

AN OVERVIEW OF THE SAN BERNARDINO COUNTY AREA-WIDE MONITORING PROGRAMS

SMC REGIONAL STORMWATER MONITORING COMPARISON AND
EVALUATION STUDY

MAY 15, 2012



Purpose of Monitoring Programs

- Status and trends, sources, loadings
 - ▣ Are conditions in receiving waters protective or likely to be protective of beneficial uses?
 - ▣ What is the extent and magnitude of the current or potential receiving water problems?
 - ▣ What is the relative urban runoff contribution to the receiving water problem?
 - ▣ What are the sources to urban runoff that contribute to receiving water problems?
- TMDL numeric target compliance
 - ▣ MSAR Bacteria TMDL
 - ▣ Big Bear Lake Nutrient TMDL

San Bernardino's MS4 Permit

- Santa Ana RWQCB; Term: 2010 – 2015
- TMDL Monitoring, Special Studies
- Integrated Watershed Monitoring Program

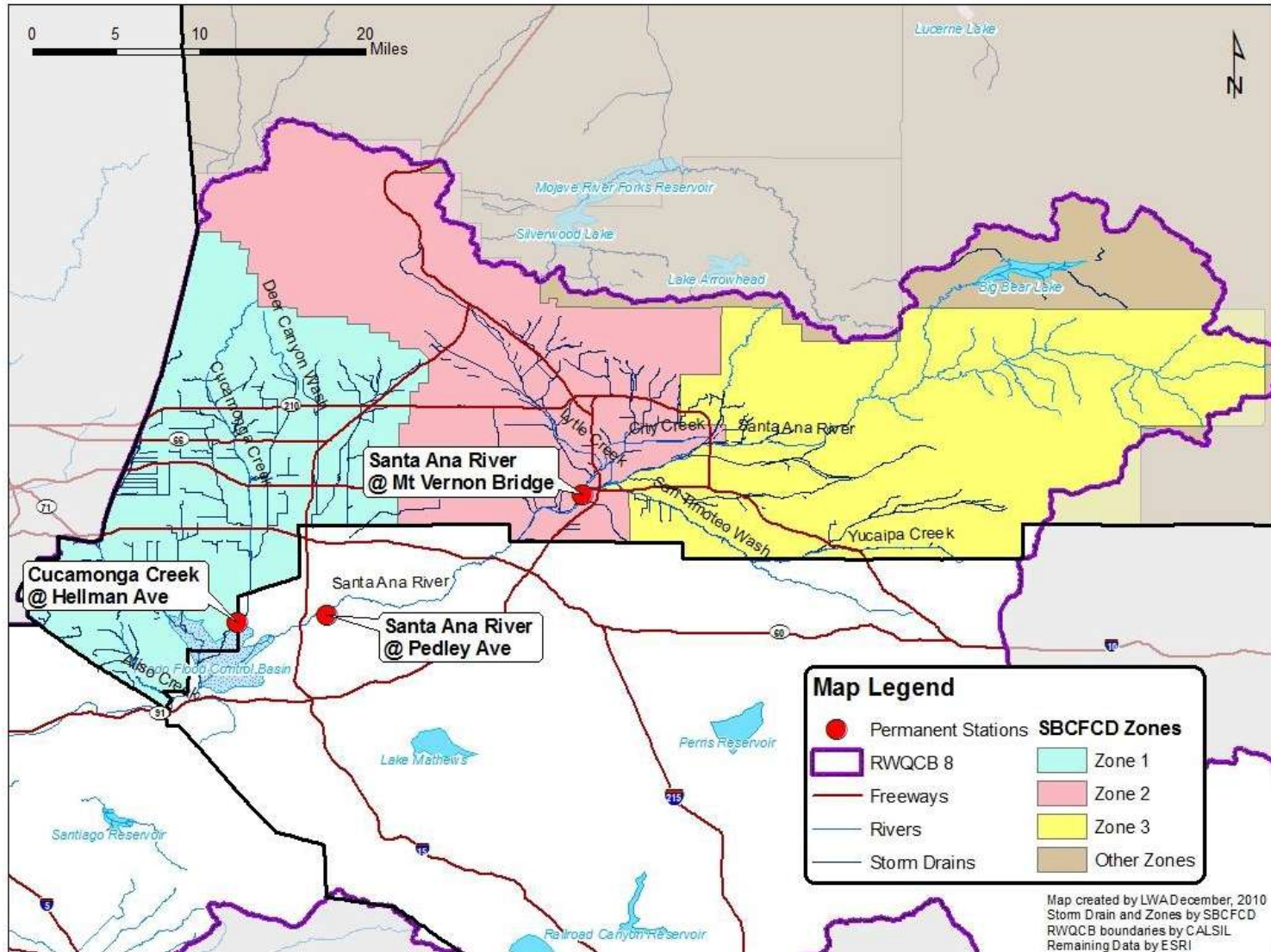
Description	# sites	# storm events	# dry events ¹
Receiving water (permanent)	3	3	2
Receiving (rotating, zone 1)	3	3	2
Urban discharge (rotating, zone 1)	2	3	2
Zones 2 and 3	tbd		

