Surface Water Ambient Monitoring Program

FY 05-06 Annual Work Plan

San Diego Regional Water Quality Control Board

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Date:
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Table 1. **Summary of Region 9 SWAMP Activities**

MONITORING FRAMEWORK	STUDY UNIT OR PROJECT					
	FY 00-01	**FY 01-02**	**FY 02-03**	**FY 03-04**	**FY 04-05**	**FY 05-06**
1. DEVELOP MONITORING OBJECTIVES	00-01	00-01, 01-02, 02-03	00-01, 01-02, 02-03	00-01, 01-02, 02-03, 03-04	00-01, 01-02, 02-03,03-04, 04-05 - C	00-01, 01-02, 02-03,03-04, 04-05 - I
2. DESIGN MONITORING PROGRAM	00-01	00-01, 01-02, 02-03	00-01, 01-02, 02-03	00-01, 01-02, 02-03, 03-04	00-01, 01-02, 02-03,03-04, 04-05 - C	00-01, 01-02, 02-03,03-04, 04-0 - I5
3. COLLECT FIELD AND LAB DATA	01-02, 02-03	02-03	02-03, 03-04	04-05 -C	04-05, (05-06) -I	(05-06), (06-07)
4. COMPILE AND MANAGE DATA	02-03, 03-04, 04-05 -I	02-03, 03-04, 04-05, -I	02-03, 03-04, 04-05, -I	04-05, (05-06) -I	(05-06, 06-07)	(05-06), (06-07), (07-08)
4A. DATA IN PERMANENT SIDE OF SWAMP DATABASE	04-05 -I	04-05, (05-06) -I	04-05, (05-06) _I	(05-06)	(05-06, 06-07)	(07-08), (08-09)
5. ASSESS AND INTERPRET DATA	04-05 -I	(05-06)	(05-06, 06-07)	(05-06, 06-07)	(05-06, 06-07)	(07-08), (08-09)
6. CONVEY RESULTS AND FINDINGS (FINAL REPORT, OTHER)	04-05, (05-06) -I	(05-06)	(05-06, 06-07)	(05-06, 06-07)	(06-07, 07-08)	(07-08), (08-09)

Completed = blue (light shade); Ongoing = green (dark shade); Planned = no color
For Ongoing (i.e green) work, include an I (initiated), D (delayed), or C (completed) letter below the horizontal line to show the current status.

Table 2. **Summary of FY05-06 SWAMP Resource Allocation for Region 9**

Activity	Tasks	Study Unit	SWAMP resources				Regional resources*	
			Staff	Contract			Staff	Contracts
			05-06 PY	03-04 $	04-05 $	05-06 $		
Roundtable Participation	Monthly mtgs, Annual mtgs,, committees		0.100					
Intra-agency SWAMP Coordination	Dissemination of SWAMP QAPP, internal training		0.05					
Interagency Monitoring Coordination	Dissemination of data formats, QAPP, Coordinate monitoring		0.1					
Contract Management	Update Task Orders		0.03					
Annual Workplan	Update watershed descriptions, Create text addressing 'prioritization process', Compile, edit and format document, Review efforts to date		0.1					
Monitoring Framework:	Continue to update monitoring framework to ensure that objectives are being met.		0.002					
Develop Monitoring Objectives	Update objectives for new round of watersheds		0.002					
Design Monitoring Program	Update monitoring program for new watersheds		0.002					
Collect Lab and Field data	Recon sample sites, convey directions to sampling crew, verify flow, bioassessment sampling		0.09	$245,000	$169,592	$260,000		
Compile and manage data	Interface with MLML data team, Database Maintenance, QA Database, Mine Database for reports, Mine Database for data requests		0.005					
Assess and Interpret Data	Graphs, research possible relationship to other watershed activities		0.02					

Convey results and findings	Interface with other staff and the public		0.02					
• Technical Report	Write Reports		0.100					
• Fact sheets			0.02					
• Oral presentations	Presentation to staff and interested parties		0.005					
Quality Assurance Activities	QA database		0.004					
Participation in SPARC			0.0					
Training	SWAMP-specific training		0.05					
Other	Harbor Monitoring Coordination, Student support		0.10	$15,000	$15,000	$15,000		
Non-SWAMP			0.0					
TOTAL								
Can not exceed			0.8			$275,000		

* No non-SWAMP regional resources have been expended on any items in this table.

Table 3. **Summary of Region 9 Monitoring Activities by Watershed for FY 05-06.**

A. Watershed Name Carlsbad

1. HSA No: 904.00

2. Cal Planning # (if available):

3. Watershed Description:

The Carlsbad Hydrologic Unit (CHU) is approximately 211 square miles and is formed by a group of six individual watersheds in northern San Diego County. The CHU is bordered by the San Luis Rey River Watershed to the north and by the San Dieguito River Watershed to the south. It reaches inland nearly 24 miles to just northeast of Lake Wohlford. The maximum elevation of the CHU is approximately 2,400 feet and it extends to sea level at the Pacific Ocean. The CHU is comprised of six Hydrologic Areas: Loma Alta, Buena Vista Creek, Agua Hedionda, Encinas, San Marcos Creek, and Escondido Creek.

