



2011 CENTRAL COAST AMBIENT MONITORING PROGRAM (CCAMP) ACTIVITIES

What is it?

The Central Coast Region has been divided into five watershed areas, with one area assessed each year, so that all watershed areas are monitored over a 5-year cycle. Watershed sites are selected to include an “accumulator site”, or coastal confluence site at the bottom end of the watershed, and a number of sites along the main stem and at major tributary inputs. This tributary-based design is intended to aid in efficient identification of the general source areas of pollutant problems.

Due to funding restrictions, not all sites which are sampled for conventional water quality can be sampled for other parameters. As a result of this, sites are selected which can best characterize watershed sub-areas.

In the 2011 calendar year, the Central Coast Ambient Monitoring Program efforts were focused in one of five watershed rotation areas (including two Hydrologic Units: Pajaro River and Big Basin) as well as at coastal confluence sites (at coastal creek mouths in Santa Cruz, Monterey, San Luis Obispo, and Santa Barbara Counties within the Central Coast Region). Monitoring in this calendar year included the following monitoring types:

- Monthly monitoring for conventional pollutants at 32 watershed rotation area sites and at 33 coastal creek mouths throughout the region. Monthly monitoring focuses on nutrients, salts, dissolved and suspended solids, bacteria indicators and onsite measurements including flow, pH, dissolved oxygen, salinity and turbidity.
- Bioassessment for benthic macro-invertebrates, diatoms and soft-bodied algae at 10 watershed rotation sites, targeting upper watershed locations.
- Water column toxicity samples collected in both wet and dry season flows and tested using invertebrate, fish, and algae test organisms at 12 watershed rotation sites, targeting lower watershed sites. Each of these samples was also analyzed for concentrations of a suite of

organophosphate pesticides.

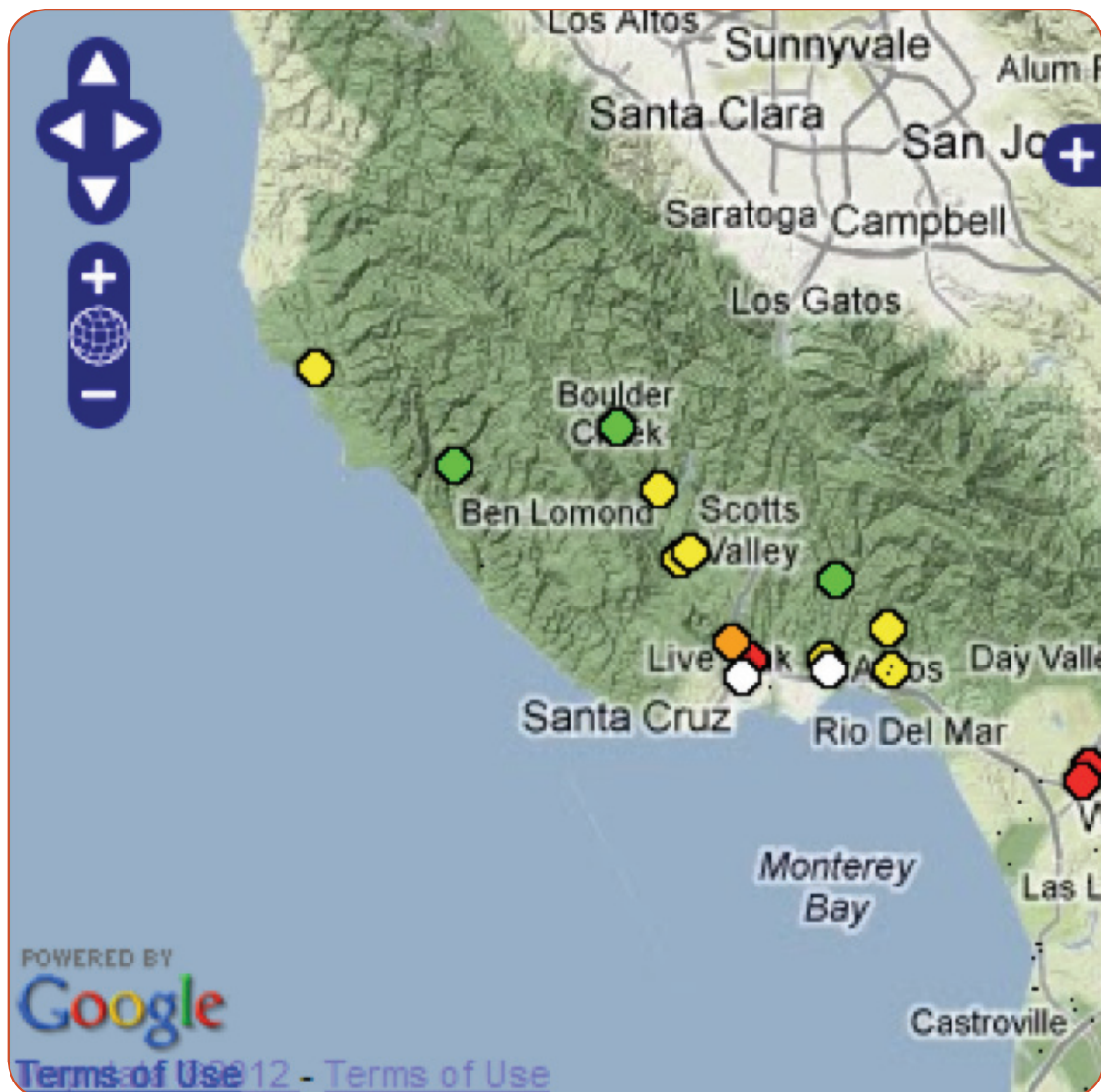
- Sediment toxicity samples collected in spring from 14 watershed rotation sites, targeting lower watershed sites. Each of these samples was also analyzed for concentrations of a suite of pyrethroid pesticides.
- Fish tissue samples collected and analyzed for metals at four lakes and also for pesticides and PCBs from one lake. This was conducted as follow up to the 2010 SWAMP state-wide lake bioaccumulation study, which found elevated levels of contaminants in fish tissue samples from these lakes.

