

# **FINAL REPORT**

## **ARROYO BURRO BEACH COUNTY PARK**

### **Dumpster Enclosure Project**

**CLEAN BEACH INITIATIVE FUNDING  
State Water Resources Control Board  
CONTRACT AGREEMENT NUMBER 01-228-550-0**



Santa Barbara County Parks

April 2007

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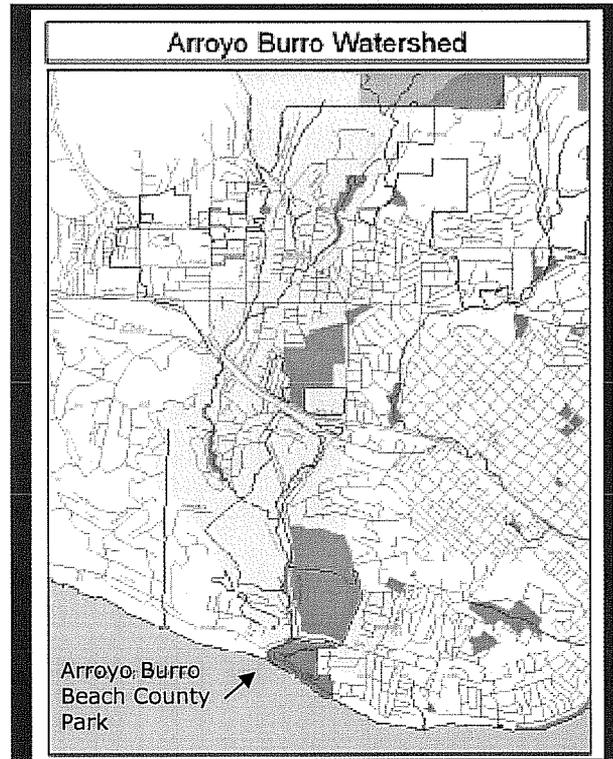
## SCHEDULE OF TASKS per Contract

TASK		DESCRIPTION	COMPLETION DATE
1		<b>Project Management and Administration</b>	
	1.2	Quarterly Progress Report	On-going quarterly
	1.5	Contract Summary Form	December 2002
	1.6	Subcontractor Documentation	On -going
	1.7	Project Summary Form	June 2004
2		<b>CEQA Documents and Permits</b>	
	2.1	CEQA Documentation	March 2004
	2.2	Permits	April 2004
3		<b>Quality Assurance Project Plan (QAPP)</b>	February 2005
4		<b>Project Implementation</b>	
	4.1	RFP Documentation	October 2003
	4.2	Permitting and Final Design	April 2004
	4.3	Demolition and Construction	November 2005
	4.4	Operation and Maintenance Plan	March 2006
6		<b>Reporting</b>	
	6.1	Monitoring and Reporting Plan	June 2005
	6.2	Draft Final Report	December 2006
	6.3	Final Report	April 2007

**PROBLEM STATEMENT and PROJECT DESCRIPTION**

**Problem Statement**

This project was developed in order to assist in addressing the water quality problem of elevated levels of coliform bacteria found in urban runoff within Arroyo Burro Creek. The creek flows directly into the watershed/ocean interface, past Arroyo Burro Beach County Park adding to the impacts to beach-goers and marine water habitats and wildlife. Arroyo Burro County park reaching an annual visitation of over 800,000 offers amenities such as picnic, bbq facilities, restaurant and snack bar. Non-point source water pollution, commonly know as urban runoff, is the single largest source of water pollution in this area. Whereas great strides have taken place to reduce point sources of water pollution, urban runoff has been largely ignored until recently. Urban runoff carries a variety of potential pollutants, including organics, grease and oil, trash, nutrients and coliform bacteria, to the receiving waters. For this project, coliform bacteria, as indicators of pathogens, are the pollutant of concern, which can cause direct health impacts to visitors of this beach.



