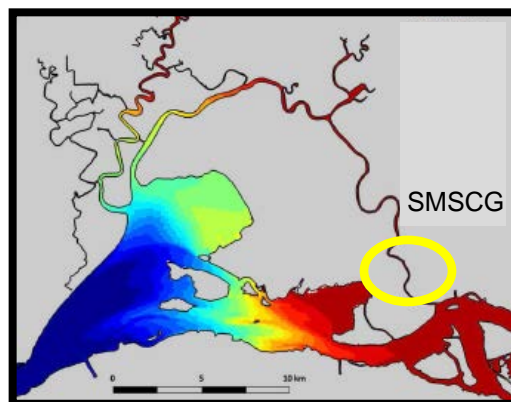
Why is there an interest in enhancing habitat for Delta Smelt?



-Habitat degradation is a major factor responsible for the decline of many fishes including the endangered Delta Smelt, whose population status affects water supply reliability in the state.

Why is Suisun Marsh a focus?

- Suisun Bay and Marsh are a key part of the habitat for Delta Smelt.
- During drier periods such as summer, Delta Smelt may be at least partially excluded from Suisun Marsh due to high salinities.
- Suisun Marsh Salinity Control Gates (SMSCG) are used to tidally pump water into the Marsh to improve fall and winter habitat conditions for waterfowl.
- Operation of the SMSCG could also provide a tool to manage aquatic habitat for Delta Smelt in other periods.



What is the basic idea behind the action?

- By using the SMSCG to direct more fresh water in Suisun Marsh, our prediction is that reduced salinities will improve habitat conditions for Delta Smelt in the region.
- We propose a pilot action this August 2018, which is only two months earlier than usual SMSCG operation for waterfowl.
- Modeling suggests that the action could be beneficial and achievable in all but drought or wet years.

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What are some of the key regulatory and resource issues?

- Boating.*** Access would be similar to normal gate operation periods when SMSCG boat locks and other marsh entry points are available for boaters.
- Marsh Operations.*** Lower marsh salinities are a net benefit for local diverters in that area.
- Water Quality.*** Operation of the gates during August will result in a slight (e.g., <1.5 km) upstream shift of the salt field (X2). Modeling is underway to determine if the action will require additional outflow to meet Delta standards (e.g. D1641).
- Fish Passage.*** August is a relatively quiet period for fish migration, so passage is not a major issue.



What will be measured in the study?

- Water quality, plankton, and clams (consumers of plankton) will be measured at multiple locations before, during, and after pilot SMSCG operations.
- Fish community changes will be evaluated by the monthly UCD Suisun Marsh Survey.
- Smelt caught by regular IEP surveys will also be evaluated for growth and health, but very low catch is expected due to low population levels.
- Modeling will also be used to map and quantify how the action affected habitat area for Smelt.
- Results would be synthesized by a multi-agency and stakeholder team (“IEP FLOAT MAST”).

How will the study results be used?

- The results are intended to guide future possible SMSCG operations to benefit Smelt.
- The major findings will be presented in management and technical forums, and summarized for publication in scientific journals.

Study Contacts

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