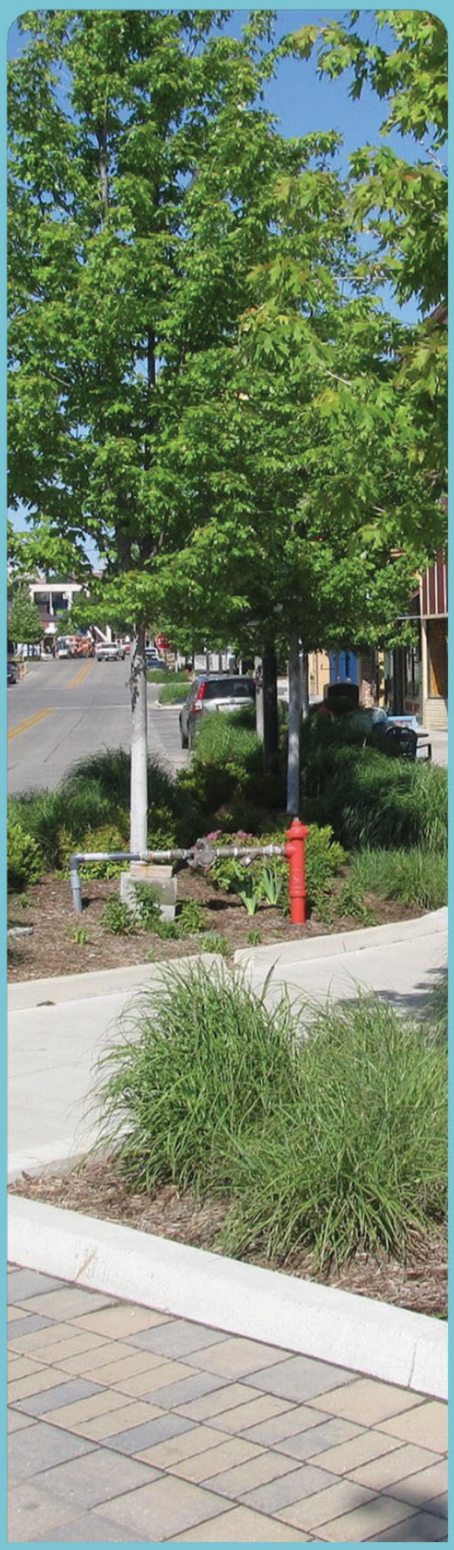
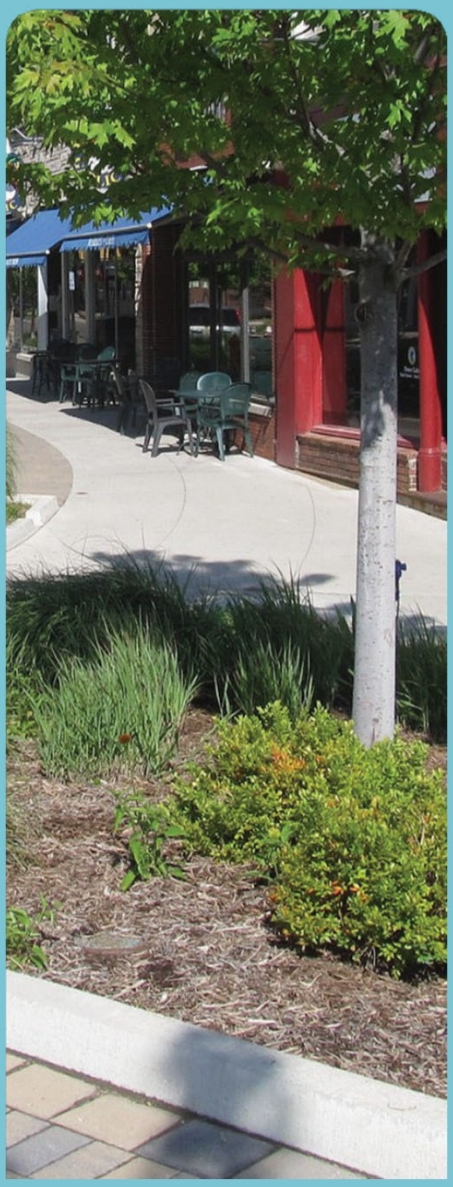


