SMC REGIONAL STORMWATER MONTORING COMPARISON AND EVALUATION

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT OVERVIEW OF MONITORING PROGRAMS

Prepared by:

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MS4 Permit

- Los Angeles RWQCB
- Term: 2001 (Revised 2005) – Present
- Many monitoring details prescribed in permit

Description	# Sites	# Storm Events[1]	# Dry Events[2]
Mass Emission	7	3	2
Tributary (rotated)	6	4	2

[1] October 1 to April 15, including first storm, no prior dry days required

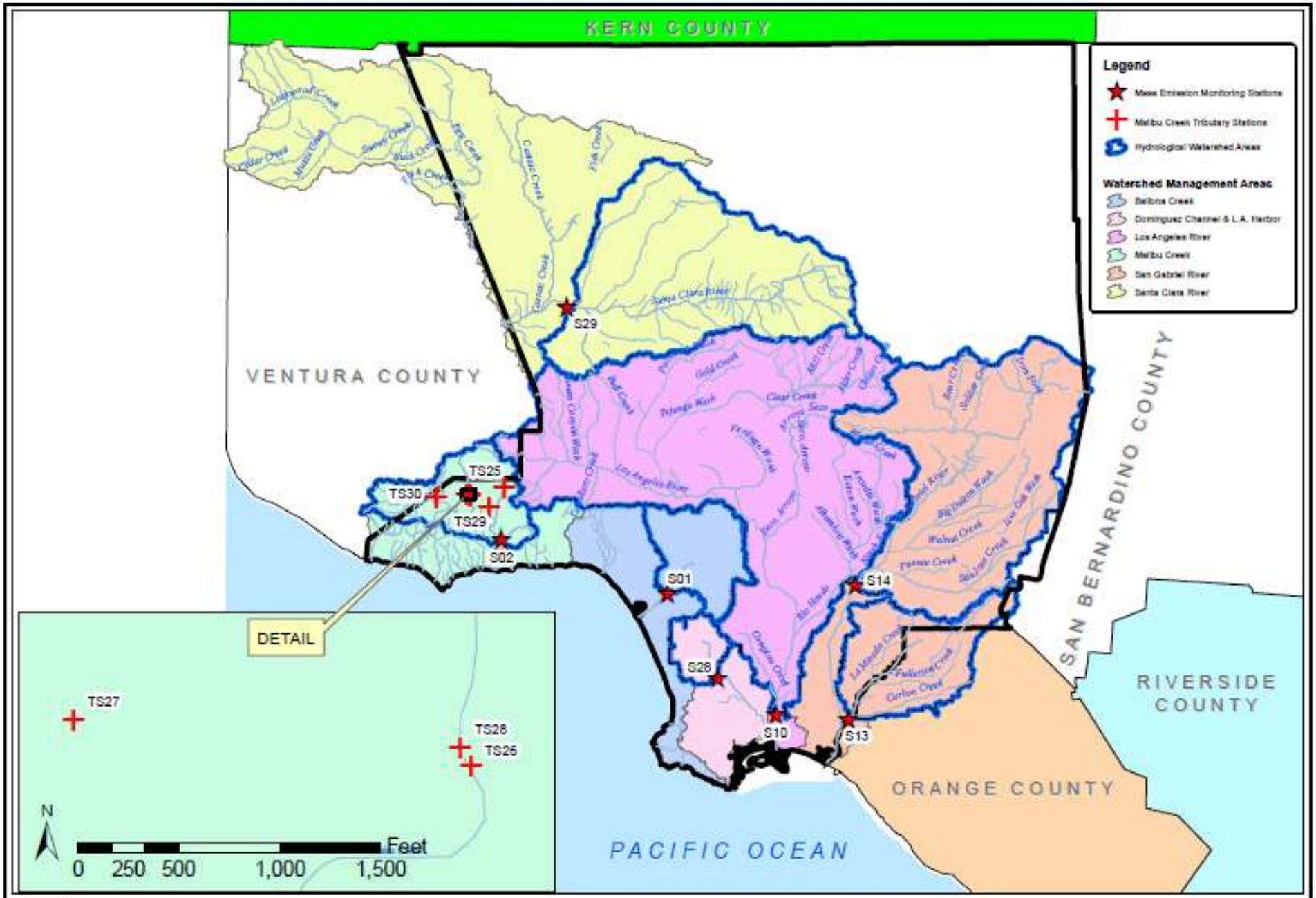
[2] Timing of events not prescribed in Permit

