

Contaminants of emerging concern in effluent dominated coastal waterways in southern California

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Abstract

To protect beneficial uses of California's water resources, a panel of experts recently recommended investigative monitoring of contaminants of emerging concern (CECs) in aquatic ecosystems that receive discharge from wastewater treatment plants (WWTPs) and stormwater runoff. In response, occurrence studies were designed and carried out in coastal waterways in southern California where effluent from WWTPs is the primary source of water during low flow conditions. Water, sediment and fish tissue were collected from three effluent dominated systems and analyzed for a broad suite of CECs, including PPCPs, commercial and industrial chemicals (e.g. surfactants, flame retardants and perfluorinated chemicals) and current use pesticides. Analyte- and matrix-specific concentrations were compared to toxicity-based thresholds established by the expert panel to determine if future monitoring of targeted CECs is warranted.