METRICS & MONITORING STUDY

SAFE, CLEAN WATER PROGRAM



RECOMMENDATIONS

MAY 2024

Public Works
LOS ANGELES COUNTY

SUBMITTED TO
COUNTY OF LOS ANGELES PUBLIC WORKS

Contents

Contents

SAFE, CLEAN WATER PROGRAM

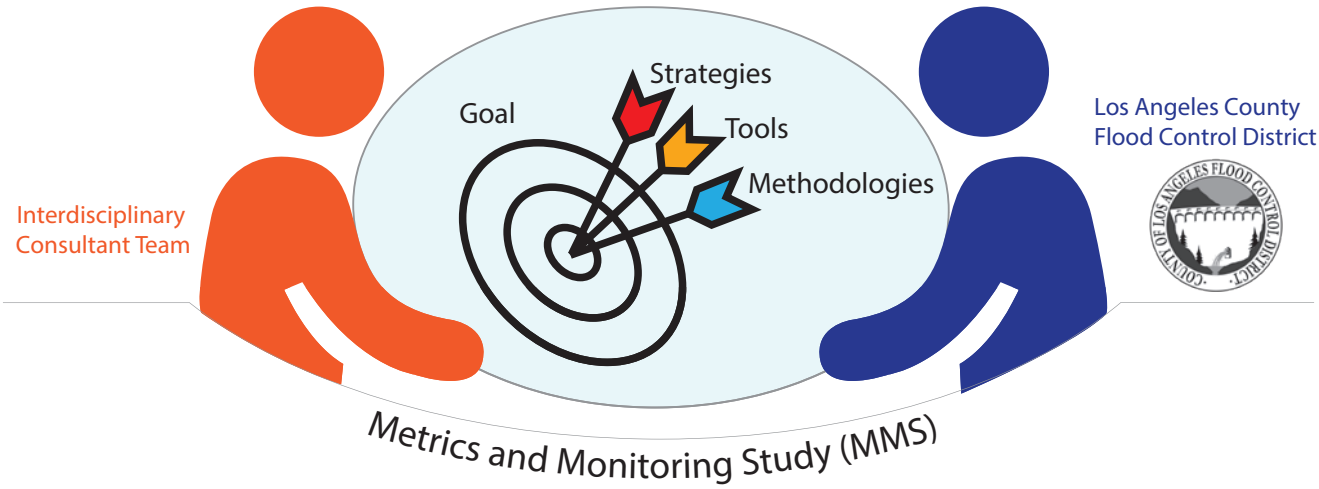
Introduction

The Safe, Clean Water Program (SCW Program) is a complex and nuanced program, and at many different levels of the program there is a need to establish additional strategies, tools, and methodologies to support decision-making in pursuit of program goals, to measure the success of efforts undertaken, and to inform the adaptive management process. To help address this need, the Metrics and Monitoring Study (MMS) was conducted by an interdisciplinary consultant team with expertise in both the technical and socio-political elements of metrics-setting (the MMS Team), in coordination with the Los Angeles County Flood Control District (District), and informed by extensive stakeholder involvement.

Study Goal

The goal of the MMS is to develop recommendations for program methods, metrics, and monitoring criteria to inform tracking, planning, reporting, and decision making within specific areas of the SCW Program.

Recommendations from the MMS will be considered by the District to help inform adaptive management of the SCW Program, potentially including future updates to guidance documents, scoring criteria, monitoring, and project development.



Purpose of this Document

The MMS involved multiple years of engagement and analyses to build a better understanding of Program needs and recommend metrics and methods to meet those needs.

This report:

1. Distills the overarching recommendations that emerged from the study for the District's consideration,
2. Provides supporting materials to implement those recommendations, and
3. Documents additional input and potential next steps that could not be addressed in the scope of the MMS

The recommendations herein, and the attached "how-to" manual, represent an extensive, valuable collection of technical resources and stakeholder input useful for adaptive management of the Program to better its Goals.

Results-Based Accountability (RBA):

Public Works is proceeding with the application of RBA to provide a disciplined, systematic focus on setting, evaluating, and communicating progress to the communities it serves.

RBA focuses on two levels of impact: population accountability and performance accountability.

Population Accountability speaks to the big-picture impact we want to see at a high level. This level of accountability is about framing our collaborative efforts (e.g., the efforts of multiple jurisdictions, sectors, and entities) in achieving an improved state for the populations we serve. Population Accountability is expressed as:

