

Scope of Work: 5-Year Research Agenda Update

INTRODUCTION

Stormwater regulators and municipal stormwater management agencies throughout Southern California have realized a benefit in developing a collaborative working relationship. The goal of this relationship has been to further develop the technical information necessary to better understand stormwater mechanisms and impacts, and to develop the tools that will effectively and efficiently improve stormwater management decision-making. Among individuals and agency representatives, there was early recognition that stormwater program issues are oftentimes not localized, and typically cross watershed and jurisdictional boundaries. This relationship culminated in the formation of the Southern California Stormwater Monitoring Coalition (SMC) by a formal agreement, signed in 2000. The membership of the SMC includes all of the Phase I municipal stormwater NPDES lead permittees and the NPDES regulatory agencies in Southern California.

To help resources and efforts, the SMC has created research agendas which identify areas of study and potential investigations. These research agendas have roughly coincided with the start of the five-year agreements (2009 and 2014) which serve as the governing document for the SMC.

The two SMC research agendas to date have been developed by assembling a panel of outside experts in relevant water resource subject areas to provide a wide range of perspectives on the challenges faced by the stormwater sector. The expert panels included members representing engineering, chemistry, biology, toxicology, modeling, statistics, hydrology, and other disciplines. For both agendas, the panel of experts convened for a three-day workshop that included in-depth discussion on SMC management issues prior to synthesizing the outcomes into a research plan. The first agenda included 15 projects focused around the following three main themes: building a monitoring infrastructure, understanding mechanisms and processes, and assessing receiving water impacts. Ten of these fifteen projects in the five-year agenda were completed and nearly all have had an immediate beneficial impact on regional municipal stormwater agencies. Similarly, the second research agenda identified four subject areas with 21 specific research goals. Sixteen of the 21 goals were applied to the objectives of one or more special projects.

The goal of this project is to develop a third-round SMC five-year research agenda. This agenda will aim to address the future program, data management, and assessment needs of stormwater permittees while facilitating awareness and improvements to southern California's surface water resources. The new agenda's objectives will be to address data gaps that inhibit effective stormwater management and/or regulation by identifying, designing, and conducting specific special studies intended to yield solutions, in the form of recommended actions or guidance to improve stormwater management.

SCOPE OF WORK

This project will entail the development and prioritization of a research agenda with the assistance of water quality/resource management/regulatory experts. It is proposed that the SMC Administrative Officer and SMC support staff from the Southern California Coastal Water Research Project (SCCWRP) coordinate this project. The research agenda will be a list of proposed projects, designed by the water quality/resource management/regulatory experts, which will form the focus of research/monitoring efforts for the collaborating stormwater discharge and regulating agencies in Southern California.

The scope of work will involve four main tasks:

1. Assemble a panel of experts to design the research agenda. The panel of experts shall consist of a diverse group of technical specialists experienced in addressing or evaluating a variety of stormwater issues.
2. Conduct a workshop which convenes the expert panel. The workshop shall include a summary of SMC progress to date and shall also include summaries from other stormwater agencies interested in similar topics such as the California Stormwater Quality Association (CASQA), and Water Environment Federation (WEF) Storm Water Institute.
3. Create a draft document detailing the research agenda produced by the expert panel. The research agenda shall include a technical prioritization of scientific projects, the technical tasks necessary to address each research project, a proposed schedule for implementing these research tasks, and estimated costs for each research project. The draft report shall also be submitted to the SMC Steering Committee for review with an accompanying presentation during a quarterly meeting.
4. Creation of a final document incorporating comments from the written draft and oral reports.

Composition of the Expert Panel

The makeup of the expert panel will be designed by scientific study area to ensure an adequate representation of the wide breadth of issues that face stormwater managers. This will also help initiate discussion on multidisciplinary projects necessary to address complex issues. This diversity of viewpoints and opinions will help improve the product. The list of scientific disciplines may include:

- *Hydrologist/Civil Engineer*: Specialty in hydrological processes, specifically surface waters, flood control, sediment transport, structural and non-structural BMPs.
- *Water Quality Chemist*: Specialty in chemical measurements and analyses of surface water. Good knowledge of regulatory thresholds. Interested in addressing non-routine measurements or target analytes.

