

2003-2004 Industrial Stormwater Program Review

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This report summarizes the San Francisco Bay Region's Industrial Stormwater Program during the Fiscal Year (July 1, 2003 – June 30, 2004).

Owners or operators of an industrial facility may be required to obtain coverage under the statewide NPDES permit for industrial operations exposed to stormwater (Permit). In most cases, Permit coverage is required if stormwater comes in contact with a facility's industrial operation and flows, directly or indirectly, into a storm drain on- or off-site. Examples of industries that are generally required to have Permit coverage are auto dismantlers, concrete mixing plants, winemaking facilities, and vehicle washing stations. In the nine counties in our region, we have approximately 1400 facilities covered under the Permit.

Compliance is measured in the Industrial Stormwater Program, as it is in our other stormwater programs, by determining whether implementation of best management practices (BMPs) has occurred rather than with targeted effluent-based numerical standards. This means that facilities that operate in a fashion that eliminates or minimizes discharge of pollutants are considered to be in compliance. BMPs are generally industry-wide practices or strategies that are effective in minimizing pollutants from entering storm drains, during wet and dry weather. Stormwater runoff from a facility is sampled and analyzed. The results are compared with benchmark values to give us a big picture assessment of whether BMPs are being effectively implemented at a site.

COMPLYING WITH THE INDUSTRIAL STORMWATER PERMIT

Facilities covered by the Permit, in most cases, must prepare three types of plans or reports: a stormwater pollution prevention plan (SWPPP), a monitoring plan, and an annual report. The SWPPP is the roadmap for how the facility manager intends to manage the site so that discharges of pollutants entering nearby storm drains, during wet or dry weather, are minimized. The SWPPP inventories potential sources of pollutants, outlines BMPs implemented to address potential sources, and names personnel responsible for carrying out these functions. Facility staff are required to be trained in SWPPP implementation, and the SWPPP must be kept updated to reflect any changes at the facility.

The monitoring plan specifies how often data will be recorded about the site. This includes both visual monitoring and analytical sampling of runoff. The monitoring plan is used to determine if BMPs identified in the SWPPP are effective in minimizing stormwater pollution. The Permit requires the facilities to conduct regular visuals, or "walking around" monitoring, and to collect two representative runoff samples during the rainy season and do appropriate analytical testing on those samples. Both plans are kept at the facility while the annual report is both kept at the facility and submitted to our office, by July 1st of each year.

One key way for us to determine how effectively a site is managing its operation is by evaluating the information reported in the facility's annual report. The annual report summarizes a facility's activities to comply with the Permit including any modifications to BMPs and any data collected for the preceding fiscal year. A simple example of a BMP at a site might be a berm, or concrete barrier, around a hazardous waste storage unit, to minimize the probability of an accidental spill entering a storm drain. The analytical data recorded in

the annual report gives us a snapshot into how effective the facility is in implementing BMPs and what is getting commingled with rain water and into storm drains during a storm event. The five basic analytical tests run for all facilities are pH, Total Oil and Grease, Total Suspended Solids (TSS), Total Organic Carbon, and Specific Conductance. Depending on the type of facility, further tests may be required, such as metals or solvent analysis.

DATA ANALYSIS

Annual report data is reviewed and entered into a database by Board staff. The database allows us to readily identify facilities that have not sampled one or more years. For example, Figure 1 highlights facilities that have not sampled for each of the past three years. As you can see, approximately 1.4% of the total facilities covered by the permit have not submitted any analytical data while 2.9% of sites submitted data in only one of the last three years. While facility operators typically provide reasons for this lack of sampling, a pattern of non-submittal highlights our need to investigate such facilities further. We will be using this data to prioritize a list of facilities for further action, including inspection.