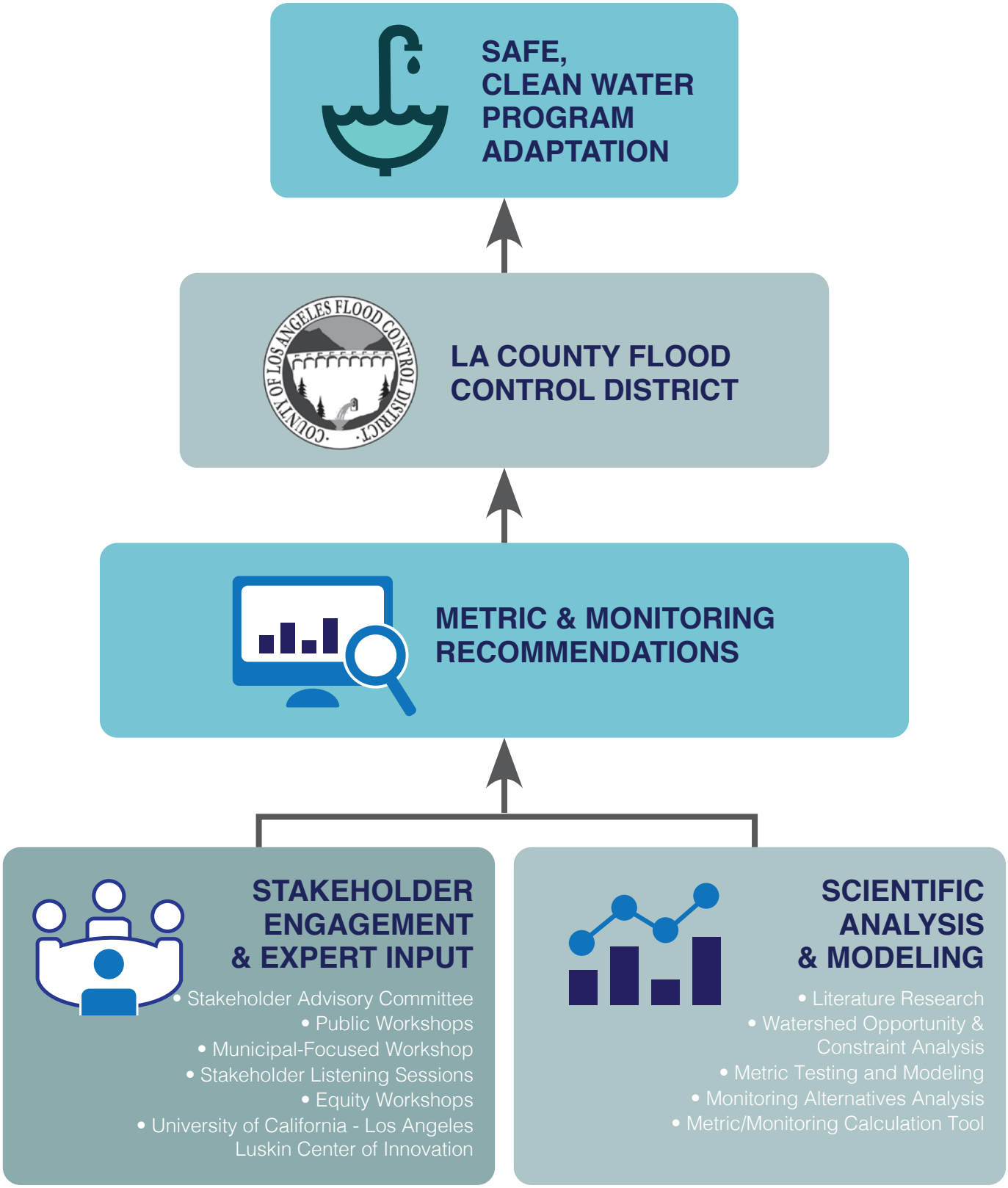
- **Population Outcomes –** These are our vision for how we want our collective efforts to improve the well-being of whole populations (e.g., communities, cities, regions, all residents).
- **Population Indicators –** The high-level measures which help quantify the achievement of these results.

Performance Accountability more specifically addresses the efforts that are being led by Public Works' Business Areas. These are the concrete actions we are leading to advance our strategic objectives and more directly impact the residents that we serve. Performance Accountability is expressed as:

- **Strategies –** The actions we are leading to advance toward our envisioned outcomes.
- **Performance Measures –** The quantifiable measures of how well our initiatives, programs, projects, and services are working for the client populations we serve.

While Performance Accountability addresses the key initiatives that are led by Public Works, Population Accountability emphasizes that real lasting change cannot be done by our Agency alone. By leveraging our strategic partnerships, we can advance collaborative efforts toward uplifting our communities and building a more resilient, sustainable, and equitable future for all residents of Los Angeles County. Public Works will report on its Performance Accountability metrics through its Business Plans and Quarterly Business Reports.

Within this document, the development of recommendations for metrics and monitoring methods and strategies for the Safe, Clean Water Program supports the RBA objectives. Specifically, the recommended metrics provide Performance Measures to help the Safe, Clean Water Program identify the Strategies to enhance the program's overall performance and help develop population indicators.


SAFE,
CLEAN WATER
PROGRAM
ADAPTATION
LA COUNTY FLOOD
CONTROL DISTRICT
METRIC & MONITORING
RECOMMENDATIONS
STAKEHOLDER
ENGAGEMENT
& EXPERT INPUT
• Stakeholder Advisory Committee
• Public Workshops
• Municipal-Focused Workshop
• Stakeholder Listening Sessions
• Equity Workshops
• University of California - Los Angeles
Luskin Center of Innovation
SCIENTIFIC
ANALYSIS
& MODELING
• Literature Research
• Watershed Opportunity &
Constraint Analysis
• Metric Testing and Modeling
• Monitoring Alternatives Analysis
• Metric/Monitoring Calculation Tool

BACKGROUND & METHODS

To develop meaningful metrics and methods for consideration across all Watershed Areas and Programs (i.e., Municipal, Regional, and District), the MMS implemented a stakeholder-informed and expert-guide technical approach, including public and targeted engagement, scientific research, watershed screening, modeling, and analysis. Although the MMS engaged stakeholders about every Program Goal, some Goals warranted significant discussion with interested parties, others required analysis to validate alternative metrics, and some could be synthesized using existing data or are programmatically enforced by the SCW Program ordinance and guidance. To address these varying levels of focus, the *MMS Workplan*[1] laid out a tiered strategy to articulate metrics and monitoring recommendations for each SCW Program Goal, as shown in **Figure 1** and discussed below.

Figure 1. Paraphrased SCW Program Goals and MMS Strategy for Each

[1] Documents referenced herein with italicized titles were developed through the MMS

Engage

Program Goals addressed at the "Engage" level were extensively workshopped with the District and stakeholders to articulate public sentiments and expert opinions, as documented in *SCW Program Stakeholder Interview Summaries, Equity Workshop Summaries, Public Workshop Summaries,* and in the *Equity in Stormwater Investments* white paper.

