



Summary of 2008 Southern California Bight Regional Monitoring Program (Bight '08)

Areas of Special Biological Significance (ASBS) Component

Significance

The California Ocean Plan designates 14 different Areas of Special Biological Significance (ASBS) in southern California, covering roughly 280 kilometers of coastline, as water quality protected areas. The Ocean Plan stipulates that ASBS shall receive "no discharge of waste" and "maintain natural water quality". More information was needed to determine the range of natural conditions and whether ASBS are adequately protected, especially during wet weather when runoff discharges are common.

Goals

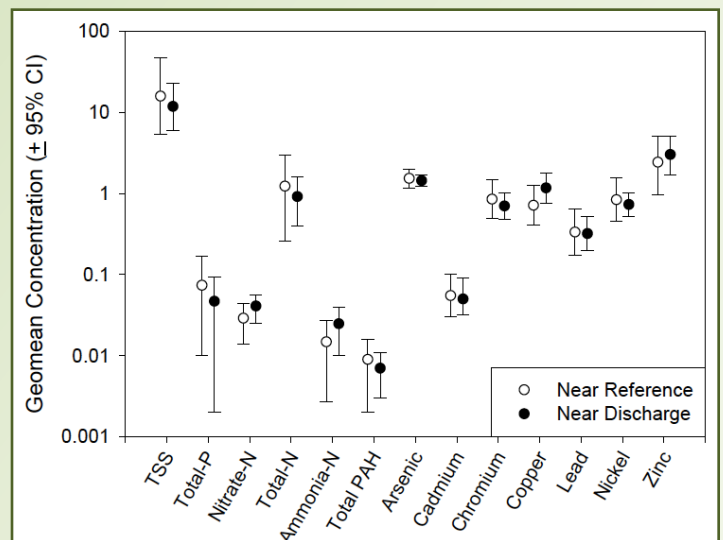
Goals of this component were to (1) characterize the range of natural water quality conditions at reference locations and (2) compare water quality in ASBS to reference locations.

Approach

Over three dozen samples were taken from receiving ocean waters near ASBS discharges and from reference locations. Reference locations were selected based on minimal development in the contributing watershed (nearly all open space). Samples were collected before and after storm events of varying intensities, rainfall quantities, and antecedent dry periods.

Findings

Water quality did not differ greatly between reference and discharge locations; Geometric mean concentrations of total suspended solids (TSS), nutrients (ammonia, nitrate, nitrite, total nitrogen, total phosphorus), total and dissolved trace metals (arsenic, cadmium, chromium, copper, nickel, lead, silver, and zinc), and polycyclic aromatic hydrocarbons (PAH) from post-storm samples were similar at reference and ASBS receiving water sites, averaging a 3% difference across all parameters (except chlorinated hydrocarbons, which were non-detectable). In addition, there was no consistent increase from pre- to post-storm concentrations at reference or discharge locations, and no aquatic toxicity was found.



Water quality indicators in reference and discharge areas following storm events

The Bight participants created a reference-based threshold to determine differences from natural water quality. Though water quality was similar among sites on average, some individual ASBS sites did exceed the threshold, most frequently for nutrients and general constituents, followed by dissolved or total trace metals. The Bight Program now serves as the model for ASBS receiving water monitoring for the rest of the state.

Final Report

Volume II. [Areas of Special Biological Significance](#). SCCWRP Technical Report 641.

