

2002-2003 Regional Urban Runoff Monitoring Program Update



MEC

Discussion Topics

2002-2003 Regional Monitoring Program Summary

TIEs/Other Issues for 2003-2004 Regional Monitoring

Summary of Draft SB72 Draft Report- Model
Stormwater Monitoring Program- a consensus effort by
the Southern California Stormwater Monitoring Coalition

Preliminary Recommendations for Regional Monitoring
2004-2005 Program

MEC

Overall Order No. 2001-01

Monitoring Goals

- Understand conditions of receiving waters within each watershed
- Identify water quality problems within each watershed (as well as areas to protect)
- Take actions to correct those problems

Monitoring Will Provide...

- Annual and long-term trends of ecological health in receiving waters of the county based upon chemical, toxicity, and biological evidence.
- Predict short- and long- term impacts to receiving waters that result from changes in land-use within each watershed.
- Provide data useful to develop BMPs to reduce impacts.

Order 2001-01

Program Components

- Stream Bioassessment Monitoring
- Long-term Mass Loading Station Monitoring
- Coastal Storm Drain Outfall Monitoring
- Ambient Bay, Lagoon and Coastal Receiving Waters Monitoring
- Toxic Hot Spots Monitoring

Triad Assessment - Santa Margarita River

- Two storms monitored at MLS
 - Fire 2/10/02 burns 5,763 acres
 - Cu, Cr, Zn, TSS,
 - Turbidity, COD, some toxicity (cerio)
 - Fecal coliform
- Incompatible detection limits
- Bioassessment upstream very good. In urban tributaries poor to fair.

Triad Assessment - San Luis Rey

- Chemistry - TDS
- Bioassessment – upper tributaries ranked good.
 - San Luis Rey River ranks poor to fair
- No Toxicity

Triad Assessment - Carlsbad Agua Hedionda

- Chemistry
 - Fecal coliform, TDS, turbidity, TSS
 - OP pesticides (diazinon & chlorpyrifos)
 - Total copper (3 storms)
- Bioassessment – coastal streams (poor to fair); upstream in the good IBI range
- Toxicity to *Ceriodaphnia* (persistent) & *Hyalella*

*Possible TIE for *Ceriodaphnia**

Continue monitoring and trend assessment.

Triad Assessment - Carlsbad Escondido Creek

- Chemistry
 - Fecal coliform, TDS, turbidity, TSS
 - OP pesticides (diazinon & chlorpyrifos)
 - Total copper
- Bioassessment – coastal streams (poor to fair); upstream in the good IBI range
- No persistent toxicity

Triad Assessment - San Dieguito River

- Chemistry
 - Fecal coliform, TDS
- Bioassessment - upper watershed (good); mid-watershed urban areas fair to poor.
- Toxicity – only impacted ceriodaphnia reproduction

Triad Assessment - Penasquitos Creek

- Chemistry
 - Fecal coliform, TDS, turbidity
 - organophosphate pesticides (diazinon, chlorpyrifos, malathion)
- Bioassessment – fair to poor
- No toxicity

Triad Assessment - Mission Bay

- Chemistry
 - Fecal coliform, TSS, turbidity
 - Organophosphate pesticides - Diazinon
 - Total Cu, total Chromium, total zinc
- Bioassessment- poor IBI ranking
- Toxicity – not persistent

Triad Assessment - San Diego River

- Chemistry
 - Fecal coliform, turbidity
 - Organophosphate pesticides (chlorpyrifos)
- Bioassessment – fair to very poor
- Toxicity – not persistent

Triad Assessment - San Diego Bay Chollas Creek

- Chemistry
 - Fecal coliform, TSS, turbidity
 - Organophosphate pesticides, total/dissolved copper, total/dissolved zinc
- Bioassessment – poor ranking
- Toxicity

Long term information- persistent toxicity to Hyalella and chemistry. TIE for Hyalella recommended.

Triad Assessment - San Diego Bay Sweetwater River

- Chemistry
 - Fecal coliform, TDS, turbidity
 - Organophosphate pesticides diazinon & chlorpyrifos
- Bioassessment – very good to fair depending upon area
- Toxicity – Selenastrum TIE partially done (1 storm) non-polar organics... need speciation

Continue TIE during storm season to determine organics

Assessment - Tijuana River

- Chemistry
 - Fecal coliform, phosphorus, surfactants, TSS, turbidity
 - Organophosphate pesticides (diazinon, chlorpyrifos, malathion)
 - Total chromium, total copper
- Toxicity to Ceriodaphnia
- TIE results – non-polar organics finding three compounds (diazinon, methyl dihydrojasmonate, quinoline/products)

Confirm TIE synergistic or individual impact

TIEs/Other Issues for 2003-2004 Regional Monitoring

- Agua Hedionda (ceriodaphnia)
- Chollas Creek (hyalella)
- Sweetwater River (selenastrum – complete TIE)
- Tijuana River – complete TIE or other options

Other Issues

- Dry weather linkage
 - Regional consistency in database
 - Detection limits
 - Loading to watershed?

Preliminary Recommendations for Regional Monitoring 2004-2005 Program

What are the water quality conditions?

When and under what conditions?

Are there temporal or spatial trends?

What is the relationship between pollutants?

What are the pollutant sources?

How will changes in pollutant loading result in
water quality improvements?

Watershed Water Quality Planning

Future Issues and Challenges

- **Dynamic political arena**
- **TMDL, Beneficial Uses, Basin Plan Amendments**
- **Potential watershed solutions**
 - Restoration Projects
 - BMPs and CIP
- **Funding mechanisms**
 - Utilities
 - Grants

Summary of Draft SB72 Draft Report- Model Stormwater Monitoring Program-

- Defines monitoring by 5 key management questions
- Defines monitoring by 3 types of monitoring
- Closely aligned with SD County current monitoring
- The framework is intended to provide a common framework for monitoring designs
- Laboratory intercalibration study

SMC Management Questions

1. Are conditions protective?
2. What is extent/magnitude?
3. What is urban runoff contribution?
4. What are the sources of urban contribution?
5. Are conditions getting better or worse?

Q1- Are Conditions Protective

- Core monitoring
 - Long-term loads (wet and dry)
 - Ecosystem assessment (dry)

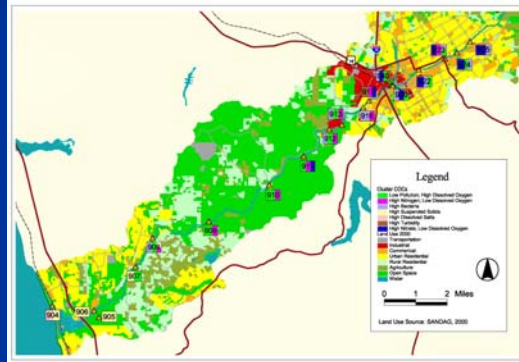
Q2- What is extent/magnitude?

Regional Monitoring

- One-time or periodic larger-scale assessment

Special Projects

- One-time or periodic larger-scale assessment



Q3- What is urban runoff contribution?

■ Regional Monitoring

- One-time characterization/assessment



Q4 – What are sources of urban contribution?

- Special projects
 - One-time characterization, assessment
 - Site specific, one-time or periodic source ID studies (dry)

Q5- Are conditions getting better or worse?

- Long-term monitoring (wet and dry)

Statistical Assessment

- Power analysis for study design, trend assessment