A Stakeholder Advisory Committee was also engaged throughout the study to review and inform development of program-level and project-level metrics for all goals, and *Stakeholder Advisory Committee Meeting Summaries* were documented. A summary of MMS engagement activities is shown in **Figure 2**.

Figure 2. Summary of MMS Engagement Activities

As part of the MMS, feedback from equity- and community-focused engagement were synthesized in the District-commissioned white paper titled *Equity in Stormwater Investments: Measuring Community Engagement and Disadvantaged Community Benefits for Equitable Impact in the Safe Clean Water Program,* authored by the University of California – Los Angeles Luskin Center for Innovation and Stantec. The question of how to measure "Disadvantaged Community Benefit" is at the heart of this report, as is the question of how to strengthen equity outcomes by refining the definition of a "disadvantaged community." It also examines other aspects of the SCW Program necessary for achieving the required Disadvantaged Community Benefits and equitable implementation of the SCW Program more broadly. Because community engagement and education are essential keys to equitable outcomes, these topics are also featured in the report. Several recommendations of the paper were used to inform MMS outcomes; the white paper is included at **Appendix A** and can be accessed at the link below:

innovation.luskin.ucla.edu/wp-content/uploads/2022/08/Equity-in-Stormwater-Investments.pdf

Analyze

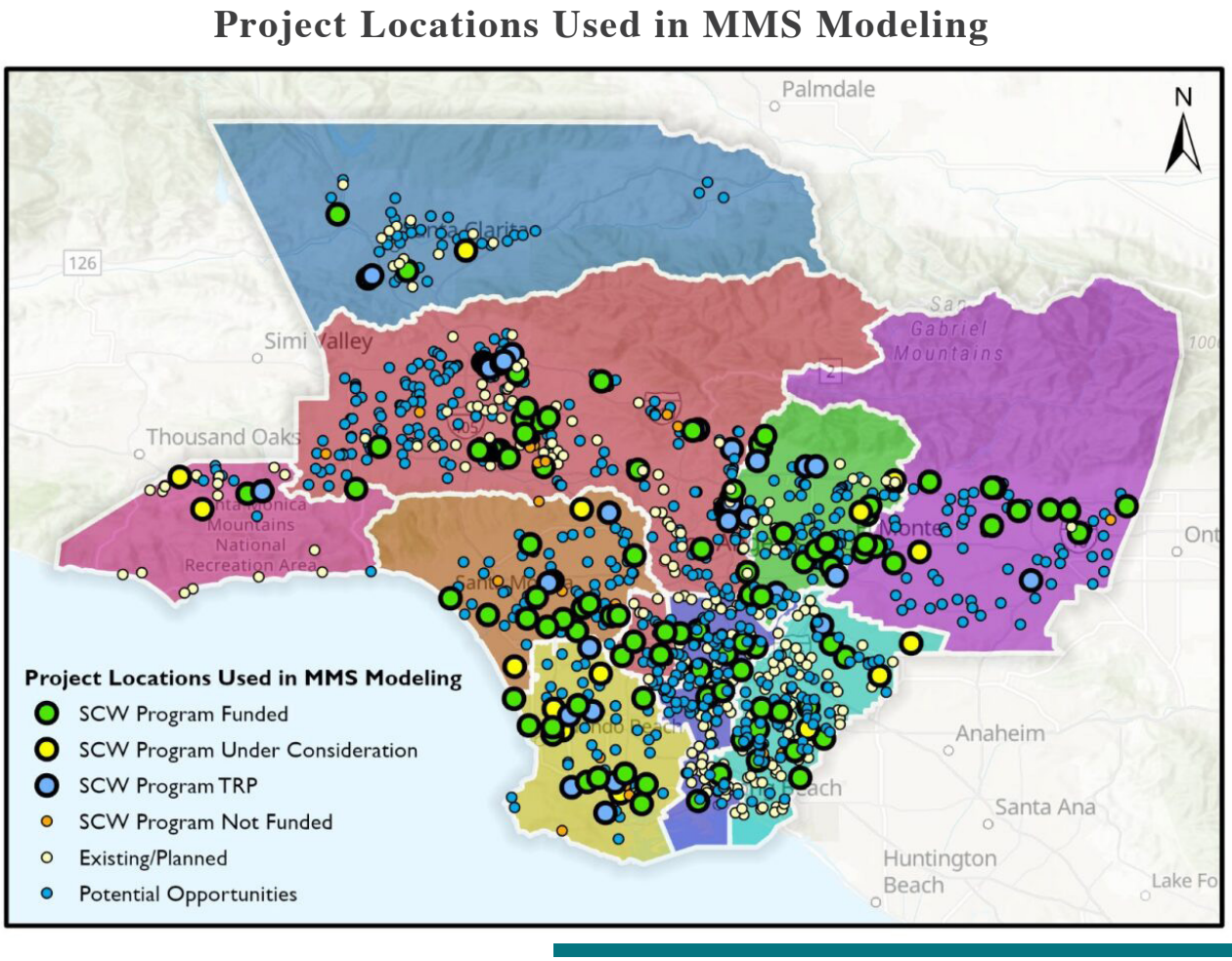
Once an initial list of metrics was developed with stakeholder input, then working models of each Watershed Area were developed using the District's existing Watershed Management Modeling System (WMMS 2.0, which serves as the foundation for the SCW Program Regional Project Application Module). These modelsprovided a virtual "sandbox" to simulate known and hypothetical project opportunities, test potential metrics, and estimate project- and program-level benefits. The models focused primarily on water supply and water quality opportunities, but spatial datasets included in the models also enabled initial exploration of hypothetical scenarios and frameworks to inform recommendations requiring engagement and synthesis, including Community Investment Benefits, Municipal Benefits, and Disadvantaged Community Benefits.

