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Project opens tidal action at Alviso between bay and Guadalupe River

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On Wednesday morning, if everything goes according to schedule, workers will crank a winch to open a steel tidal gate on an earthen levee near Alviso.

They'll be reconnecting the waters of San Francisco Bay with San Jose's signature waterway, the Guadalupe River, in ways not seen since the 1920s.

The event is part of the ongoing effort to restore 15,100 acres of former industrial salt-evaporation p onds around the bay back to tidal marshes for fish, birds and other wildlife. The federal and state governments purchased the lands from Cargill Salt in 2003.

"Eventually we want all this area restored to tidal marsh. But we need to proceed with caution," said John Bourgeois, manager of the South Bay Salt Pond Restoration Project, standing on the Alviso levee Tuesday.

In the past 18 months, workers built a 40-foot long concrete notch into the levee of a former salt evaporation pond known as A8. The 570-acre pond sits adjacent to the Guadalupe River near the Gold Street Bridge in Alviso, on San Jose's northern edges with San Francisco Bay.

The new structure has eight huge steel gates. As part of the $2.8 million project, crews also dug a 500-foot channel in the same area to connect the former salt pond with the Guadalupe River.

The project will allow tidal waters to flow between the open bay, through the pond, into the river and back, depending on the tides.

Planners have three goals. First, by introducing substantial tidal

action into the river, engineers expect scouring that could widen the river channel by 90 feet and deepen it by 2 feet around Alviso, restoring it to more natural historic conditions.

"I'm just really excited. There's been over 30 years of neglect," said Dick Santos, a lifelong Alviso resident and member of the Santa Clara Valley Water District board. "This is going to make the area beautiful and inviting."

Second, because bay waters are more salty than the fresh water in the river, they are expected to slow the growth, or kill, masses of bulrushes and tule reeds that have choked the river in the past 30 years, a source of controversy in Alviso. That should eventually make the lower Guadalupe easier to use for boaters.

Third, scientists plan to use the new marriage of bay and river waters to closely monitor the impacts of decades of mercury contamination that has run downstream from South San Jose's New Almaden Q uicksilver Mines. Although the mines closed decades ago, rainwater continues to wash some mercury into the river, where it builds up in birds and fish, not only harming wildlife but also making some fish unsafe to eat.

Scientists hope to obtain more precise information about how much mercury is buried

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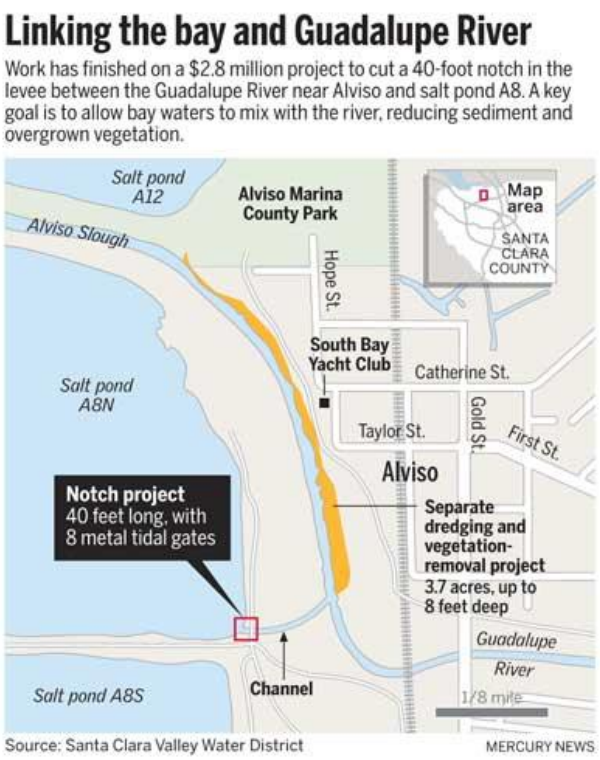
in the mud around Alviso, how it behaves chemically when stirred up, and what effects it has on fish and birds. How other former Cargill salt ponds that ring the bay -- from Hayward to



Redwood City -- are restored will depend in part on what happens in the experiment.

"It would be easier and cheaper just to breach the levees, but you might do more harm than good," said Eric Mruz, manager of the Don Edwards San Francisco Bay National Wildlife Refuge.

"There are so many uncertainties, things like flood control and the mercury issue. If there's a problem, we can just shut the gate."

This year, only one of the gates will be opened as scientists monitor changes. Next year, three are set to open, then up to all eight within three to five years.

"I wish I could speed it up, but the bureaucracy wants to go slow," Santos said. "I understand it. But I wish it could go faster."

Scientists from the U.S. Geological Survey and other agencies will analyze sediments to see how the long-buried mercury moves around. They plan to test avocets and other birds, along with fish, like silversides, in the next few years to see if mercury concentrations are increasing.

If there's a problem, Bourgeois said, federal and state agencies can dredge hot spots of mercury or cap them.

The project was funded through a $1.13 million grant from Proposition 40, a state water bond, along with $840,000 from the Santa Clara Valley Water District and $866,000 from President Barack Obama's stimulus program, through NOAA, the National Oceanic and Atmospheric Administration.

In a related action, the water district in 2009 approved a $6 million project to dredge parts of the lower Guadalupe to remove vegetation. That work is set for next year.

The river's woes date back to the Gold Rush. Founded in 1852, Alviso began as a port for ships carrying redwood, quicksilver and orchard fruits. But the port silted in. Construction of salt-evaporation ponds starting in 1929 rerouted the Guadalupe River, cutting off tidal action.

By the 1960s, the Army Corps of Engineers and the water district straightened the river to improve flood safety. But in removing its meanders, they inadvertently created a freeway for sediment, which now collects at Alviso.

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As a result, the river became muddier, with less saltwater from the bay. By 1980, an enormous growth of bulrushes and cattails began to take over.

In 1977, one spot in the river was 218 feet wide. By 2004, it was 54 feet wide.

"The sturgeon, the striped bass, the sea lions are going to come back," Santos said. "Alviso will be back to the way it was when I was a young man. It was beautiful."

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