- *Public Health Specialist:* Strong background in public health risk assessment. Can identify the research needed to evaluate public health risk for water contact recreation, shellfish harvesting, or other beneficial uses.
- *Environmental Specialist:* Specialist in ecology and toxicology of receiving water environments such as rivers, creeks, wetlands, bays and/or oceans. Can evaluate the ecological risk assessment needs for stormwater inputs.
- *TMDL Specialist:* Someone who has background and experience in TMDL development. Cognizant of the regulatory requirements and practical necessities for conducting TMDLs.
- *Regulated Community Nominated Specialist / Environmental Advocacy Group Nominated Specialist:* Two individuals, one selected from each group, that have a strong technical background in stormwater science. Individuals must be capable of adding to the scientific and research goals of the panel.
- *Modeling Specialist:* Specialty in integrating environmental data into functional predictive models.
- *Information Specialist/Statistician Web Application Development /:* Someone with experience in data management, compilation, assessment, and interpretation and experience and expertise in developing and implementing web-based solutions, tools and applications supporting data-driven stormwater management utilizing a federated architecture.
- *Monitoring Specialist:* Someone with experience designing and implementing effective question-based monitoring programs for environmental managers.
- *Policy Specialist:* Someone well versed in stormwater policy, MS4 program implementation and program effectiveness. This person will provide a long-view of program needs.

Selection Process

This panel will be selected from among regional and/or statewide personnel. This localized panel is reflective of the growth of expertise and increased focus on regional issues in Southern California, whereas a nation-wide search was conducted to support previous research agenda development. The SMC Executive Committee feels that regional/state expertise is sufficient to cover the technical issues and that these members will have a better grasp of Southern California specific needs.

The selection of the individual for each discipline shall follow a three-step process.

- A list of three names for each of the proposed panel member categories will be generated and submitted to the SMC Steering Committee along with background information on each individual. Not all categories may be filled if a suitable candidate is not available.
- The SMC Steering Committee may recommend additional candidate panelists to the list as necessary.
- Each of the candidates will be ranked by expertise subject area and the rankings provided to the Steering Committee for an approval by majority vote.

DELIVERABLES

There will be five deliverables for this project which coincide with the four steps of the project.

- *List of approved panel members.* A list of approved panel members for invitation to the Research Agenda Workshop.
- *Review of the Impacts of former SMC Projects.* A summary of former projects undertaken by the SMC and their impacts to the programs of the SMC members and the broader stormwater community will be presented as an orientation to the expert panel and SMC members to help direct comments.
- *Research Agenda Workshop.* A three-day workshop shall be convened for the expert panel. The workshop shall be the primary mechanism to engage the panel members in designing the research program. Panel members may be asked for additional critical pieces of information following the workshop.
- *Draft Report.* A draft report summarizing the workshop findings and detailing the research agenda for the Steering Committee. The draft report shall include a list of research/monitoring projects, technical prioritization of these projects, a proposed schedule of implementation for each project, and estimated costs per project. Accompanying the draft report shall be a verbal presentation to the Steering Committee. The goal of the presentation is to gather consensus on which projects are of the greatest management need.
- *Final Report.* A final report 60 days after receiving comments from the Steering Committee. The Steering Committee will adopt the five-year research agenda.

TIMELINES

This project shall be completed in 18 months from project inception. The proposed timeline takes into consideration financial limitations with the approval of the new five-year agreement ratification moving most costs to FY 19/20:

Table 1. Proposed timeline

Task	2018			2019									2020					
	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December	January	February	March
Select panel members																		
Research Agenda Workshop																		
Draft Report																		
Final Report																		

Budget

PROJECT COSTS

This budget provides estimates for the tasks described in the Scope of Work. Total cost for this project is estimated at \$100,000 (Table 2).

Table 2. Anticipated costs.

Task	Cost
Selection of Panel Members	\$10,000
Research Agenda Workshop	\$60,000
Draft Report	\$20,000
Final Report	\$10,000
Total	\$100,000