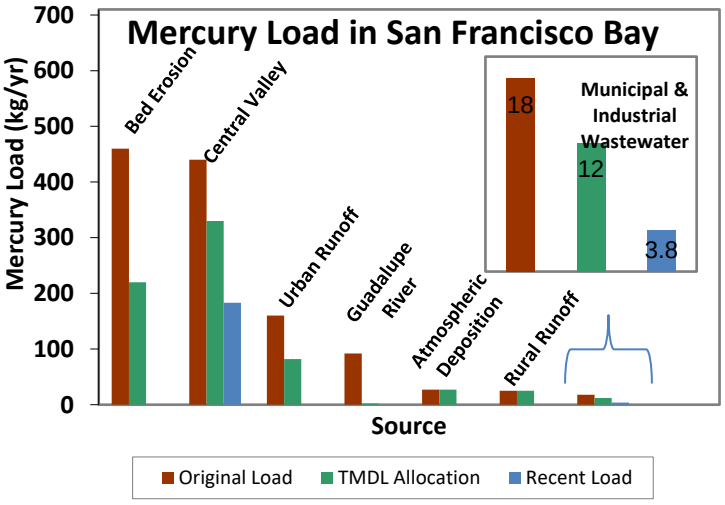
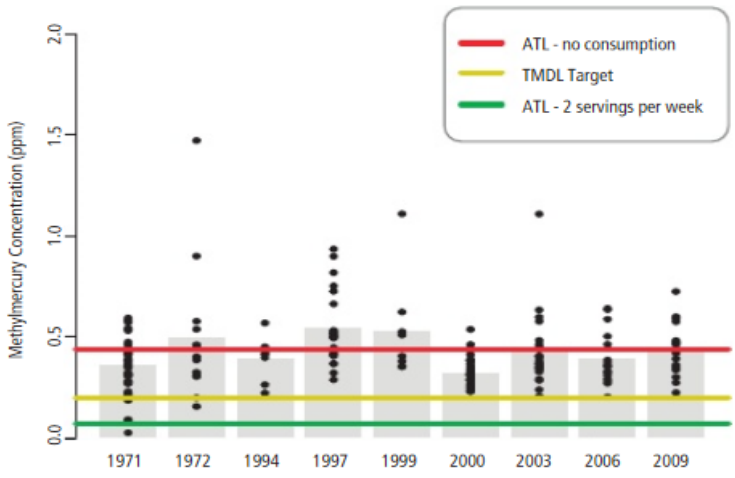
Water Quality Report Card		Mercury in San Francisco Bay
Regional Water Board:	**San Francisco Bay, Region 2**	**STATUS** ☐ Conditions Improving ☐ Data Inconclusive ☑ **Improvement Needed** ☐ Targets Achieved/Water Body Delisted
Beneficial Uses Affected:	COMM, RARE, WILD	
Implemented Through:	Wastewater and Storm Water NPDES permits	
Effective Date:	February 2008	
Attainment Date:	2028	**Pollutant Type:** ☑ Point Source ☑ Nonpoint Source ☑ Legacy

Water Quality Improvement Strategy

The San Francisco Bay-Delta Estuary is the largest estuary on the west coasts of North and South America. Within the Bay-Delta Estuary, the San Francisco (SF) Bay Mercury TMDL addresses all 11 segments of the San Francisco Bay impaired by mercury. The primary source of mercury within the watershed stems from legacy mining (due to storm water runoff from historic mines) in upstream watersheds. Other sources of mercury include urban storm water runoff, wastewater discharges, and atmospheric deposition. Due to mercury contaminated fish and shellfish species, fish consumption advisories have been created for fish and shellfish caught within the SF Bay. The SF Bay Mercury TMDL assigns mercury load reductions to legacy sources within the SF Bay Watershed, and the Guadalupe River Watershed Mercury TMDL implements the SF Bay Mercury TMDL load reductions for legacy sources located in an upstream, mining-impacted watershed. The SF Bay Mercury TMDL also assigns mercury load reductions to other sources, including urban storm water runoff, and wastewater.



Fish Tissue Mercury Concentrations



Methylmercury concentrations (ppm) in striped bass from San Francisco Bay, 1971-2009. Bars indicate average concentrations. Points represent individual fish.

San Francisco Bay Watershed

Water Quality Actions and Outcomes

- Municipal wastewater discharged approximately 3.9 kg mercury/year during the first 5-year permit cycle, less than half the final wasteload allocation of 11 kg mercury/year.
- In 2012, industrial wastewater discharged about 0.62 kg mercury, well below the final wasteload allocation of 1.0 kg mercury/year.
- Recent revisions by the San Francisco Estuary Institute (SFEI) to estimate loads from the Central Valley indicate this source, too, is well below its allocation.
- No change has occurred in methylmercury concentrations in striped bass tissue over the past 40 years (figure 1). Striped bass methylmercury concentrations need to decrease by approximately 50% to reach the TMDL target of 0.2 ppm. The Regional Monitoring Program measures mercury (and many other contaminants) in water, sediment, and fish tissue collected at several locations around the Bay each year.

Current storm water loading is meeting the interim wasteload allocation of 120 kg/yr. A variety of mercury control measures are being pilot-tested to assess their effectiveness in reducing mercury loads.

ATL in the chart refers to Advisory Tissue Levels for fish consumption. Source: SFEI 2012 RMP

November 2021