**Arroyo Burro Beach County Park  
AB411 Exceedances and Closures, 2002-2006**

Year	2002	2003	2004	2005	2006
#Exceedances	13	9	7	13	23
#Closures	0	0	0	0	0

The waters of the ocean support many beneficial uses; however, due to excessive levels of coliform bacteria this water body is often classified as impaired for beneficial uses, such as swimming, fishing and shellfish harvesting. In the above table, "exceedance" is defined as one or more of the analyzed indicator bacteria exceeding the State AB411 standards for recreational contact. "Closures" occur only in the event of a sewage spill, or by discretion of the Public Health Officer.

The proposed listing at the SWRCB targets 2006 as the date to begin work on a TMDL for the Arroyo Burro Watershed. Project Clean Water (County) and the Clean Beaches, Healthy Creeks (City of Santa Barbara) Programs were initiated, in part, to deal with pollution from urban runoff, by using Best Management Practices, BMP's, to reduce pollutants of concern found in urban runoff. The California Nonpoint Source Pollution Control Program also cites the major problem of urban runoff pollution, and recommends a series of BMP's to curb this pollution source. The quality of urban runoff from urbanized areas, such as Santa Barbara County and City, has been found through previous state and local studies to contain coliform bacteria (pollutants of concern) at levels that impact water bodies.

To better protect our marine resources and beach-goers, this project aimed to install BMP's to remove pollutants of concern, that is, coliform bacteria, to the maximum extent practicable.

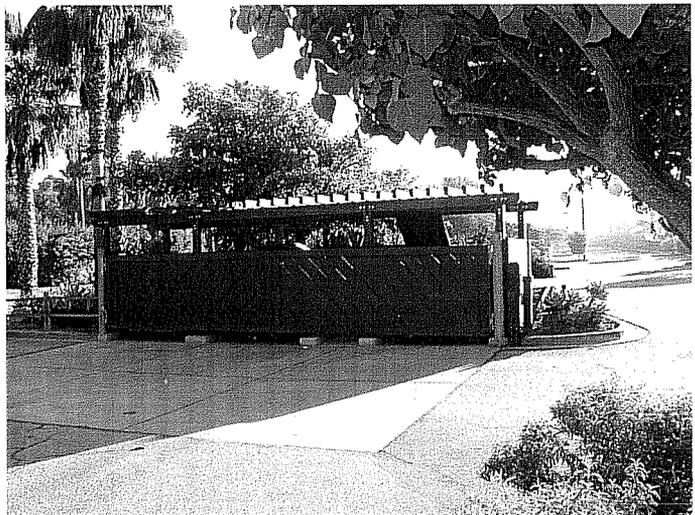
In the recent past, County Parks Department of Santa Barbara installed structural devices in the storm drain parking lot inlets to curb and prevent urban runoff pollution. These devices, however, generally do not address coliform bacteria, nor do they address all potential sources of these pollutants.

The design and development of this grant project attempts to directly address potential sources of coliform bacteria within the park that may be entering the creek.

### **Project Description**

The project funded with this grant addresses BMP's such as:

- the diversion of dry weather urban runoff to sanitary sewer,
- upgrades to existing park trash facilities to prevent seabird and other wildlife access to the trash enclosures,
- remove oil and grease, to prevent polluted storm water runoff entering from the watershed or ocean receiving waters
- reduces animal waste from reaching ocean waters



New dumpster enclosure at Park entrance

The project components included the relocation and/or upgrade to the commercial solid waste storage areas and trash containers within the park and the diversion of wastewater associated with trash enclosure cleaning and storm water runoff to the sanitary sewer system.

The project included the demolition, removal and reconstruction of the existing trash staging area (adjacent to Brown Pelican Restaurant) and the main solid waste / dumpster storage area adjacent to Cliff Drive.



The solid waste holding areas exclude rodent and birds and include a roof to minimize storm runoff into and from the enclosure areas (see photo). The concrete flooring of the enclosure areas were constructed to drain into a catch basin area that will contain and filter the water. A connection from the catch basin areas to the sanitary sewer system, which includes a grease trap, was installed to eliminate the runoff from entering nearby Arroyo Burro Creek. Construction of the two enclosures was completed in July 2005.

