Lessons from the Bay Area's lowest point

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ALVISO — Flooding is a fact of life in Alviso, where levees turn low-lying lands into a bathtub that traps the stormwater behind them.

Tom Laine's home was flooded with nearly 2 feet of water during the torrential El Niño storms of 1983. The 4-foot levees in front of his home make that impossible to avoid. But he wouldn't feel safe without them. If the levees weren't there, he points out, Alviso would not exist.

"We're the lowest spot in the Bay Area. If we have to live behind a levee, we have to live behind a levee. Sacramento does — why should we be any different?" said Laine, 72.

The levees that guard against high tides may also protect Alviso from future sea level rise, a consideration that few cities around the Bay have begun to strategize about.

Most cities inherited forms of shoreline protection such as levees and sea walls that were erected as long as a century ago and don't meet modern flood-protection standards certified by the Federal Emergency Management Agency.

Today, the only areas with certified flood protection are Foster City and Hamilton Field in Novato. Other cities face the choice of paying millions to improve

their levees or require residents to buy expensive flood insurance.

But even the newest levees and sea walls aren't designed to account for long-term sea level rise because FEMA isn't required to factor it in. Nor was the U.S. Army Corps of Engineers — until now.

In the

South Bay, shoreline protection consists mainly of more than 15,000 acres of salt flats inherited from Cargill Salt, diked off by a series of low earthen levees that keep tides away from parts of Milpitas, Newark and Alviso — as well as the Googleplex in Mountain View. Those lands were recently sold to the state and federal government, which have embarked on a 40-year, $1 billion project to restore the salt ponds to historic tidal wetlands.

That set the stage for a pioneering experiment in flood control and wetlands restoration known as the South San Francisco Bay Shoreline Study. The project marks one of the earliest nationwide examples of a new Army Corps policy in which the federal agency, which had always built levees to a certain height according to the value of the real estate behind it, has begun to factor rising sea levels into its calculations.

The Army Corps usually only looks a half-century ahead when constructing a levee, so projecting to 2100 and beyond has been an unusual challenge, according to J.D. Hardesty, a spokesman for the Army Corps' San Francisco District. But there was one important catalyst for the new policy.

"The lessons learned during Hurricane Katrina and the levees have changed the way we do things. We've gone back to re-validating our data," Hardesty said. "This is one of the very first projects that the

(Army) Corps will develop this kind of planning for."

The study, now in its fourth year, will soon release a series of recommendations from the Army Corps, the Santa Clara Valley Water District and other agencies on where to breach and build levees to bring back wildlife, while protecting about 10,300 people and $5 billion worth of property within the Santa Clara County flood plain, according to estimates from the Army Corps.

Cities and public agencies are looking to the Army Corps to help them cope with the long-term threat of rising sea levels. San Francisco International Airport officials are waiting for direction from the Army Corps before they raise the earthen berms and concrete dikes that protect the eight-mile perimeter of runways from the Bay, according to Jim Chiu, civil engineer with the airport. Chiu said the airport has been waiting for an update since last fall.

"We base our shoreline protection on Army Corps criteria," he said, "but we're not seeing any guidance now."

This story was produced in collaboration with Crosscurrents on KALW 91.7 FM. Listen to a two-part series on sea level rise at www.kalwnews. org.