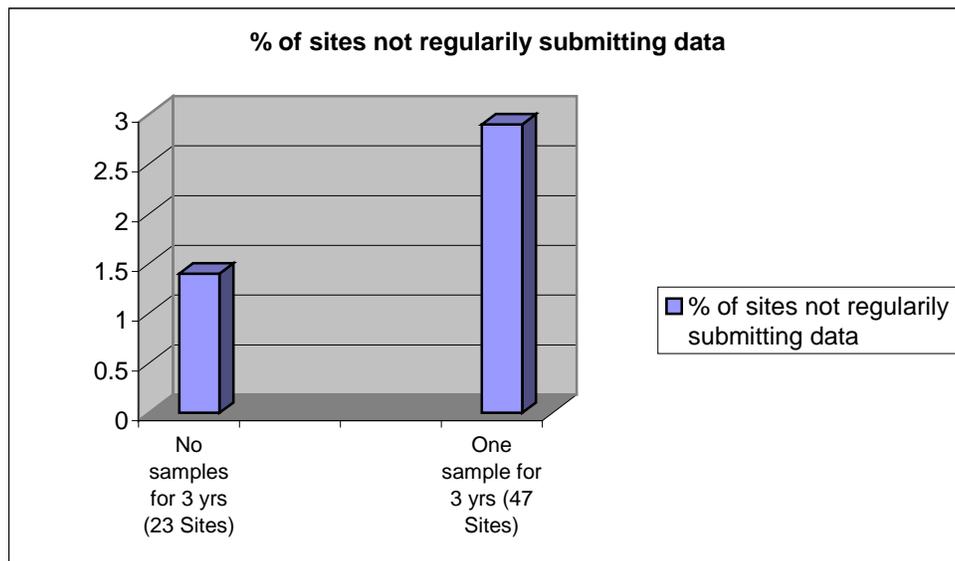


Figure 1. Percent of sites not submitting data is out of the approximately 1,400 facilities total covered under the Permit in our Region.

Submitted analytical data is often compared with US EPA benchmark values, as outlined in US EPA's multi-sector permit. US EPA benchmark values are a compilation of screening values that are used at industrial sites to evaluate whether adequate BMPs and source reduction measures are in place that minimize discharge of pollutants. This comparison gives us a snapshot as to how effectively managed the facility is from a stormwater protection standpoint.

Of the five basic analytical tests, TSS often is used as a barometer for evaluating overall site management. An easy way to grasp TSS is to think of it as sediment or "dirt in the water." TSS can also be an indicator of more serious pollution problems, since constituents such as mercury adhere to sediment and are transported to storm drains and receiving water with sediment. High TSS is often a reflection of poor site management practices that are usually fairly easy to correct. Regular sweeping and segregating industrial wastewater from

stormwater are two examples of measures a facility can take to minimize pollutants, including TSS, from entering storm drains. Figure 2 shows TSS ranges for all facilities in 2003-2004. Most facilities- 86%- are at or below the benchmark of 100mg/L. This analysis allows us to focus on the much smaller group that is above the benchmark.

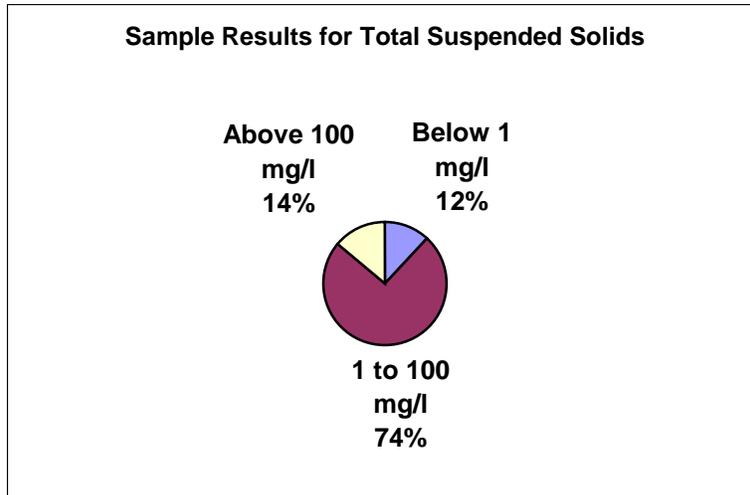


Figure 2. Approximately 86% of facilities in our Region reported sample results at or below the benchmark of 100 mg/l.

Additionally, it appears we can focus our training and outreach efforts on selected cities. It is not that these cities are doing a poor job of inspecting facilities, but rather, because they have a large number of sites in their jurisdiction, they tend to have a large number of sites with TSS above the benchmark. Figures 3 and 4 highlight data from two of our larger counties. They show that by working more closely with just a few cities in each county, we may be able to significantly reduce high TSS discharges.