This grant also funded the installation of covered trash and recycling receptacles within the park, and the acquisition of mutt mitts for collection of dog waste within the park and beach area. The installation of an equestrian waste station was also completed (see photo right). This park is a popular access point to the beach for equestrians. Up until this project, there has been no waste area adjacent to the horse trailer parking area or beach access points for horse owners to use.



Equestrian Waste Station

New trash cans and recycle containers, with covers, funded with this grant now deter birds and rodents. The purchase of mutt mitts for existing dispensers assist in continuing to address the removal of dog waste within the park and beach area.



New waste receptacle and mutt mitt dispensers at Arroyo Burro Beach County Park

Out of 23 parks which provide mutt mitt dispensers, Arroyo Burro Beach Park used 33% of mutt mitts purchased, averaging 44,400 bags in 2002, 53,300 bags in 2003, 94,560 bags in 2004 and 88,480 bags in 2005 used at Arroyo Burro Beach Park.

## WATER SAMPLING

The goal of this project was to lower indicator bacteria levels in the creek and in the surrounding beach area. General goals included:

- Remove sources of fecal contamination
- Reduce SBCEHS beach closures and postings
- Reduce the health threat to swimmers, surfers and other recreational beach users

The sampling data will be used by Santa Barbara County Environmental Health Services (SBCEHS) as a tool to track sources of fecal contamination. The data is made available to the public as well as Regional and State Boards for their use.

SBCEHS staff compiles data and an electronic database continues to be maintained at SBCEHS.

The method used for sampling ocean water was developed and agreed upon by Environmental Health representatives from five southern California counties (San Diego, Orange, Los Angeles, Ventura and Santa Barbara) in 1998.

Sample collection methods meet EPA guidelines for saltwater sampling (or modified for the situation). All samples are analyzed by SBCPHL via Colilert and Enterolert testing protocols, Colilert TM 18 Medium (IDEXX) (Quanti-Tray TM) and Enterolert TM Medium (IDEXX) (Quanti-Tray TM).

The sample site was located via GPS (Global Positioning System) so its actual location can be mapped and compared to other features (e.g. targeted waste disposal areas) as appropriate. The sampling addresses only data quality objectives for the following parameters:

- *E. coli* Bacteria
- Total Coliform bacteria
- Enterococci Bacteria

Bacterial parameters are monitored using protocols outlined in Standard Methods for the Examination of Water and Wastewater 20<sup>th</sup> Edition, or in instruction manuals for specific tests (e.g. Colilert and Enterolert tests, manufactured by IDEXX Corporation).

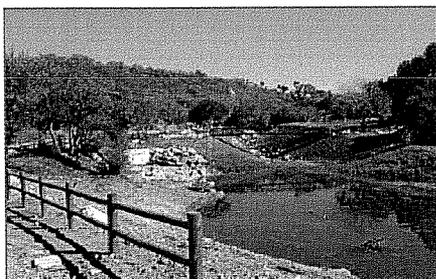
Several graphs are provided at the end of this report showing results of each of these parameters tested at Arroyo Burro Beach. **These graphs show that, while exceedances increased in 2006 vs. 2005, they decreased after completion of the project and until the City of Santa Barbara started a separate upstream project (please see Conclusion section for discussion).** Raw data can be provided upon request.

## CONCLUSION

The project at Arroyo Burro Beach park has been an improvement to water quality simply by keeping bacterial contaminated stormwater out of the ocean that would have otherwise impacted ocean water quality via Arroyo Burro Creek.

Unfortunately, the Arroyo Burro watershed is very complex and quantifying the grant project impact of this small contribution is difficult, if not impossible. While advisory rates (as percent exceedance) of the ocean at Arroyo Burro Beach have risen from 35% in 2005 to 46% in 2006, it may be due to other factors - most significantly the City of Santa Barbara's restoration of Arroyo Burro estuary. This project involved the removal and conversion of an underground culvert into a tributary to Arroyo Burro Creek (*project construction photos at right*).

