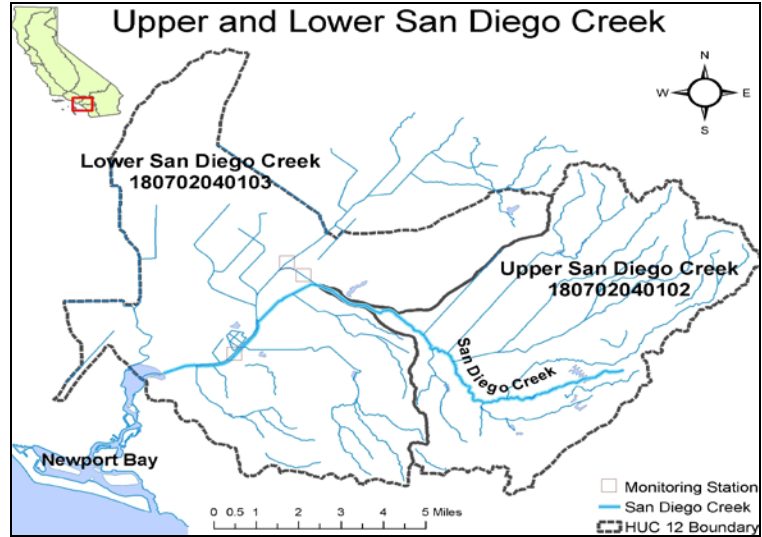


Total Maximum Daily Load Progress Report	
Regional Water Board	Santa Ana , Region 8
Beneficial uses affected	WARM, WILD
Pollutant(s) addressed:	Diazinon, Chlorpyrifos
Implemented through:	WDRs, MS4 Permit, NPS
Approval date:	2003

Newport Bay/San Diego Creek Watershed Diazinon and Chlorpyrifos TMDL	
<b>STATUS</b>	<input type="checkbox"/> Conditions Improving
	<input type="checkbox"/> Data Inconclusive
	<input type="checkbox"/> Improvement Needed
	<input checked="" type="checkbox"/> <b>TMDL Achieved/Waterbody Delisted</b>

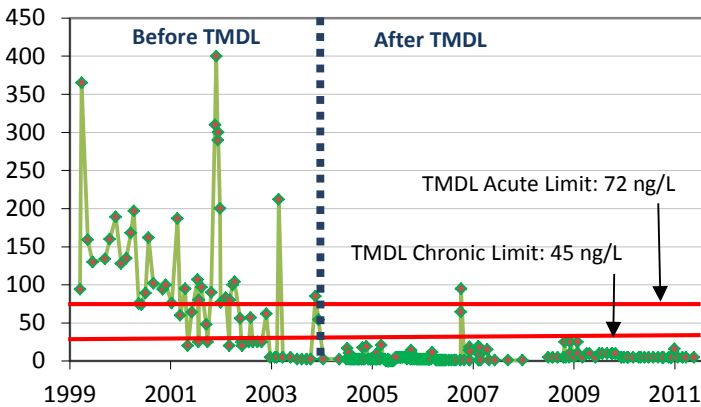
**TMDL summary:**

Persistent water-column toxicity to *Ceriodaphnia dubia* (water flea) led to adoption of a diazinon and chlorpyrifos TMDL for the San Diego Creek and Newport Bay Watershed in 2003 (approved by the U.S. Environmental Protection Agency (EPA) in 2004). The TMDL was implemented through Waste Discharge Requirements (WDRs) for large nurseries, and through monitoring and outreach/education programs in stormwater permits. These actions were complemented by the EPA's phase-out of most uses of these pesticides by 2005.



**TMDL Waste Load Allocations/Load Allocations**

San Diego Creek Diazinon Concentrations (nanograms/liter)

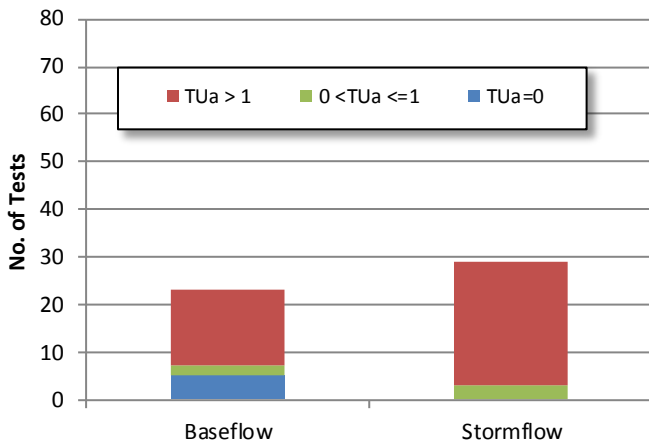


**Water Quality Outcomes**

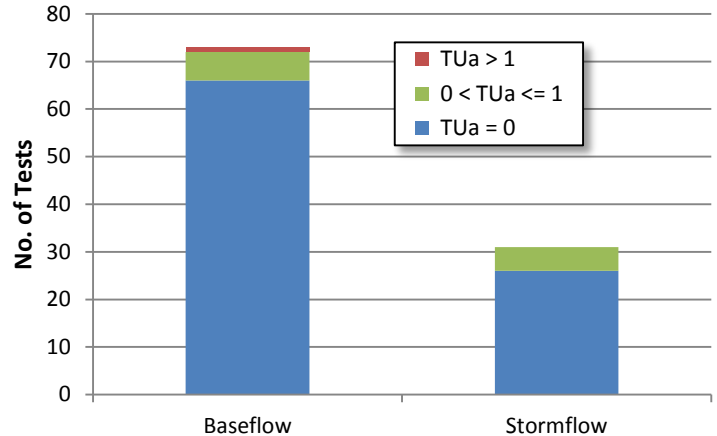
- Diazinon and chlorpyrifos concentrations have been reduced below TMDL numeric target levels
- Toxicity to *Ceriodaphnia dubia* largely absent over the past five years in both dry weather and storm runoff samples
- Toxicity from replacement pesticides (pyrethroids and fipronil) limited likely due to general reduction in pesticide use and implementation of BMPs
- Data from the last three years show that San Diego Creek can be delisted for impairment by diazinon/chlorpyrifos

**Water Quality Summary of *Ceriodaphnia dubia* Acute Toxicity Tests**

Pre-TMDL (1996-2001)



Post-TMDL (2005-2011)



Notes: TUa = Acute Toxic Units = 100/(LC-50). The LC-50 is the concentration lethal to 50 percent of the test organisms, TUa above 1.0 indicates High Toxicity.