

2003-2004 Annual Review of Municipal Stormwater Programs
with Focus on Monitoring
Alameda Countywide Clean Water Program
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The Alameda Countywide Clean Water Program (ACCWP, or Program) consists of 17 permittees, ranging from the large city of Oakland to the small town of Piedmont, and including Alameda County, the Alameda Clara Flood Control and Water Conservation District, and Zone 7. They have been jointly permitted since the early 1990s, and thus have a great deal of experience in stormwater management. Board staff found the permittees were generally in compliance with the Program's permit requirements, based on review of the FY 2003-04 Annual Report. However, some improvements in reporting and industrial inspections are needed.

Water Quality Monitoring

The monitoring program is designed to obtain the following types of information:

1. Watershed Assessment: Are our creeks healthy? How can we restore them? Is it safe to play in the creeks?
2. Pollutants of Concern: Is urban runoff a significant contributor of pollutants to San Francisco Bay?
3. Effectiveness of Best Management Practices: Are Program actions making a difference?

In FY03-04, the Program's monitoring was oriented towards pollutants of concern and included a study of dissolved oxygen in Lake Merritt, continuing a long-term study of copper concentrations in Castro Valley Creek, and developing sampling plans for other pollutants of concern.

In 1999 Lake Merritt was listed as impaired due to low dissolved oxygen and trash levels, and the City of Oakland is developing a program to address the low dissolved oxygen levels. In FY03-04 the Program analyzed data to determine if low dissolved oxygen is correlated with (1) closure of the tide gate at the mouth of the Lake, (2) decomposition of plant material, or (3) stratification of layers of water in the Lake. With data collected every 15 minutes between May 2002 and June 2003, the Program did statistical analysis and visual interpretations of graphed data. The visual analysis showed that there was no relationship between dissolved oxygen concentrations and density stratification within the water column. Statistical analysis showed that decaying vegetation had a negative effect on dissolved oxygen in the spring-summer period, although it was a weak relationship accounting for only 1.5% of the variation in dissolved oxygen concentration. Tide gate closures appeared to account for 21% of the fall-winter depressed dissolved oxygen levels, but the magnitude of drop in dissolved oxygen was small.¹ The City of Oakland has conducted and continues to conduct studies on Lake Merritt, and the Program's dissolved oxygen study is just one contribution to the overall effort. Currently, the

¹ Salop, P., D. Hardin, and B. Hajduczek (Applied Marine Sciences, Inc.), A Review of Lake Merritt Water Quality Data Relative to Designation of Dissolved Oxygen Impairment, prepared for the Alameda Countywide Clean Water Program. January 2004.

City is beginning pilot programs to install aerators to increase dissolved oxygen and remove culverts to increase water circulation.

The Castro Valley Creek project is an ongoing effort conducted under a State grant received by the Brake Pad Partnership. The Program collected rainfall data in the watershed, as well as stream flow, copper concentration, and total suspended solids data from Castro Valley Creek, in order to develop a model of the discharge of copper from Castro Valley Creek and to analyze long-term trends in water quality. A brief summary of recent data is shown in the table below.

Castro Valley Creek – Summary of Recent Data

Number of samples collected	99
Sample collection dates	2/7/02 – 12/29/03 during storm events
Sample location:	~500 ft. upstream of confluence of Castro Valley Crk & San Lorenzo Crk
Range of total copper concentrations	5 - 83 µg/L
Freshwater quality objective for copper	13 ² µg/L (1 hr avg)

The range of copper concentrations could be related to the amount of time between storm/sampling events or the intensity of storm events, although the data have not been presented in way that allows evaluation of such hypotheses. A thorough interpretation of these and other data will be conducted under the grant and will inform the work of the Brake Pad Partnership.

ACCWP also contributed funding and staff time to regional monitoring efforts, including the Regional Monitoring Program and the Clean Estuary Partnership. Program staff was active in further development of the bioassessment protocol (explained further in the Santa Clara Valley summary).

Overall, the Program’s efforts are in compliance with the monitoring provision of its permit. However, the Program must improve its reporting in order to fully comply with Annual Reporting requirements. The Lake Merritt and Castro Valley projects illustrate that water quality monitoring projects do not always fit into an annual reporting framework. Planning, contracting, sampling, analysis, and data evaluation commonly take two or more years to complete. Presently, the Program prepares summary monitoring reports on a project-by-project basis, so the Annual Report lacks a summary of what the Program has learned from its monitoring efforts, and what actions will be taken, if any, as a result. To correct this, we asked the Program to submit a detailed outline for the annual monitoring report that fully addresses these concerns, so that the Program’s FY 04-05 Annual Report will contain the needed data, evaluation, and associated actions. In addition, as we develop the region-wide municipal stormwater permit, Board staff will work with all stormwater programs to develop a standard monitoring reporting timetable.

Industrial and Commercial Discharge Control

Countywide, Alameda permittees conducted over 2,900 inspections, the most industrial inspections of any year since the Program’s inception. However, County unincorporated areas, as well as the cities of Alameda, Newark, and Oakland were unable to meet their annual industrial inspection goals. Oakland inspected 90% of its goal of 1106 priority industrial facilities, and

² Basin Plan Table 3-4, Source: [40 CFR Part 131.38 \(California Toxics Rule or CTR\)](#). Assumes a hardness of 100 mg/l CaCO3.

Alameda and Newark were short of staff in FY03-04. These jurisdictions must meet their inspection goals in the current fiscal year. Board staff is planning to audit these permittees' industrial inspection programs to evaluate the overall effectiveness of each program.

The City of Berkeley has not yet initiated a restaurant inspection program. Establishment of this important program element is long overdue. In order to comply with its permit conditions, Berkeley must document that a restaurant inspection program is in place and effective within the current fiscal year. We are in the process of scheduling a meeting with Berkeley and will follow up with a Notice of Violation letter.

Permittees have been very effective in getting industrial facilities into compliance with stormwater regulations and in referring new facilities to the Board as Industrial Statewide General Stormwater Permit non-filers. Most notably, the City of Newark conducted enforcement activities with the Alameda County District Attorney's office to bring facilities into compliance. Permittees report that they have only a few industrial sources out of compliance at the end of the fiscal year.

An area of concern is staff training. Due to staff turnover, on-going staff training on what constitutes a violation and/or non-compliance for industrial facilities and how to track, follow up and resolve violations remain important topics for continued training. Additionally, permittees with overlapping jurisdiction could benefit from implementing strategies for collaborating on inspections, tracking violations, and resolving stormwater violations.

Castro Valley Creek Watershed Project Area, outlined in green
- a subwatershed of the San Lorenzo Creek drainage

