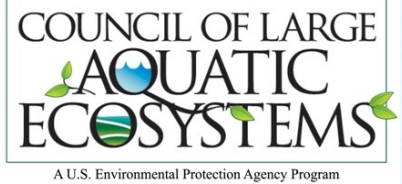


San Francisco Bay Delta Estuary Large Aquatic Ecosystem (LAE)



The **San Francisco Bay-Delta Estuary (Bay-Delta)** is the largest estuary on the west coasts of North and South America. It comprises the 1,153-square mile Sacramento-San Joaquin Delta and the 488-square mile San Francisco Bay. Its 6,250-square mile watershed covers more than 40 percent of California and includes the drainage basins for the Sacramento and San Joaquin Rivers, the Sacramento-San Joaquin Delta, and the San Francisco Bay (including Suisun and San Pablo Bays).

The Bay-Delta is a valuable economic and ecological resource. It provides drinking water to 25 million Californians, irrigation to 4.5 million acres of agriculture, and hosts important economic resources such as the hub of California's water supply infrastructure, the Ports of Oakland, Stockton, and Sacramento, several commercial and recreational fisheries, major highway and railroad corridors, and energy lines. The Bay-Delta ecosystem supports 750 species of plants, fish, and wildlife including several endangered and threatened aquatic species such as delta smelt, salmon, brown pelican, clapper rail, and salt marsh harvest mouse. Two-thirds of the State's salmon pass through Bay-Delta waters, and at least half of the Pacific Flyway migratory water birds rely on the region's wetlands.



Challenges

Throughout the 340,000-acre San Francisco Bay, state Water Quality Standards are exceeded for various pesticides, invasive species, mercury and other metals and toxic substances. Many miles of beaches are impaired for unacceptable levels of bacteria due to sewage spills and crumbling sewage infrastructure. Habitat destruction has eliminated more than 90 percent of shoreline wetlands and 40 percent of total San Francisco Bay aquatic ecosystem in the last 150 years leading to the special protection of more than 90 taxa of plants and animals.

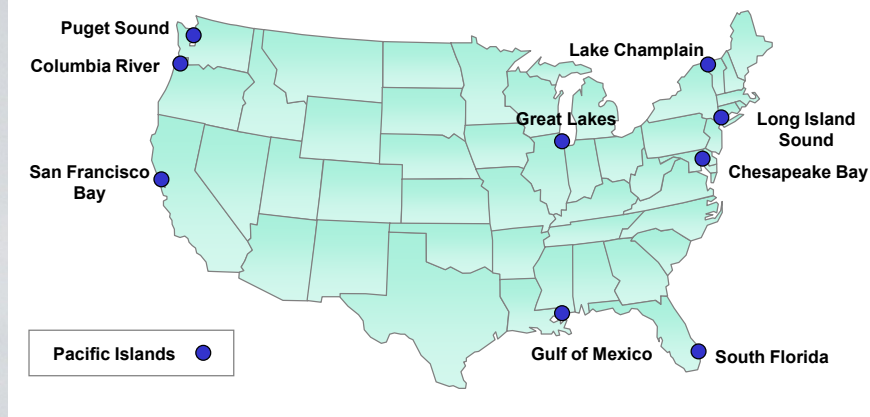
Bay-Delta Estuary challenges are magnified and concentrated in the Delta, the heart of California's water system. Decades of pollution and water diversions have led to degraded water quality, sharp declines in fisheries, seasonal closing of commercial fisheries and the listing of five fish species as endangered or threatened under the Endangered Species Act. The oversubscription of water amplifies California's vulnerability to natural drought cycles that can drastically reduce water supply. Much of the Delta has subsided below sea level, more than 25 feet below sea level in some locations, and is minimally protected by aging earthen levees that leave homes, farms, communities, highways, and energy infrastructure vulnerable to flooding from sea level rise, seismic events and levee breaks.

Priorities

- Providing federal leadership in balancing competing water needs throughout this large aquatic ecosystem
- Supporting the Bay-Delta Conservation Plan and water quality standards that promote a sustainable aquatic ecosystem
- Providing science support for the Pelagic Organism Decline studies
- Advancing comprehensive water quality monitoring and assessment
- Improving water quality through more effective storm water permitting, enforcement actions, and incentives for Low Impact Development techniques

Large Aquatic Ecosystems

Program Offices



The San Francisco Bay Delta Estuary was designated a member of the US Environmental Protection Agency's Large Aquatic Ecosystem Council (LAE) in 2008. The San Francisco Bay Delta Estuary joins nine other geographic-based efforts that focus on protecting and restoring the health of critical aquatic ecosystems. The LAE Council seeks to merge geographically-based efforts with national water programs to advance the health of the Nation's large aquatic ecosystems and strengthen national water programs.

Accomplishments*

- 130,000 acres of fish and wildlife habitat and 55,000 acres of agricultural land has been protected and/or restored
- 82 fish screens installed or improved and several dams and fish barriers removed
- 1.4 million acre-feet of dredge material beneficially reused to stabilize levees
- 1.0 million acre-feet of additional water supply identified and 4.6 million acre-feet of water were transferred between users

**CALFED Bay Delta Program Performance Assessment Final Draft 2007*

Future Direction

EPA is focused on identifying long-term solutions for water resource management problems by working with the state of California and a diverse set of stakeholders. The Delta Stewardship Council provides a forum for working towards a sustainable Delta ecosystem as a state agency created in 2009 to develop and oversee a plan to achieve the co-equal goals of restoring the Delta ecosystem and ensuring water supply reliability. EPA will continue working throughout the larger SF Bay-Delta estuary to support implementation of water quality standards, improve water quality, promote more sustainable urban and agricultural activities, and enhance wetland and stream habitats. Key partnerships include the State Water Board and the San Francisco Estuary Partnership. Activities to date include:

- Improving water quality by providing technical and financial support to the State for the development and implementation of water quality standards, discharge permits, and total maximum daily loads
- Administering the San Francisco Bay Water Quality Improvement fund
- Supporting the San Francisco Estuary Partnership and their implementation of the Comprehensive Conservation and Management Plan
- Participating in the Army Corps of Engineers process to develop a Delta Long Term Management Strategy to encourage dredge material reuse

The San Francisco Bay-Delta Estuary Facts

Watershed Size: 45000 square miles

Waterbody Size: surface area of Bay-Delta is 1,600 square miles

Population: 11 million

EPA Region: 9

EPA LAE Contact: Karen Schwinn

LAE Program Web Sites

Chesapeake Bay Program

www.chesapeakebay.net

Columbia River Basin

www.epa.gov/region10/columbia

Great Lakes

www.epa.gov/glnpo

Gulf of Mexico Program

www.epa.gov/gmpo

Lake Champlain Basin Program

www.lcbp.org

Long Island Sound Study

www.longislandsoundstudy.net

Pacific Islands Office

www.epa.gov/region09/islands

Puget Sound - Georgia Basin

www.epa.gov/pugetsound/index.html

San Francisco Bay Delta Estuary

www.epa.gov/region9/water/watershed/sfbay-delta/index.html

South Florida Geographic Initiative

www.epa.gov/region4/water/southflorida/index.html

EPA Office of Wetlands, Oceans,
and Watersheds

[www.water.epa.gov/aboutow/owow/
programs/large_aquatic.cfm](http://www.water.epa.gov/aboutow/owow/programs/large_aquatic.cfm)

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