To build out spatial project datasets, existing and planned projects were compiled from funded or considered Regional Program[2] applications and from regional plans such as Watershed Management Programs (WMPs). Automated geoprocessing tools were then used to assess additional hypothetical water quality and water supply solutions throughout each Watershed Area to inform metric research and support decision-making by project developers and SCW Program committees (**Figure 3**). These hypothetical solutions provided a more robust regional project dataset to test initial metrics in each Watershed Area at scale, and also help to identify geographic areas of each watershed area where there may be high-impact project opportunities, as well as areas where significant implementation constraints/gaps exist. Results of the watershed area model development and opportunity assessment are documented in *Watershed Area Initial Data Inventory* (**Appendix B**), and the initial library of opportunities used for analysis is shown in **Figure 3.**

Once fully articulated models were established, the suite of funded and hypothetical projects were analyzed to develop reproducible methods for computing select metrics while accounting for the dynamics of upstream/downstream project opportunities. Select community investment metrics were also tested using the spatial datasets to demonstrate how future, locally voiced community needs could be accommodated into project and program assessment. Note that not all metrics could be meaningfully tested due to lack of available project data. Analytical methods and results are documented in **Appendix C**.

[2] The Municipal Program has also funded numerous projects and programs to date; however, the data necessary to include those projects in the modeling platform was not readily available at the time of the MMS analysis. So, while the MMS analysis primarily focused on Regional Program projects to test alternative metrics, the MMS models can incorporate Municipal Program projects in the future to provide a holistic simulation of the SCW Program.

Figure 3. Initial spatial library of project opportunities



Legend Description:

- ***SCW Program - Funded:*** Projects funded through the Regional Infrastructure Projects Program
- ***SCW Program - Under Consideration:*** Projects that were under consideration for funding during the MMS Project timeline (FY'22-FY'23)
- ***SCW Program - TRP:*** Projects evaluated in the Technical Resources track of the SCW Program
- ***SCW Program - Not Funded:*** Projects previously considered but not receiving funding through the Program
- ***Existing/Planned:*** Projects identified in other planning efforts (e.g., Watershed Management Programs) and easily incorporated into the MMS initial project library; NOTE: These are not considered exhaustive of all regional planning efforts but represent project opportunities from major watershed plans with sufficient data to be included
- ***Potential Opportunities:*** Hypothetical opportunities not part of the SCW Program or other planned efforts included in the assessment were identified to enable future planning-level understanding of full watershed buildout. These project opportunities were developed using rapid geospatial analysis and were incorporated into the MMS models to distribute hypothetical future planning scenarios across the Watershed Areas with draingage area coverage over the more highly developed areas of each Watershed Area.

Synthesize

The outcomes from engagement and analysis were synthesized to evaluate how the proposed metrics can be computed at the project level and rolled up to the SCW Program level, how they can be computed in a consistent way, and what insights they provide beyond information currently collected by the Program.

Additionally, many Program Goals are enforced by the structure of the Program and the SCW Program Implementation Ordinance. These goals typically apply at a programmatic scale, but have not necessarily been summarized and reported to confirm that the Program goals are being met across all Watershed Areas. The MMS synthesized available data to recommend metrics and monitoring strategies to track these goals and inform potential Program adaptations to remain compliant with the Ordinance and Program Goals.

For each Program Goal, "metric profiles" were developed that describe primary and secondary research questions, project metrics that inform those questions, data needs to calculate the metrics, and data gathering approaches to obtain the data (see **Appendix D**). Data gathering approaches were divided into three separate project and program stages:

