Water Quality Report Card

Selenium in San Diego Creek

Regional Water Board:	**Santa Ana, Region 8**
Beneficial Uses Affected:	BIOL, EST, RARE, SPWN, WARM, WILD
Implemented Through:	WDRs, MS4 permit, Non-regulatory actions
Effective Date:	June 20, 2019
Attainment Date:	2057

STATUS	Conditions Improving
Pollutant Type:	Nonpoint Source
Pollutant Source:	Non-point Source Runoff Hydromodification Construction/Land development

Watershed Improvement Strategy

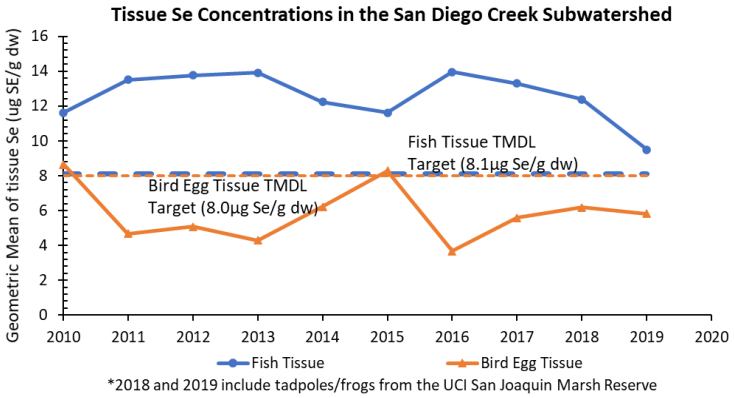
Selenium (Se) is an essential nutrient that can be toxic to waterfowl and aquatic life at high levels. Although naturally present in the Newport Bay watershed, urbanization and hydromodification have increased Se concentrations in freshwater creeks. Rising groundwater with elevated Se concentrations from underlying geologic deposits (e.g., the historic Swamp of the Frogs) supports perennial flows in the creeks. Additional inputs occur from groundwater dewatering and cleanup projects. The Se TMDLs for Freshwater in the Newport Bay Watershed (see section 4.c. Se, p. 6-67) established bird egg and fish tissue numeric targets to quantify bioaccumulated concentrations in aquatic species, in addition to water column targets.

Numeric Targets for Se in the Newport Bay Watershed

Media	Numeric Target
Bird Egg Tissue (µg Se/g dw)	8
Fish Tissue (µg Se/g dw) *	5 or 8.1
Freshwater Water Column (µg Se/L)	5

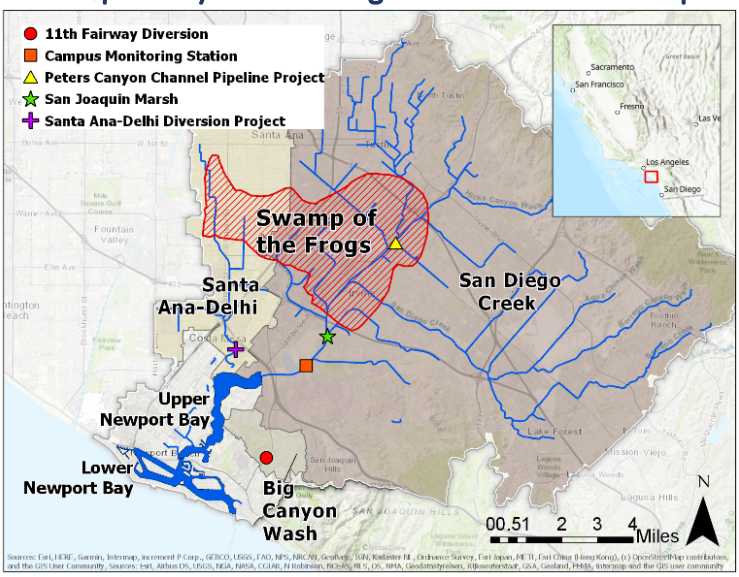
*Fish tissue target of 8.1 µg Se/g applies if bird egg tissue targets are met and 5 µg Se/g if bird egg tissue targets are not met.

San Diego Creek Water Quality



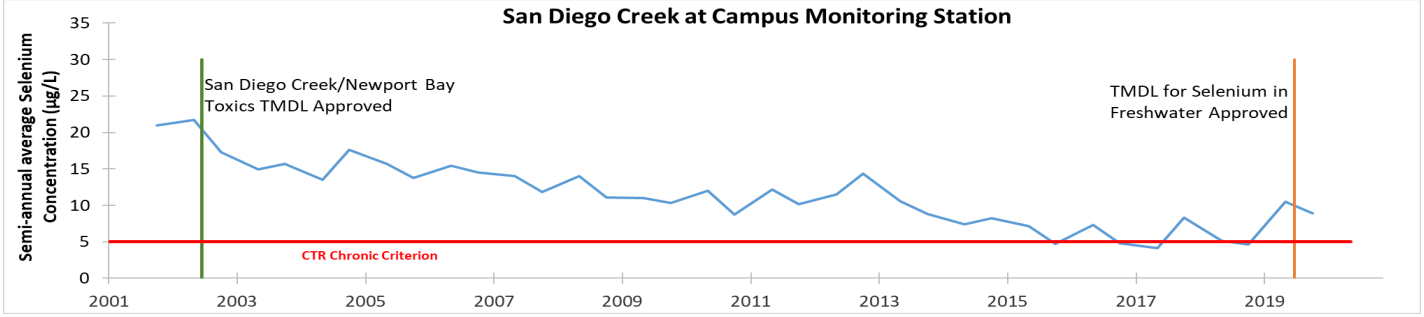
*2018 and 2019 include tadpoles/frogs from the UCI San Joaquin Marsh Reserve

Newport Bay and San Diego Creek Watershed Map



Water Quality Outcomes

- *Targeted Se reduction projects, groundwater discharge diversions to the sanitary sewer, and source control BMPs have removed on average over 280 lbs Se/yr since 2013. Most significant are the Peters Canyon Channel Water Capture and Reuse Pipeline Project which removes on average 100 lbs Se/yr and the San Joaquin Marsh treatment ponds which remove on average 130 lbs Se/yr.*
- *Future Se reduction projects include the 11th Fairway Diversion Project in Big Canyon Wash, which is being upgraded to capture all dry weather flows, and the Santa Ana-Delhi Channel Diversion, which is anticipated to remove an additional 40 lbs Se/yr.*
- *Water quality data show freshwater Se concentrations in San Diego Creek have gradually decreased, and bird egg monitoring data in the San Diego Creek subwatershed show Se geomean concentrations are meeting TMDL numeric targets*



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