While it is believed that the restoration project will have a positive long term impact on water quality, the short term impact of moving significant amounts of soil around the estuary during the construction of the City's project have been negative.



Completed City of Santa Barbara estuary project on Arroyo Burro

According to the City's website, the restoration project started on June 1, 2006. Arroyo Burro Beach was under advisory 8 out of 22 times, or 36% of the time, between January 1 and May 30, 2006. That number jumped to 54%, or 15 out of 28

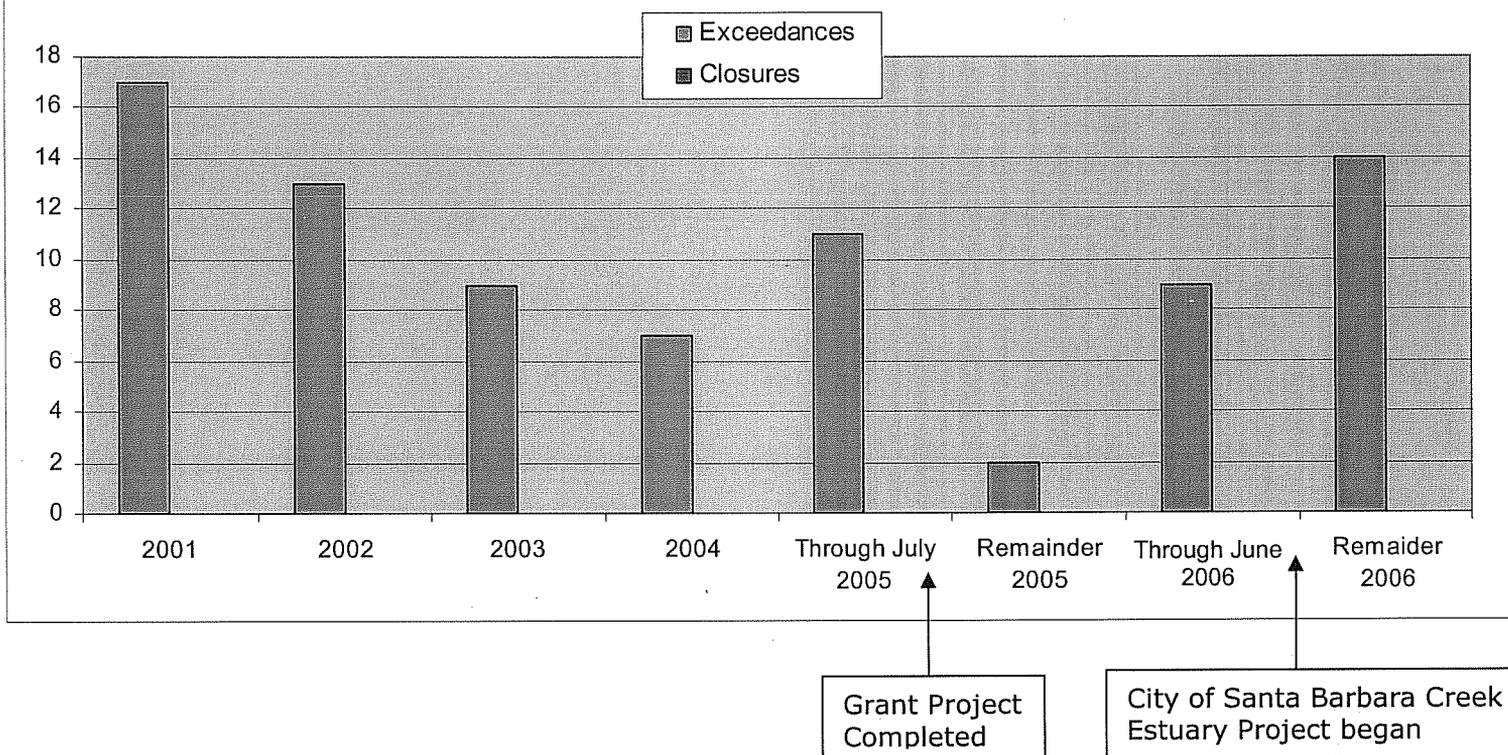
samples between June 1 and December 31, 2006. Arroyo Burro Beach was under advisory for the entire month of July and for four consecutive weeks between November 20 and December 12, 2006.

