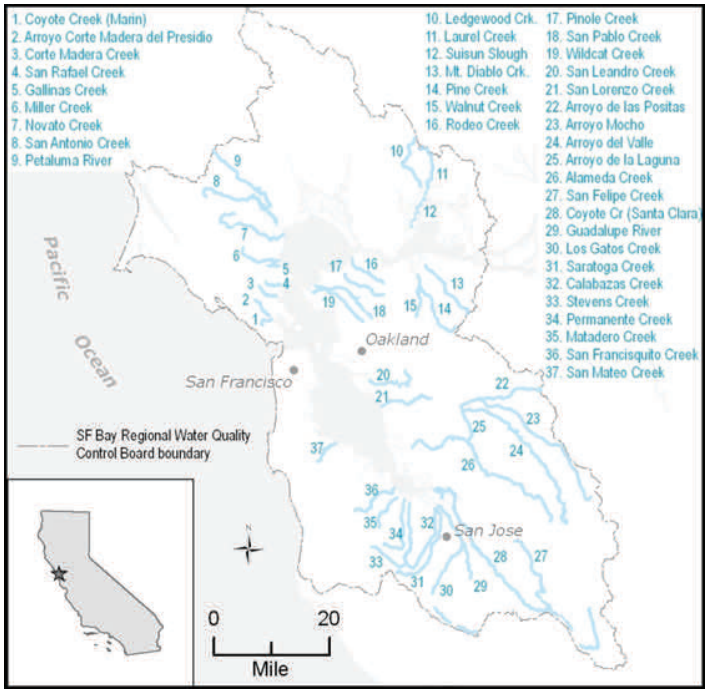
Water Quality Report Card		Pesticide Toxicity in San Francisco Bay Urban Creeks
Regional Water Board:	**San Francisco Bay, Region 2**	**STATUS** ☐ Conditions Improving ☐ Data Inconclusive ☑ **Improvement Needed** ☐ Targets Achieved/Water Body Delisted
Beneficial Uses Affected:	WARM, COLD and WILD	
Implemented Through:	Storm Water NPDES Permit	
Effective Date:	May 2005	
Attainment Date:	2040	**Pollutant Type:** ☑Point Source ☐ Nonpoint Source ☑ Legacy

Water Quality Improvement Strategy

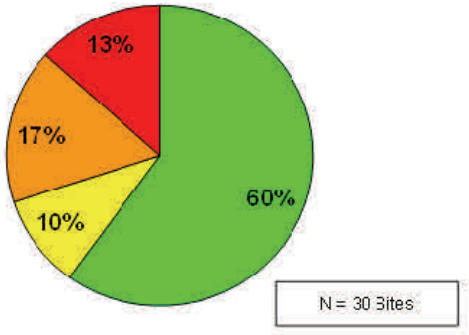
In the 1990's, 37 urban creeks across the San Francisco Bay (SF Bay) area exceeded water quality standards for aquatic toxicity due to diazinon. Although most urban uses of diazinon were phased out in 2004, pesticides that replaced diazinon, such as pyrethroid pesticides, are causing toxicity impairments in SF Bay urban creeks. Because it can reasonably be assumed that all urban creeks within the SF Bay Area likely receive pesticide discharges, the Diazinon and Pesticide-Related Toxicity in Urban Creeks TMDL applies to all urban creeks in the SF Bay Area, including creeks that have not been designated as impaired for pesticide toxicity. Allowing the TMDL to apply to all SF Bay Area urban creeks will help ensure the protection of water quality while allowing for more efficient implementation actions. The TMDL's implementation strategy focuses on better coordination between pesticide and water quality agencies, education and outreach, and research and monitoring. The TMDL recognizes that pesticides will continue to cause water quality impairments until pesticide evaluation and registration actions more fully account for possible aquatic impacts.

San Francisco Bay Watershed

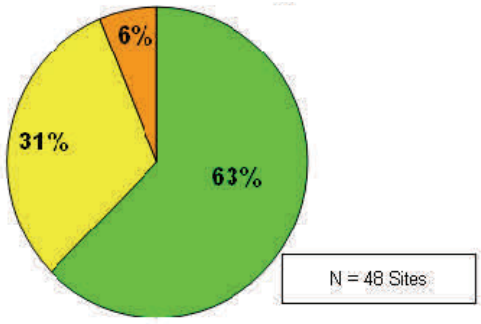


Toxicity in San Francisco Bay Area Rivers, Creeks & Canals

Freshwater Sediment Toxicity



Freshwater Toxicity



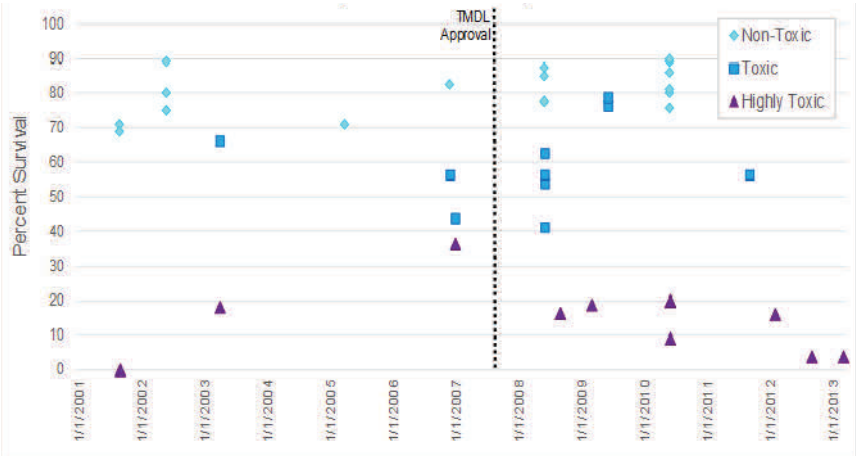
Non-Toxic Some Toxicity Moderate Toxicity High Toxicity

Data based on 10 years of toxicity data. Toxicity may be caused by sources other than pesticides; however, where toxicity sources were identified, the majority of sources statewide were pesticides.

Water Quality Outcomes

- Phase-out of urban uses of diazinon has eliminated diazinon pollution in SF Bay Area urban creeks. However, replacement pesticides (e.g. pyrethoids and fipronil) are now causing water column and sediment toxicity.
- Toxicity persists despite actions taken by municipalities to implement Integrated Pest Management (IPM) techniques and to conduct targeted outreach.
- Storm water permittees and the Regional Water Board continue to interact with USEPA and the CA Department of Pesticide Regulation to account for and mitigate pesticide aquatic impacts.
- Next Steps: continue coordinating actions across the State to more effectively communicate with pesticide regulators and monitor for pesticides more effectively and efficiently.
- Data (table below) suggests use of pyrethroid pesticides is resulting in sediment toxicity in SF Bay area urban creeks.

Hyalella Azteca Toxicity in Sediment in SF Bay Area Urban Creeks



Updated December2015