The CHU contains four major coastal lagoons: Buena Vista, Agua Hedionda, Batiquitos, and San Elijo. The CHU includes the entire Cities of Carlsbad, San Marcos and Encinitas and portions of the cities of Oceanside, Vista, Escondido, Solana Beach, and San Diego County unincorporated areas.

4. Rationale of Monitoring:

Given funding constraints, SDRWQCB staff plans to focus SWAMP monitoring efforts on main stem rivers and streams and major tributaries within the various hydrologic units. If/when additional funding is available in the future, SDRWQCB staff plans to expand SWAMP monitoring efforts to include estuaries, coastal lagoons, bays, harbors, ocean waters, and other waters of the region.

In general, SDRWQCB plans to locate monitoring sites on:

a. Main stem rivers and streams, just above tidal influence;
b. Main stem rivers and streams just above the confluence with major tributaries, and
c. Major tributaries just above the confluence with the main stem rivers and streams.

For various reasons, locations of certain stations may not fit these general rules. The site reconnaissance, which provides assessment beyond the reach scale, will provide the necessary information to support site selection or identify alternate sites that better support the primary objectives discussed above.

All San Diego region SWAMP sampling and analyses will be performed under the SWRCB statewide master contract with the Department of Fish and Game. This arrangement will make use of the monitoring expertise of the Department of Fish and Game and avoid the need for SDRWQB staff to manage a region-specific contract. SDRWQCB staff will conduct site reconnaissance.

Stream flow conditions in the San Diego region vary substantially seasonally (and from year to year). The four planned sampling periods are intended to cover different stream flow conditions, i.e.,

February -	between storm events
April -	high base flow rates
May / June -	declining base flow rates (and bioassessment index period)
September / October -	minimum base flow rates (and bioassessment index period)

There are no surface water flows in some San Diego region streams at certain times of the year. Streams with varying flow regimes drain the regional watersheds. Therefore, monitoring efforts will be tiered with an emphasis on Winter (February) and Spring (April) monitoring with fully integrated monitoring limited to selected streams and rivers.

5. Identify Waterbodies Monitored:

Agua Hedionda Creek, Buena Creek, Buena Vista Creek, Cottonwood Creek, Encinitas Creek, Escondido Creek (2), Loma Alta Creek, San Marcos Creek.

6. Type(s) of Monitoring:
☒ **Water Chemistry** ☒ **Sediment Toxicity** ☒ **Water Toxicity** ☒ **Bioassessment**
☒ **Tissue** ☒ **Discrete Field Measurements** ☐ **Continuous Field Measurements**
☒ **Other (specify): Physical Habitat Assessment, Percent fines**

6. Estimated Number of Sampling Sites and Samples/site:
Eight waterbodies will have a total of 9 stations sampled four times per year.

B. Watershed Name Penasquito

1. HSA No: 906.00

2. Cal Planning # (if available):

4. Watershed Description:
The 101,456 acre Penasquitos HU extends from the Pacific Ocean inland through portions of the City of Poway and east of Highway 67 to the Iron Mountain area. The northern boundary includes a portion of the City of Del Mar and the community of Rancho Bernardo; the southern boundary transects the Marine Corps Air Station at Miramar and portions of the City of San Diego, south of Mission Bay.

The major receiving waters, Los Penasquitos Lagoon and Mission Bay, are both fragile systems that support diverse native fauna and flora. Both water bodies are especially sensitive to the effects of pollutants due to restricted or intermittent tidal flushing.

The Los Penasquitos Creek watershed encompasses a land area of approximately 100 square miles including portions of the cities San Diego, Poway, and Del Mar. The watershed is highly urbanized with a population of approximately 400,000 residents. The creek discharges to the 0.6 square mile Los Penasquitos Lagoon. Much of Los Penasquitos Creek is protected by the Los Penasquitos Canyon Preserve.

The Mission Bay watershed drains an area of approximately 80 square miles. Rose Creek and Tecolote Creek are the main tributaries to Mission Bay, which was converted to open water from a coastal marshland after the completion of a large dredging project in the 1940s. Major protected areas within the Mission Bay watershed include Tecolote Canyon Natural Park and Marian Bear Memorial Natural Park.

Land use within the Penasquitos HU consists of agriculture (2,139 acres), commercial (3,706 acres), industrial (5,587 acres), parks and recreation (21,851 acres), public facilities/utilities (6,716 acres), residential (31,629 acres), transportation (3,658 acres), and vacant/undeveloped (26,170 acres) (MEC, January 2005). The population within the HU is moderate for San Diego County, with an estimated 442,731 people in 1997 (SANDAG Population Estimates).