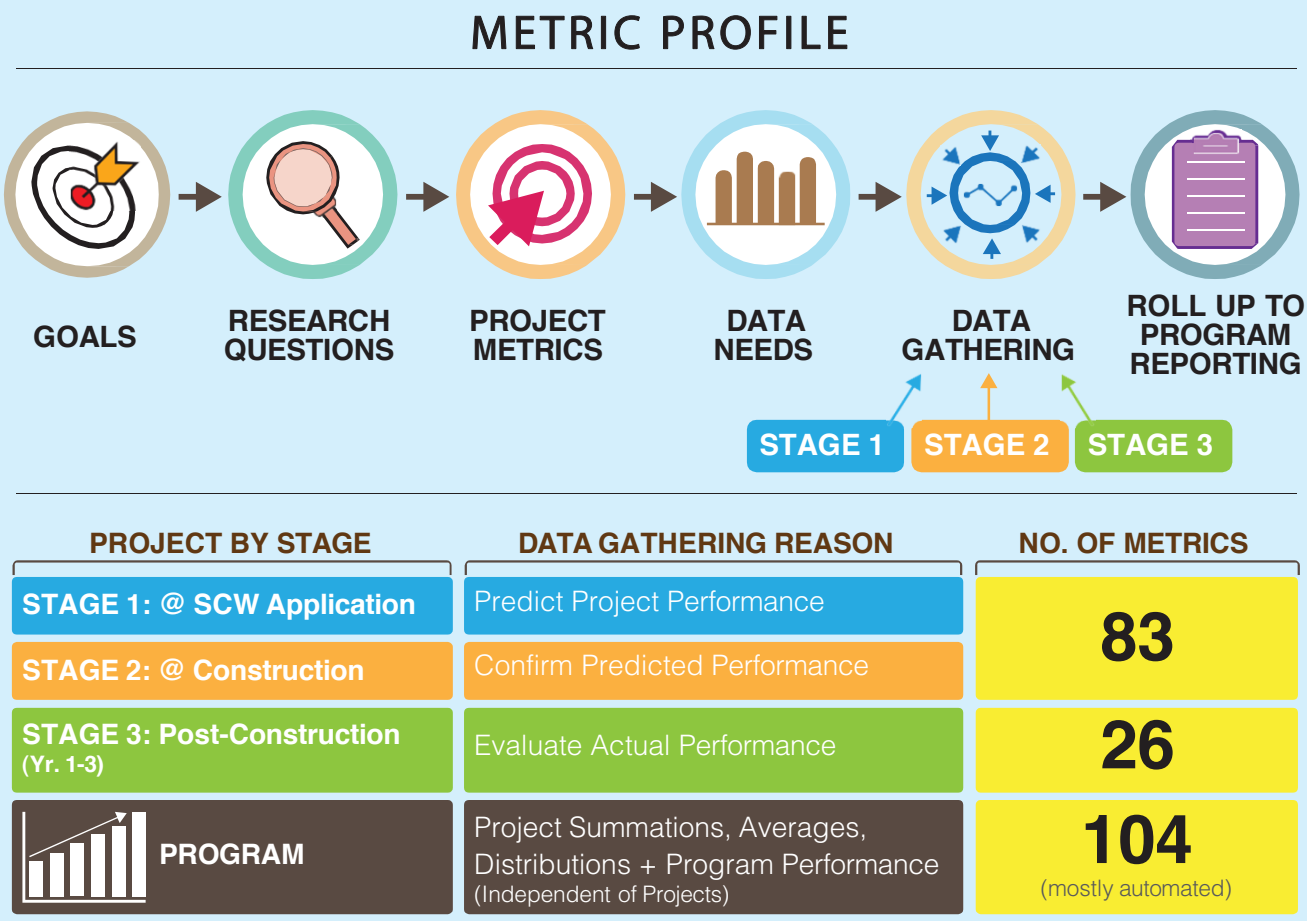
Stage 1 — Planning through Submittal : During Regional Program Application or Municipal/ District planning, project proponents provide data to predict the performance against all metrics for a planned project. Information is also collected for planned non-structural activities.

Stage 2 — Design through Construction: Once projects are constructed or programs are initiated, the Stage 1 data is replaced, as appropriate, with updates that reflect what is actually designed and implemented.

Stage 3- Post-Construction: Monitoring occurs for a subset of metrics to determine actual performance. Some of these Stage 3 metrics are only relevant at this stage and are not intended to replace the Stage 1 and 2 data.

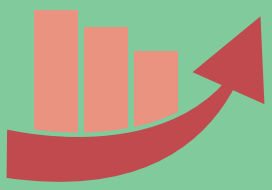
The metric profiles also include a Program-level assessment wherein the overall performance of projects are reported at the Watershed Area and Countywide scales. As indicated in **Figure 4**, this assessment resulted in 83 metrics applicable at Stage 1 and 2, 26 at Stage 3, and 104 applicable at the Program level – many of which can be automatically calculated based on the project specific metrics.

Figure 4. Developing Metric Profiles and Final Metric Counts



Recommendations

Using the engagement and the scientific research and analysis discussed in the previous section, the MMS Team synthesized three top-line recommendations for the Flood Control District to consider when adapting the SCW Program. Note that these recommendations are just one source of input for consideration when adapting the program, and that the MMS was very focused specifically on building out metrics and monitoring strategies around each Program Goal.

1. 

