

Watershed Management and Coastal Processes

Pillar Point Harbor Microbial Source Tracking, Half Moon Bay, San Mateo County, California



Harbor circulation study using dyes

Background

In conjunction with UC Davis and the San Mateo County Resource Conservation District (RCD), Balance is leading key portions of a pioneering 3-year grant from the State Water Resources Control Board to assess the sources and loadings of bacteria that impair uses in and near Pillar Point Harbor. Balance is quantifying circulation in the harbor. Pathogen sampling is being conducted by the RCD, building on several prior years of monitoring by Surfriders and County staff, with microbial sourcing by PSR-based DNA provided by UC Davis staff.

Work Elements

- a) quantifying streamflow, with related bacterial and sediment loads, from the two main streams tributary to the harbor, storm drains and outflow from Pillar Point Marsh;
- b) evaluating ground water fluctuations and movement, including its role in supporting baseflow in several storm drains known to be major sources of bacteria, as well as support for wetlands that may remove (or, through their avifauna contribute to) pathogen influxes to the harbors; and
- c) measuring the role(s) of harbor circulation on bacterial loadings using fluorescent tracer dyes and quantitative evaluation of wind speed and direction, swell, tide, season, and rainfall on currents and mixing within the inner and outer harbors.



Stream gaging



Marsh habitat