4. Rationale of Monitoring:
Given the funding constraints, SDRWQCB staff plans to focus SWAMP monitoring efforts on main stem rivers and streams and major tributaries within the various hydrologic units. If/when additional funding is available in the future, SDRWQCB staff plans to expand SWAMP monitoring efforts to include estuaries, coastal lagoons, bays, harbors, ocean waters, and other waters of the region.

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7. Identify Waterbodies Monitored:

Poway Creek, Los Penasquitos Creek, Rattlesnake Creek, Rose Canyon Creek, Soledad Creek, Tecolote Creek.

6. Type(s) of Monitoring:

☒ **Water Chemistry** ☒ **Sediment Toxicity** ☒ **Water Toxicity** ☒ **Bioassessment**
☒ **Tissue** ☒ **Discrete Field Measurements** ☐ **Continuous Field Measurements**
☒ **Other (specify): Physical Habitat Assessment, Percent fines**

8. Estimated Number of Sampling Sites and Samples/site:

Six waterbodies will have a total of 6 stations sampled four times per year.

Table 4. **Summary of Monitoring Directed Toward Regional Priority Water Quality Issues In Region 9**

Regional Priorities	Water Quality Issue	Monitoring Activities
1	Pathogens	Not assessed with SWAMP sampling.
2	Sanitary Sewer Overflows	Not assessed with SWAMP sampling.
3	Habitat Loss	Bioassessment of Benthic Macroinvertebrates. Other parameters (nutrients, DO, temp, pH) that can be associated with habitat loss are being measured.
4	Sediments	Sediment toxicity and percent fines.
5	Compliance	Water chemistry, sediment percent fines, water toxicity, sediment toxicity, tissue, bioassessment, and physical habitat assessments can all be indicative of compliance or non-compliance. The limited sampling under SWAMP can only begin to point toward areas of compliance/non-compliance and do not provide conclusive evidence. The four rounds of sampling can be used as justification for the issuance of investigative orders that are designed to address specific areas of compliance/ non-compliance.

Table 5: **Region 9 Intra-Agency Coordination**

The headings define the minimum information that should be included. You may add more columns/information if you feel more information is needed.
Include all coordination activities with programs within the Water Board including TMDL, Grant Projects, Waivers, etc.

List of within-agency programs and level of coordination with regional SWAMP. (Add rows and columns as needed))

Within Agency Group /Program	Monitoring Program Description	Available Data Format	Coordination with SWAMP Monitoring	Using SWAMP QMP	Data in SWAMP comparable database
Watershed Protection	Stormwater Monitoring, Dry weather monitoring	Hardcopy reports and some electronic files	Y	N	N
Grants	Grant project monitoring data.	Hardcopy reports and some electronic files	Y	Y	N
POTWs	Upstream and downstream effluent monitoring.	Hardcopy reports and some electronic files	Y	N	N
TMDLs	Impairment verification sampling and analysis.	Hardcopy reports and some electronic files	Y	N	N
Industrial Compliance	Point source compliance monitoring.	Hardcopy reports and some electronic files	Y	N	N
Land Discharge	Compliance monitoring.	Hardcopy reports and some electronic files	Y	N	N

Table 6: **Region 9 Inter-Agency Coordination**

The headings define the minimum information that should be included. You may add more columns/information if you feel more information is needed.
Identify other monitoring programs or activities with which your regional SWAMP has some level of coordination

List of federal, state, local monitoring programs and activities and level of coordination with regional SWAMP. (Add rows and columns as needed))

PROGRAM/ ACTIVITY NAME	MONITORING ACTIVITY DESCRIPTION	COORDINATION STATUS
FEDERAL		
USFS	02/03 bioassessment work.	Worked with Joe Furnish; used same CDFG crew; allowed more spatial coverage and station-replicate comparison. Also, the USFS allows access for SWAMP sampling.
STATE		
CDFG	Bioassessment work	Field sampling. Data sharing.
CSP – Rancho Cuyamaca and Palomar Moutanin	SWAMP sampling	Allowing access to sampling locations.
LOCAL		
City of San Diego – Water Department	Water column chemistry data from within and just upstream of reservoirs.	Data sharing.
County of San Diego	Post fire stream chemistry. Bioassessment sampling.	Data sharing. Assistance with field sampling.
La Jolla Tribe	Water column chemistry data from the San Luis Rey River.	Data sharing.
Project Clean Water	Information exchange forum.	
UNIVERSITY		
VOLUNTEER		
San Diego Stream Team	Bioassessment.	Data sharing, sample collection.
Escondido Creek Conservancy	Bioassessment	Sample collection.