Wet season is October through April and Dry Season is June through September

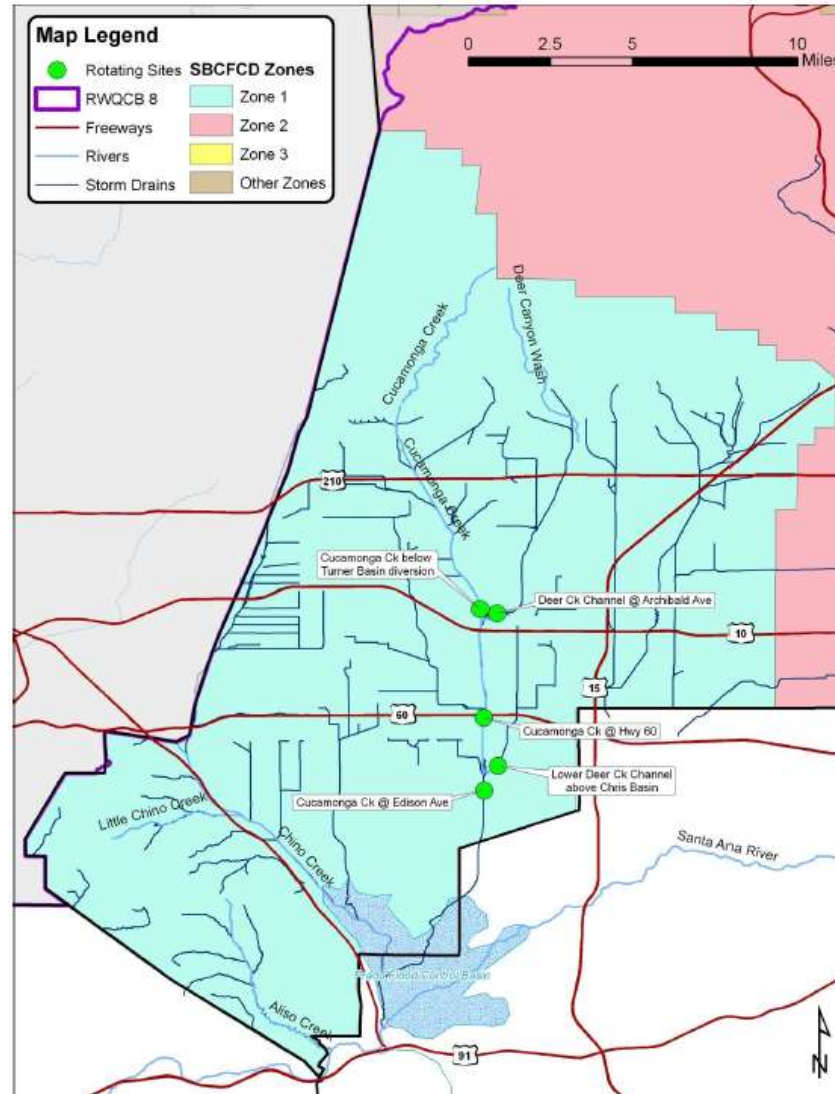
Site selection

- Permanent Sites
 - ▣ Major receiving waters within Santa Ana Region
 - ▣ Evaluate water quality of receiving water, and effect of discharges
- Rotating sites
 - ▣ Tributaries in receiving waters and major urban outfalls
 - ▣ Evaluate effect of urban discharge on receiving waters
 - ▣ Assist with source ID efforts
 - ▣ Sites may be adjusted in subsequent cycles depending on program needs

Core Monitoring



Rotating monitoring zone 1



Sampling

- Wet weather
 - Permanent: grabs (2 sites), composite (1 site)
 - Rotating: flow-paced where feasible, grab otherwise
 - Grabs during daylight
 - Conventionals, bacteria, nutrients, metals, other minerals, field parameters, organophosphate pesticides, **organochlorine pesticides, inorganics, volatiles, semi-volatiles, PCBs¹**
- Dry weather
 - Grab samples when flow
 - All constituents plus TPH, oil and grease
- ISCO 6712 portable autosamplers, in permanent structures
- 4 x 1 gal per event, composited and/or split in lab
- Single grab samples for bacteria

¹Bold: not during 2nd and 3rd wet events

Storm event summary

- Go / no-go decision based on local forecasts
- 1 field team of 2 persons, 1 person storm control
- Site visit 1 (try < 24 hrs before event): remote programming, bottle installation
- Teams usually mobilized at onset rain (first bucket tip), no night-time restrictions
- Site visit 2: grabs, check autosamplers, adjust pacing if needed
- Deliver bacteria samples to lab (6 hrs hold time)
- Site visit 3: recover composite bottles
- Arrange pick-up with courier for composite and chemical grabs
- Additional site visits for troubleshooting may occur