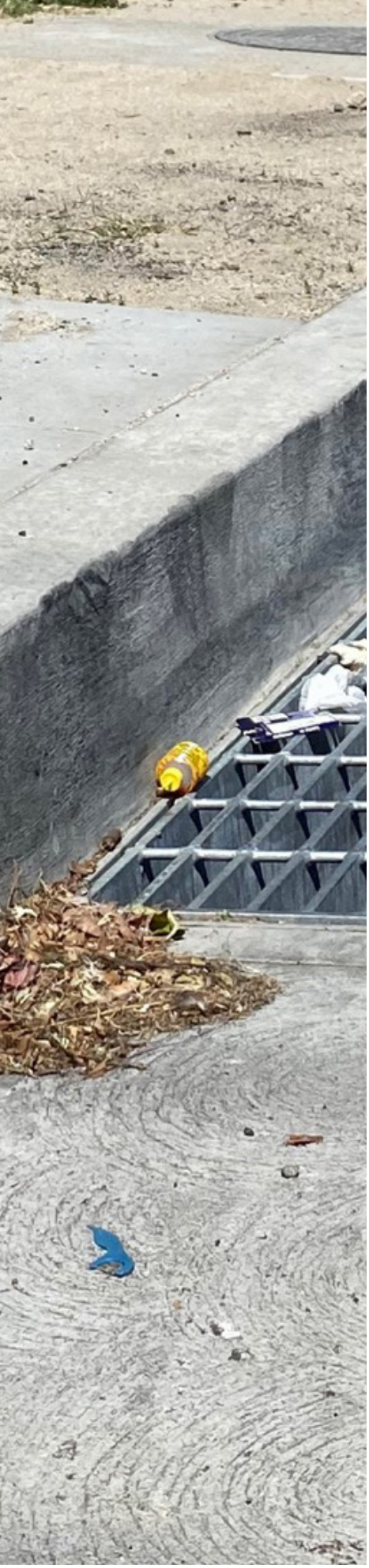
Apply new metrics to improve reporting, inform decision-making, and maximize benefits

2. 

Adaptively manage scoring and Program guidance to strengthen achievement of SCW Program Goals

3. 

Strengthen planning and collaboration with new data and tools



Recommendation 1.

Apply new metrics to improve reporting, inform decision-making, and maximize benefits

The first set of recommendations addresses needs and opportunities to better plan for, track, and optimize Program Goals by establishing meaningful, measurable metrics.

RECOMMENDATION 1A

INCORPORATE MMS-GENERATED METRICS TO STANDARDIZE EVALUATION OF GOALS ACROSS THE SCW PROGRAM

THE NEED The SCW Program currently collects numerous metrics via the Municipal and Regional Program reporting requirements, Municipal Program Annual Plans, and Regional Program applications; however, there are inconsistencies between programs regarding which data were collected, and progress towards some Goals were not being characterized. Interested parties expressed the need to enhance the SCW Program and fill in data gaps by establishing quantitative metrics.

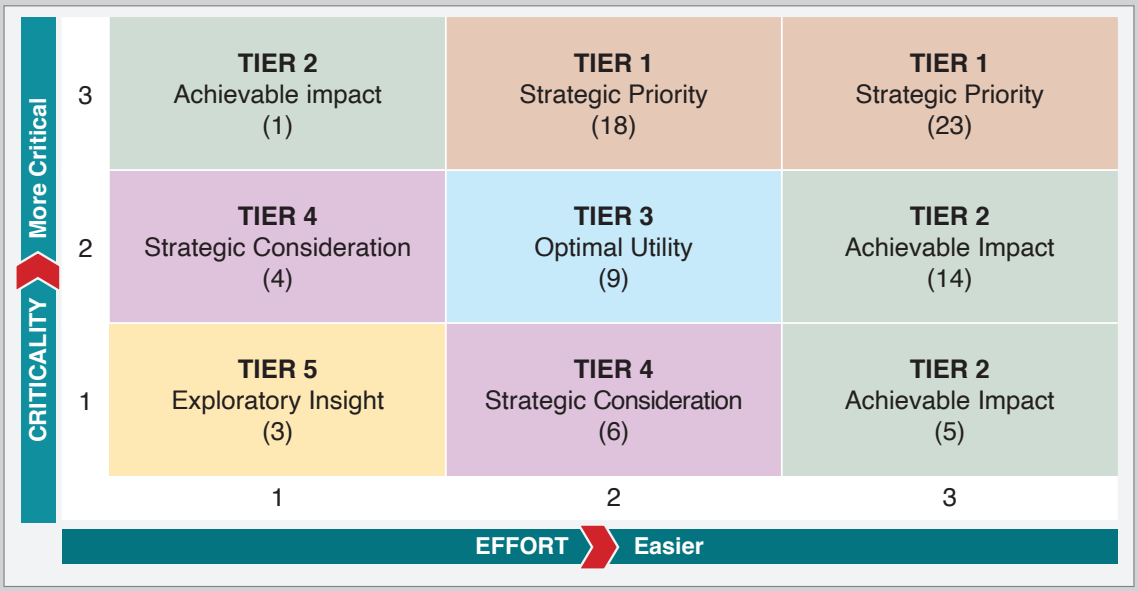
THE APPROACH To address this need, the MMS conducted research, analysis, and stakeholder engagement to develop a robust list of metrics that provide meaningful insights about each SCW Goal. As described in "Background and Methods" section above, the metrics were analyzed and reviewed by the MMS Stakeholder Advisory Committee. Next, an alternatives analysis was conducted to categorize the level of effort to measure/collect data associated with each metric, and how critical each metric is to understanding the Program Goals based on MMS team discretion. **Figure 4** provides an example of the criticality and effort categorization for the 83 metrics relevant to project/program data collection Stages 1 (planning through application) and 2 (design through construction). For these stages, most metrics and associated data land towards the easier and more critical ends of the spectrum, indicating that a significant amount of important information can be gained with relatively little effort. This is not the case for project Stage 3, post-construction, where metrics describing actual performance may be more difficult to obtain (i.e., requiring field monitoring instead of desktop computations). The full list of metrics, prioritized by criticality and effort and for all stages of projects and non-structural activities as well as at the SCW Program level, is provided in **Appendix D**.

