SMR Nutrient Initiative Group
Investigative Order Workplan

April 24, 2019

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Riverside County Flood Control and Water Conservation District
Regulatory and Policy

- Estuary Now on the (SWRCB)4b list
  - Addressed by actions other than a TMDL
- Regional Board Staff Report
  - Reviews regulatory requirements
  - Evaluates data reports
  - Provides load calculations and allocations
  - Establishes estuary WQ targets
  - Monitoring recommendations
- Investigative Order
  - Monitoring requirements
  - Reporting requirements
Purpose

...to assess the condition of the Estuary and to evaluate the linkage between nutrient loading trends resulting from implementation actions by...(the MS4 Permittees)

Estimated Costs originally ≥$500K / year

Efforts made to reduce monitoring and cost

Requires a Monitoring and Assessment Workplan

Monitoring and Assessment Workplan Questions

Monitoring Requirements

Estuary

SMR (River and Watershed)

Workplan Submittals
Tentative IO R9-2019-0007

- Compliance Dates
  - Workplan due within 6 months
    - Submit to SD Water Board
  - Begin Monitoring with 60 days of Workplan approval
    - Was a 10-year duration (now 5-year?)
  - Annual Reports required starting January 31, 2020
    - Monitoring and Assessment Workplan Questions

- TAC review of Workplan
Monitoring and Assessment Workplan Questions

- Is watershed mass loading of total nitrogen and total phosphorous to the River and Estuary reduced to levels that do not exceed the calculated assimilative capacity of the Estuary?

- Do monitoring results confirm the assumption that the implementation and enforcement of existing NPDES permits and WDRs is sufficient to bring about the necessary nutrient load reductions to restore the Estuary in accordance with the schedule...?

- Are the Estuary numeric targets in Finding 16 and the Draft Staff Report for macroalgal biomass, dissolved oxygen, and Benthic Community Condition being achieved and sustained?

- If not, what are the primary stressors causing unsatisfactory conditions?
## Monitoring Requirements

<table>
<thead>
<tr>
<th>Program Element</th>
<th>Parameter</th>
<th>Duration/ Time Frame</th>
<th>Depth</th>
<th>Sites</th>
<th>Frequency</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resurfacing Groundwater Monitoring</strong></td>
<td>Discharge rates, and TN and TP Loading Into Estuary</td>
<td>As needed</td>
<td>N/A</td>
<td>Former Stuart Mesa Agricultural Fields &amp; Santa Margarita Valley Basin</td>
<td>As needed</td>
<td>Applicable Standard Methods as selected by Camp Pendleton</td>
</tr>
<tr>
<td><strong>Estuary Monitoring</strong></td>
<td>Dissolved Oxygen (mg/l and percent saturation), temperature, pH, Salinity/conductivity, and water depth.</td>
<td>April – October Periodic sampling from November – March (TBD)</td>
<td>Near surface ~ 0.5 meters</td>
<td>2 sites: 1-5 bridge and Stuart Mesa bridge</td>
<td>Continuous monitoring at 15 min. intervals</td>
<td>Data sonde with optical sensor</td>
</tr>
<tr>
<td>Estuary Macroalgal Biomass; surface water TN and TP concentrations. Chlorophyll a to be sampled once/quarter for first year.</td>
<td>April – October</td>
<td>Intertidal and or subtidal within the three regions of Estuary - below 1-5 bridge, above Stuart Mesa bridge until vegetation changes, and between the two bridges.</td>
<td>Macroalgal biomass samples harvested representatively from each of three regions. Sampling method TBD.</td>
<td>Monthly or Bi-monthly (TBD) Chlorophyll a once/quarter first year; additional sampling if needed (TBD)³</td>
<td>Applicable Standard Operating Procedure for Macroalgal Biomass Collection in Estuary</td>
<td></td>
</tr>
<tr>
<td><strong>Estuary Monitoring (Cont.)</strong></td>
<td>Estuary Benthic Community Condition, Sediment %OC, sediment %N and %P, and sediment grain size.</td>
<td>Index Period</td>
<td>At depths that align with the Macroalgal sampling (so that relationships between Benthic Community Condition and other parameters are logically inferred).</td>
<td>Three randomly distributed sites for each of three regions in estuary.</td>
<td>Once per Year for 5 years</td>
<td>Standard methods (Sediment Quality Assessment Technical Support Manual, SCCWRP Tech Report 582, 2009). Additional accepted methods that may be developed.</td>
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</tbody>
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1. Evaluate the use of depth, berm height, or other data as indicators of the condition at the mouth of the estuary (end member condition = fully open or fully closed).
2. Water quality parameters will be measured from November – April at intervals as determined during development of the Work Plan.
3. Sampling frequency will be evaluated following completion of one year of sampling; frequencies for subsequent years will be determined in coordination with the SMRNIG TAC and SAG.
4. Macroalgal sampling protocol will be developed by Camp Pendleton in coordination with the Regional Board and the SMRNIG TAC as part of the Work Plan.
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<td>Santa Margarita River Monitoring</td>
<td>Flow, ambient TN and TP concentrations; temperature, conductivity, dissolved oxygen, pH.</td>
<td>Annually</td>
<td>N/A</td>
<td>A minimum of one Mass Loading site for San Diego County, Riverside County, and USMC Base Camp Pendleton.</td>
<td>Monthly April to October Plus December and February</td>
<td>Applicable SWAMP and other Standard Methods</td>
</tr>
</tbody>
</table>
Workplan Development