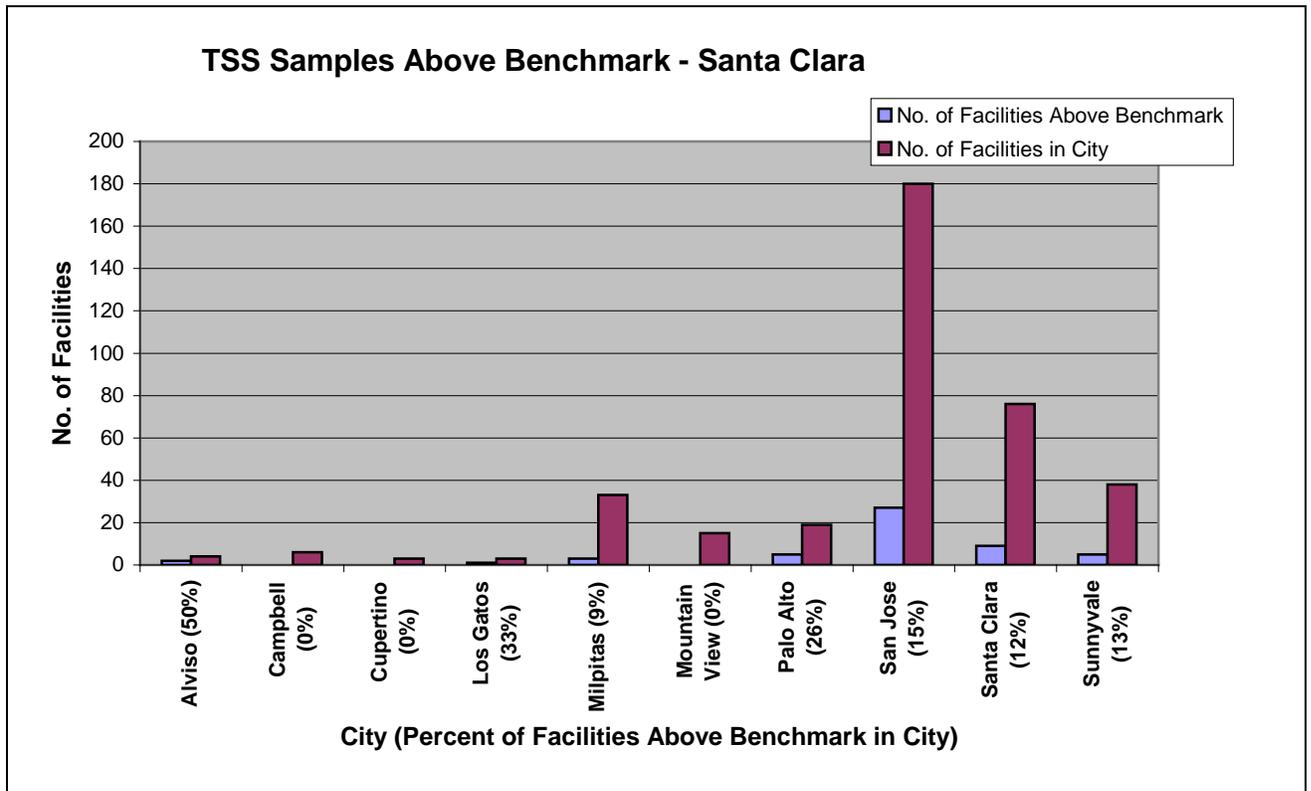


Figure 3. The left bar of each pair shows the number of facilities in a city with sampling results above the benchmark. The right bar shows the total number of facilities in each city.