While the numbers do not tell the story that we had hoped to display, we believe it is due to factors greater than and beyond our control. We also feel strongly that Arroyo Burro Beach water quality has been improved, while difficult to quantify, by the implementation of this grant project.

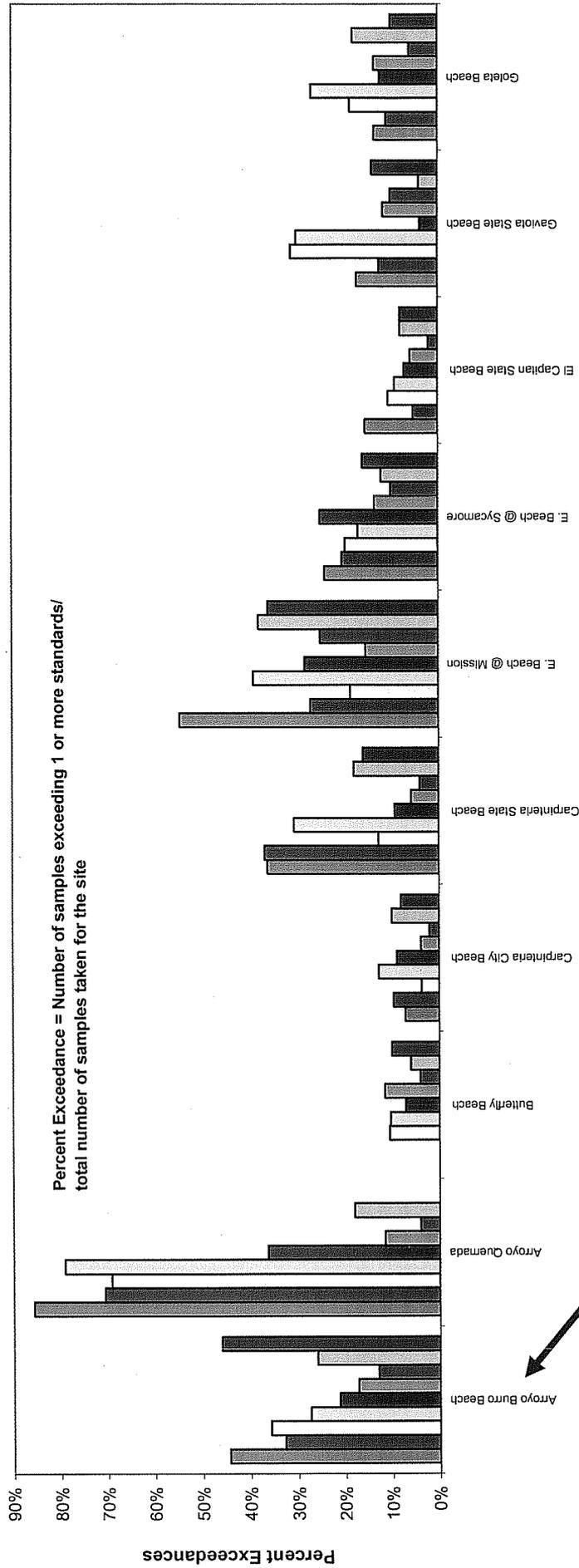
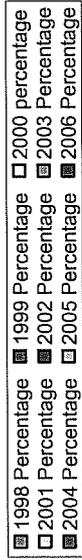
## Percentage Exceedance

Year	2002	2003	2004	2005	2006
% Exceedances	26	18	14	26	46
# Exceedances	13	9	7	13	23
# Closures	0	0	0	0	0

