

SCCWRP #0767

**Refocusing mussel watch on contaminants of emerging concern (CECs):
The California pilot study (2009–10)**

Keith A. Maruya¹, Nathan G. Dodder¹, Rebecca A. Schaffner¹, Stephen B. Weisberg¹,
Dominic Gregorio², Susan Klosterhaus³, David A. Alvarez⁴, Edward T. Furlong⁵, Kimani L.
Kimbrough⁶, Gunnar G. Lauenstein⁶ and John D. Christensen⁶

¹*Southern California Coastal Water Research Project Authority, Costa Mesa, CA*

²*California State Water Resources Control Board, Sacramento, CA*

³*San Francisco Estuary Institute, Richmond, CA*

⁴*U.S. Geological Survey, Columbia, MO*

⁵*U.S. Geological Survey, Denver, CO*

⁶*National Oceanic and Atmospheric Administration, Silver Spring, MD*

ABSTRACT

To expand the utility of the Mussel Watch Program, local, regional and state agencies in California partnered with NOAA to design a pilot study that targeted contaminants of emerging concern (CECs). Native mussels (*Mytilus* spp.) from 68 stations, stratified by land use and discharge scenario, were collected in 2009–10 and analyzed for 167 individual pharmaceuticals, industrial and commercial chemicals and current use pesticides. Passive sampling devices (PSDs) and caged *Mytilus* were co-deployed to expand the list of CECs, and to assess the ability of PSDs to mimic bioaccumulation by *Mytilus*. A performance-based quality assurance/quality control (QA/QC) approach was developed to ensure a high degree of data quality, consistency and comparability. Data management and analysis were streamlined and standardized using automated software tools. This pioneering study will help shape future monitoring efforts in California's coastal ecosystems, while serving as a model for monitoring CECs within the region and across the nation.

Due to distribution restrictions, the full-text version of this article is available by request only.

Please contact pubrequest@sccwrp.org to request a copy.