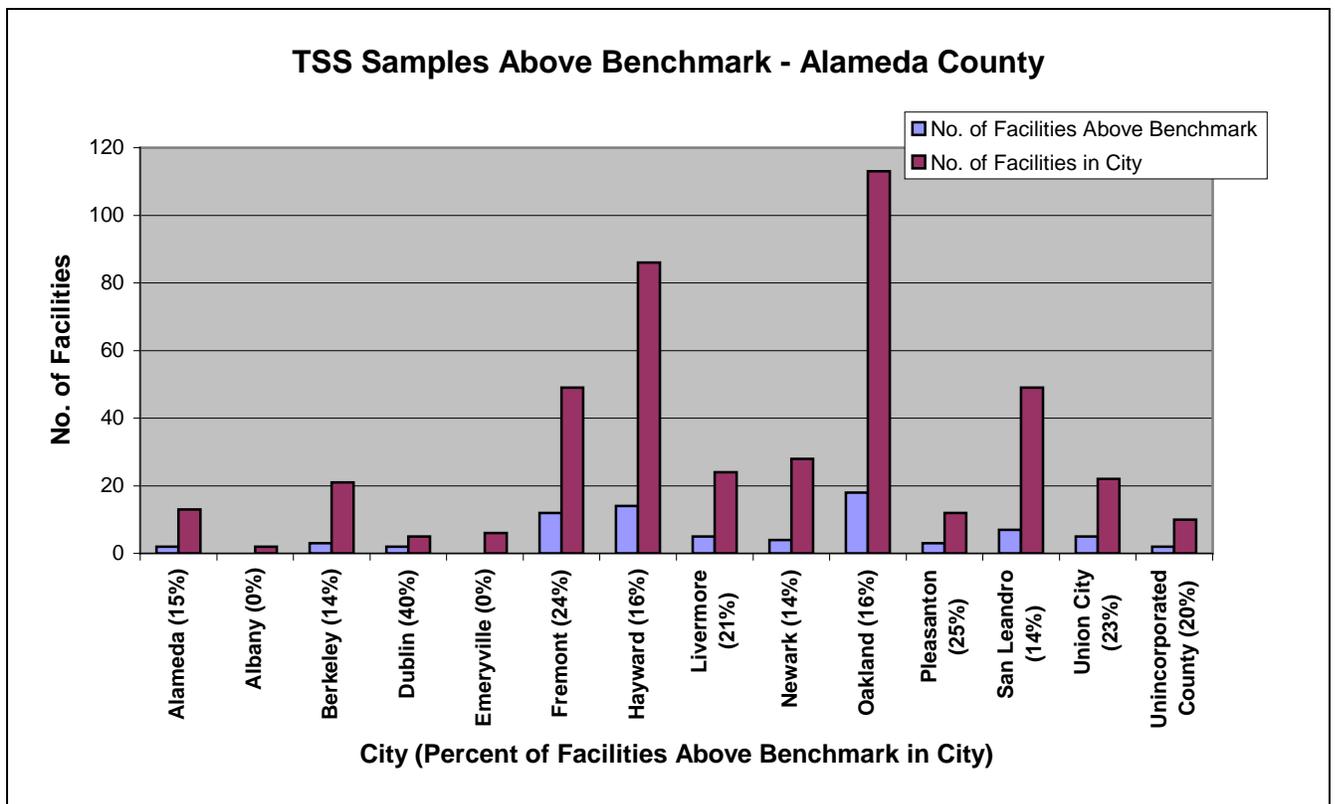


Figure 4. The left bar of each pair shows the number of facilities in a city with sampling results above the benchmark. The right bar shows the total number of facilities in each city.

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BOARD STAFF FOLLOW UP

As the result of our annual review of the Industrial Stormwater Program, we will complete the following actions:

- 1) Board staff will investigate facilities that have not submitted sample results in the past three years or have submitted sampling results only once in the past three years. We will work together with our counterparts at municipalities to develop a coordinated inspection list for these sites.
- 2) Board staff will continue to provide training and technical assistance to municipalities with a large number of sites and to other agencies upon request or as a need is identified to ensure an equal level of knowledge.
- 3) Board staff will conduct inspections at facilities that have exceeded benchmarks for each of the last three years and provide feedback to the facility as well as to the municipality.
- 4) Board staff will issue Notice of Violation (NOV) letters to sites where feedback has been given but adequate performance has still not been achieved, and complete other educational and/or enforcement activities, as appropriate.
- 5) Board staff will work with municipalities to develop a coordinated inspection list for facilities that have reported exceedances of mercury and copper in each of the last three years. We will conduct our own inspections of each facility or refer them to the appropriate municipality for inspection.

SUMMARY

Based on our review of annual reports, the majority of the approximately 1400 covered facilities in our Region are in compliance with the Permit. However, there are also significant opportunities for improvement. Data we have received over the past three years has given us some basic trends that we can use to target our inspection and outreach program. TSS, mercury, and copper are parameters that we have targeted for different reasons. TSS is a focus in our inspection program because it is fairly easy to control, but is also associated with other pollutants. So, TSS serves as a good surrogate parameter to measure pollutant load control. Mercury is important because it is an impairing pollutant that causes fish tissue contamination and is the focus of the TMDL adopted last fall. Copper is important because of its high aquatic toxicity and because it is commonly found at industrial facilities and in runoff.

PLANS FOR THE FUTURE

Web-based Stormwater Annual Reports

The State Board is currently developing a program to allow Permittees to submit their annual reports electronically, and expects to have the program in place by July 2006. This was put in motion in response to requests from several regions, including Region 2.

Currently, annual reports are received in paper format, and considerable staff time is required – 3 staff for 3 months – to enter them manually into an electronic database. This reduces available staff time to review the information and respond to the annual reports, duplicates the Permittees' efforts, and creates unnecessary data entry errors, which then require time to correct. By allowing electronic submittal, staff will be able to review and respond more quickly to the annual reports, and to redistribute our time and effort from report processing to follow-up actions.

Stormwater Permit Reissuance

The current Permit was adopted in 1997 and is due to be reissued. State Board staff released a draft Permit for public comment last December, and Region 2 staff was among those providing comments on the draft. State Board staff is responding to comments and continues to work on the draft Permit, and the Permit may be reissued later this year.