Arroyo Burro County Beach Park - 5 year # exceedances and closures

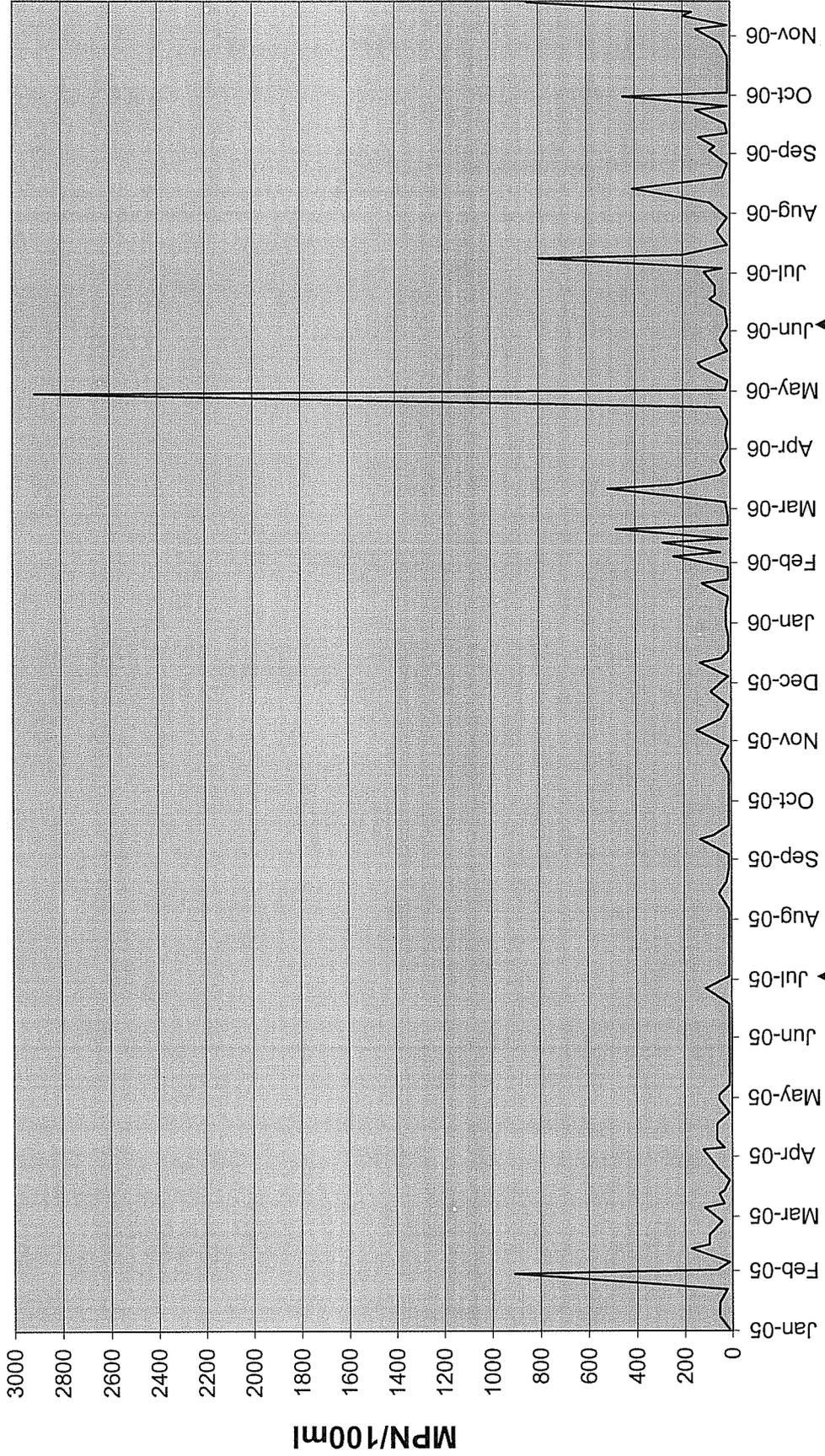


# Percent Exceedance 1998-2006



Project Site  
Arroyo Burro  