Why is it important?

The 2011 calendar year study design will address several of the questions posed in the SWAMP Site-Specific Monitoring Guidance related to beneficial use support. Beneficial use questions include the following:

- Is it safe to swim?
 - Water Contact Recreation Beneficial Use, using monthly sampling for fecal coliform and E. coli.
- Is it safe to drink the water?
 - Municipal and Domestic Water Supply Beneficial Use, using monthly sampling for nitrate, ammonia and pH.
- Is it safe to eat fish and other aquatic resources?
 - Shellfish Harvesting, Commercial and Sport Fishing, Beneficial Uses, using fish tissue collection and chemical analysis from sites identified as high risk by SWAMP statewide bioaccumulation studies.
- Are aquatic populations, communities, and habitats protected?
 - Cold Freshwater Habitat, Warm Freshwater Habitat, and Spawning, using conventional water quality data, sediment and water column toxicity, sediment chemistry, and benthic invertebrate assemblages.
 - Spawning, Rare, Threatened or Endangered Species Beneficial Uses, using monthly sampling for dissolved oxygen, nutrients, turbidity, temperature and continuous probe monitoring for dissolved oxygen

- Is water safe for agricultural use?
 - Agricultural supply Beneficial Use, using monthly sampling for nutrients, salts and total dissolved solids
- Are aesthetic conditions of the water protected?
 - Non-Contact Water Recreation Beneficial Use, using monthly qualitative assessment of % algal cover, presence of scum, trash, odor, etc.



Example output from CCAMP data module.

How will this information be used?

Data are used to update the CCAMP data browser which contains maps, charts, and summary statistics for all data collected by the program. This website is publically available and used by multiple programs at the Water Board. The findings will be summarized in a SWAMP fact sheet to be produced in 2012. CCAMP data supports a wide range of decision-making by Regional Board staff and other users of the data. In addition, this data is the primary source of data and information supporting the currently approved Clean Water Act Section 303(d) List of Impaired Waters. The attached map is an example of the data output on the website for one of the benthic invertebrate metrics (percent EPT Taxa) in the Santa Cruz area.

More information is available at the [CCAMP website](http://www.waterboards.ca.gov/water_issues/programs/swamp).