- **Schedule**
  - Workplan due within 6 months
    - Does this mean November 2019?
    - If IO Issued in May (do we have expected date?)
  - Begin Monitoring with 60 days of Workplan approval
  - Time for Regional Board review/approval?
  - When will we need to start?
  - Annual Reports required starting January 31, 2020
  - We also have a requirement to update the WQIP by September 6, 2019.
    - Just over 4 months from now
  - TAC review of Workplan
Workplan Development

- Coordination and funding
  - Riverside MS4 Program
  - County of San Diego
  - Camp Pendleton

- Sites

- Cost sharing
  - Workplan development
  - Monitoring tasks
  - Reporting

- Next Steps?
### Santa Margarita River Nutrient Initiative - Stakeholder Group

**NIG Meeting** - 2019/03/27

- **SAG Meeting** - 2019/01/23
  - SMR NIG Agenda January 23 2018.docx
  - SMRNIG-backgrd-1-23-19-1.pptx

- **SAG Meeting** - 2018/10/24
  - Draft-SMR NNE Meeting Minutes - October 24 2018.docx
  - Phase III Proposed Science Activities 10242018.pdf
  - SCCWRP Guidance on Science Product Review 10242018.pdf
  - SMR NIG Agenda October 24 2018.docx
  - SMRNIG -Intro.pptx

[http://rcflood.org/npdes/SMRWMA.aspx](http://rcflood.org/npdes/SMRWMA.aspx)
The Santa Maragrita Watershed Nutrient Initiative – Stakeholder Group, composed of a broad range of stakeholders with diverse interests, was formed to address nutrient issues in the Santa Maragrita River Watershed.

The Group currently is focused on the initial phase of this project, Phase 1, which targets the development of the methods that are used to prepare and implement a workplan to use a nutrient numeric endpoint (NNE) methodology to understand nutrient impacts to the SMR Lagoon.

This work is a follow-on effort to the San Diego Lagoons Investigative Order (R9-2006-0076) (Lagoon Order) and subsequent workplan developed jointly by the San Diego Regional Water Quality Control Board (RWQCB) and stakeholders in 2006 and is funded with Proposition 84 IRWM grant funds. Future phases, yet to be funded, will focus on collecting comparable data sets on nutrient loading and transport processes, developing the model(s) needed to establish NNE targets and bringing a common understanding of seasonal impact of nutrients on the beneficial uses.

Through a collaborative, inclusive, and regional process the Santa Maragrita Watershed Nutrient Initiative – Stakeholder Group hopes to set regulatory targets that are based on state of the science techniques to ensure the biological, chemical and physical integrity of the Santa Margarita River and its tributaries are protected.
Questions/Discussion