Beach County Park

# Enterococcus - Arroyo Burro

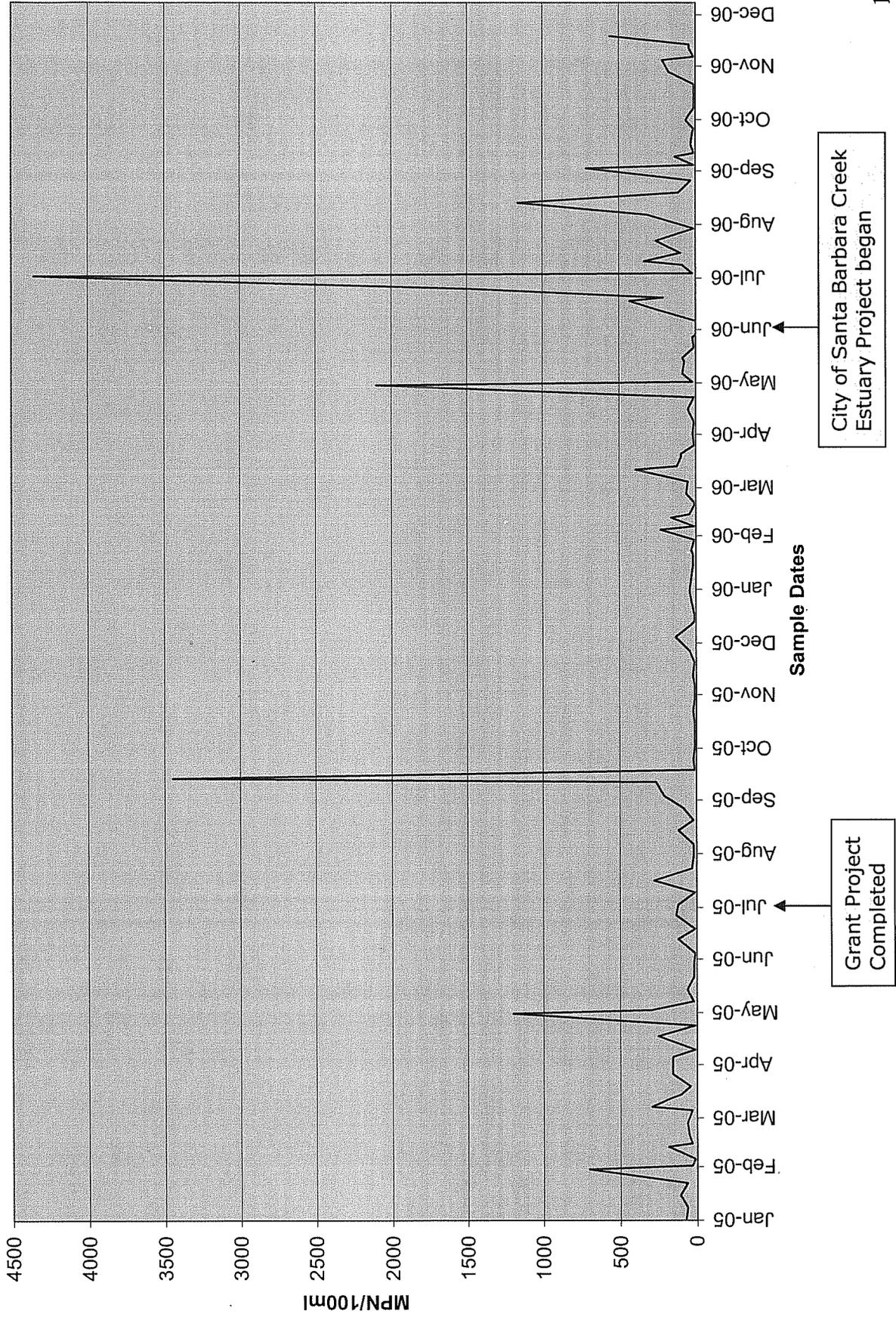


Sample Dates

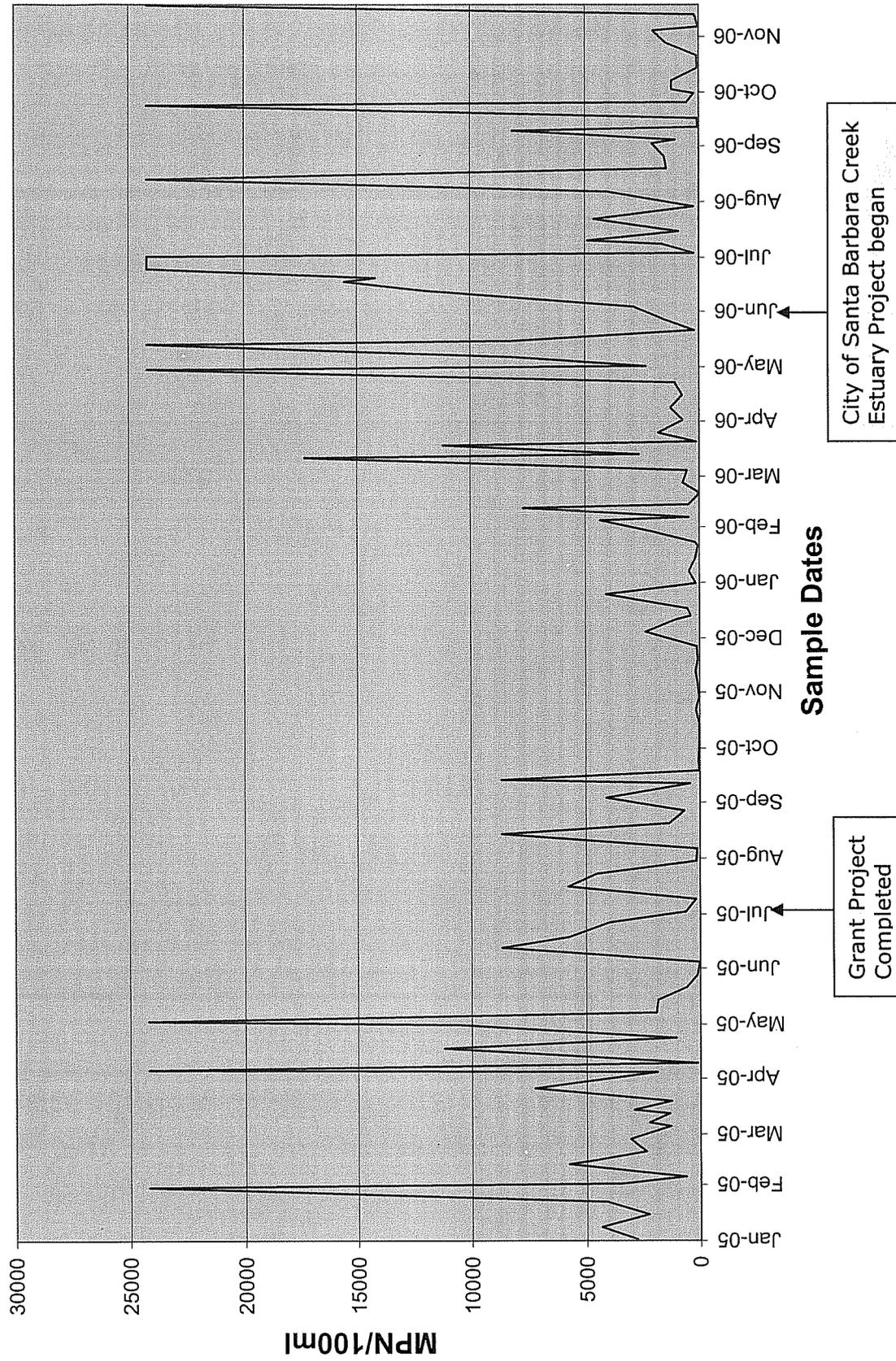
City of Santa Barbara Creek Estuary Project began

Grant Project Completed

# Fecal Coliform - Arroyo Burro



# Total Coliforms - Arroyo Burro



**Map of Sampling Site – Arroyo Burro Beach**

