Suisun Marsh Salinity Control Gates Summer Action

The Suisun Marsh Salinity Control Gates will be operated during the summer to freshen the marsh for Delta Smelt Habitat.

Background

- Summer operations of the Gates were first proposed in the 2016 Delta Smelt Resiliency Strategy.
- The action was piloted in 2018 and results were promising.
- Summer operations are now **required** by the Biological Opinion and Incidental Take Permit for operation of the State Water Project in most water year types, starting in 2021 (Table 1).

Table 1 - Action by Water Year Type (Sacramento Valley Index)

Water Year Type	Additional Outflow	X2	Salinity Control Gates	Salinity at Beldens
Wet	100 TAF June-October	X2 < 80km	None	NA
Above Normal	100 TAF June-October	X2 < 80km	Operate for 60 days	4 PSU
Below Normal	None	None	Operate for 60 days	4 PSU
Dry - previous year wet or AN	None	None	Operate for 60 days	4 PSU
Dry – previous year BN	None	None	Operate for 30 days	6 PSU
Dry – previous year Dry or CD	None	None	Evaluate potential actions.	TBD
Critical	None	None	None	NA

How will this help smelt?

- Suisun Bay and Marsh are a key part of the habitat for Delta Smelt because marshes provide safety from predators and high food supply.
- During drier periods such as summer, Suisun Marsh is often too salty for Delta Smelt.
- By using the SMSCG to direct more fresh water in Suisun Marsh, reduced salinities will improve habitat conditions for Delta Smelt in the region.

Impacts to the Marsh

- **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 salinities are better for local diverters in the area.

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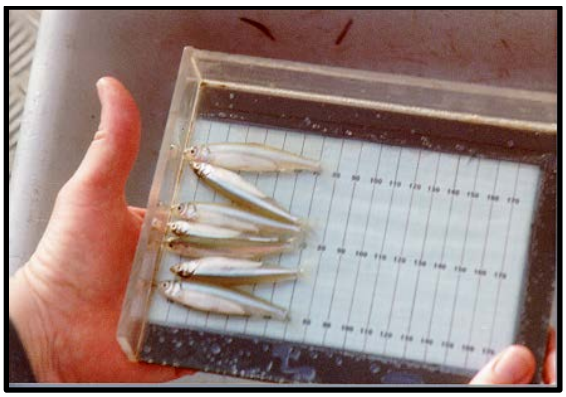
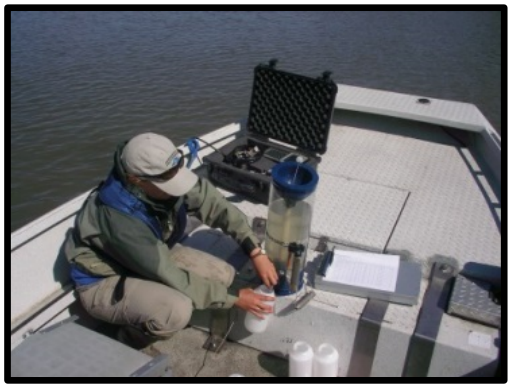
- **Water Quality**. Operation of the gates during August will result in a slight (e.g., <1.5 km) upstream shift of the salt field (X2), so a modest amount of additional outflow will be provided to avoid salinity intrusion.
- **Fish Passage.** Listed species do not migrate through the area during this time period.





Monitoring

- Water quality, plankton, and clams (consumers of plankton) will be measured at multiple locations before, during, and after summer SMSCG operations.
- Fish community changes will be evaluated by the monthly UCD Suisun Marsh Survey and the USFWS Enhanced Delta Smelt Monitoring Survey.
- Experimental smelt in cages will be used to see how smelt growth and health is affected by gate operation.
- 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 be used to map how the action affected habitat area for Smelt.
- Results would be analyzed by a multi-agency and stakeholder team and used to inform future Salinity Control Gate operations to benefit fish and wildlife.

Who is working on the project?

- Department of Water Resources is leading the effort as a part of ongoing State Water Project operations.
- Planning and monitoring is a major collaboration between scientists, modelers and engineers, and includes staff from DWR, Dept. of Fish and Wildlife, US Bureau of Reclamation, Metropolitan Water District, State Water Contractors, UC Davis, USGS and several consulting firms.
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