Site Selection

- Mass Emissions
  - Only watersheds prescribed in Permit
  - Above estuaries
  - Safe for staff
  - Secure for equipment
  - Accessible
- Tributaries
  - Rotated every two years
  - Currently in Malibu Creek
  - Recommended by Permittees, approved by EO
  - Otherwise, same as for MEs, and
  - Representative land uses

Purpose

- Mass Emissions
  - Calculate mass emissions from each watershed
  - Cumulative impact of MS4 inputs
  - Trends
- Tributaries
  - Identify sub-watersheds causing/contributing to exceedances
  - Prioritize management actions



LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
AUTOMATED SAMPLING MONITORING STATIONS

Storm Sampling

- Flow-paced at 12 sites
- Discrete grabs converted to flow-paced in lab at 1 site (Santa Clara River ME), allowed by Permit
- Sample for duration of storm, or >= 60% runoff
- 3 different autosamplers used for composites
- Min. 4.5-2.5 gallon composite jars per event, when including Toxicity testing
- Else, min. 0.5-2.5 gallon composite jar
- Grabs only for bacteria, O&G, TPH, Cyanide, some VOCs, Total Phenols, DO
- In situ measurements: Temperature, pH (starting)

Event Summary

- Go/no-go decision based on 3-4 local forecasts
- 4 sampling teams of 2 persons (1-4 sites each)
- 1 person storm coordinator
- Site visit 1: (<48 hrs before event): check all equipment, program sampler
- Teams activated when rain cells on path to monitoring locations (travel time)
- Site visit 2: rising limb grabs, check autosamplers, adjust pacing if needed, replace bottle(s) if needed, grab sampling composite for Santa Clara River ME

Event Summary Continued

- Deliver bacteria and other grab sample bottles to County Environ. Tox. Lab
- 6 hour holding time for bacteria
- Site visit 3: pick up composite bottles after storm event, take to County Enviro. Tox. Lab
- Additional visits for troubleshooting may occur

Data Management and Reporting

- Oracle based database developed in-house 2006
- Founded on Standard Data Exchange Formats (SDEF) developed by SCCWRP
- SWAMP compliant
- Can upload Electronic Data Deliverable (EDD) lab results file from County Envir. Toxicology Lab
- Annual Monitoring Report due August 15

Unique Aspect of Our Monitoring Program

- Our samplers: "MacGyver" Group
  - Have duct tape, willing and ready to use it
  - Operate and maintain 3 types of autosamplers

ISCO 6712FR

ISCO Avalanche

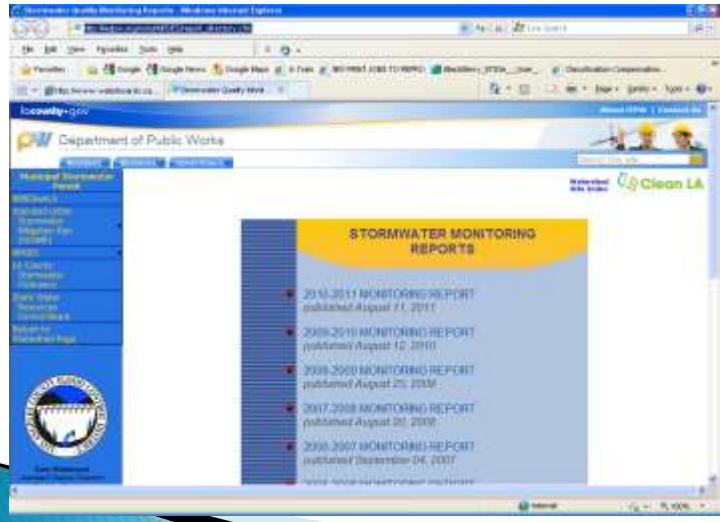
Sigma 800SL

Unique Aspect of Our Monitoring Program

- Flow monitoring management
  - Isco and Sigma Pressure Transducers
  - Rating curves: Direct (Mass Emission) and Theoretical (Tribs)
  - 2 flow management softwares
- Sampling management
  - Pacing NOT prescribed in Permit
  - Figured it out ourselves
- Few teams, wide area
  - Approximately 3,600 sq. mi.
  - Santa Clara River to Coyote Creek
  - About 9.3 million population
  - Traffic
  - 6 major watersheds
  - 133 to 834 square miles

References

- Stormwater Quality Monitoring Reports
  - http://ladpw.org/wmd/NPDES/report_directory.cfm
- NPDES Permit Documents
  - http://www.swrcb.ca.gov/rwqcb4/html/programs/stormwater/la_ms4_final.html



QUESTIONS?

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THANK YOU!