THE RECOMMENDATION The MMS Team recommends that the District review the included prioritized list of metrics that can standardize evaluation of progress towards achieving Goals, and decide which are most critical for incorporation across the Program. While the MMS Team recognizes that not all of the metrics can be immediately adopted, the alternatives analysis provides resources to help select which metrics might provide the most additional, near-term insight about the SCW Program. Understanding the need to streamline SCW Program processes while minimizing the additional complexity and burden of collecting new data (especially in light of the LA County Board of Supervisors Motion to accelerate SCW Program implementation[3]), the MMS Team acknowledges that the District may adopt new metrics in phases; therefore, the MMS Team recommends that the District consider adopting a subset of high priority metrics from the list in **Table 1** on the following page.

Many of the metrics can also be evaluated from a cost effectiveness perspective. To compare projects funded in different years, the MMS recommends developing construction cost escalation adjusted total project cost and annualized project cost metrics, accounting for all project stages, and using a base year of 2018. The metric profiles in **Appendix D** indicate which metrics are most suitable for cost effectiveness evaluation using this approach.

See Appendix D - Metric and Monitoring Strategies

Figure 5. Results of Prioritizing Metrics by Criticality and Effort (Stages 1 and 2)



[3] Board-Motion-of-July-25-2023-Agenda-Item-23-Report-Back-1.pdf (safecleanwaterla.org)

Table 1.

List of Prioritized Metrics, by Program Goal (for Pre-Construction Project Stages 1 & 2)

Goal	Metric/Data Category	Project Metric Summary: ID. Metric	Metric Tier	Criticality	Effort	Existing	Prelim. Imp. Priority
A. WATER QUALITY							
	Primary pollutants	A.1. Limiting pollutant annual load removed	Tier 1: Strategic Priority	3	2	Y	YES
	Progress: WQ obj.	A.2. Progress towards water quality objectives	Tier 2: Achievable Impact	2	3	N	YES
	Other TMDL pollutants	A.3. TMDL pollutants annual load removed	Tier 3: Optimal Utility	2	2	N	
	Heavy Metals	A.5. Zinc annual load removed	Tier 3: Optimal Utility	2	2	N	
	Pollutants of interest	A.4. Pollutants of interest, load removed	Tier 5: Exploratory Insight	1	1	N	
B. WATER SUPPLY							
	Fate of stormwater	B.1. Annual volume managed - parsed by fate	Tier 1: Strategic Priority	3	2	N	YES
	BMP capture	B.4. Average annual BMP capture - not parsed	Tier 2: Achievable Impact	2	3	Y	YES
	Progress: WS obj.	B.2. Progress towards water supply objectives	Tier 3: Optimal Utility	2	2	N	YES
C. COMMUNITY INVESTMENT BENEFITS							
	Access to waterways	C.8. Public access to waterway provided	Tier 1: Strategic Priority	3	3	N	YES
	Greening of schools	C.13. Net change green space school grounds	Tier 1: Strategic Priority	3	3	N	YES
	Reducing urban heat	C.20. Net new area of cooling and shading surfaces	Tier 1: Strategic Priority	3	3	N	YES
	Flood management	C.1. Does project mitigate flooding issue	Tier 1: Strategic Priority	3	2	N	YES
	Create parks or habitat	C.5. Net area of park create, enhance, restore	Tier 1: Strategic Priority	3	2	N	YES
	Create parks or habitat	C.26. Net new habitat create, enhance, restore protect	Tier 1: Strategic Priority	3	2	N	YES
	Tree canopy	C.11. Net change in canopy at maturity	Tier 1: Strategic Priority	3	2	N	YES
	Greening of schools	C.14. Net change canopy at maturity/schools	Tier 1: Strategic Priority	3	2	N	YES
	Accessible space and rec. opps.	C.30. Area of accessible park or green space	Tier 1: Strategic Priority	3	2	N	YES
	Accessible space and rec. opps.	C.15. Type, #, enhanced or new rec. opps	Tier 1: Strategic Priority	3	2	N	YES
	Responsiveness to stated needs	C.24. Letters of support from community and tribes	Tier 1: Strategic Priority	3	2	N	YES
	Flood management	C.2. Type of flooding issue mitigated	Tier 2: Achievable Impact	2	3	N	YES
	Create parks or habitat	C.27. Net new green space created	Tier 2: Achievable Impact	2	3	N	YES
	Create parks or habitat	C.7. Location within PNA "Parks Priority Area"	Tier 2: Achievable Impact	2	3	N	YES
	Tree canopy	C.12. Location in areas of canopy need.	Tier 2: Achievable Impact	2	3	N	YES
	Greening of schools	C.28. Net change green space, ¼ mile schools	Tier 2: Achievable Impact	2	3	N	YES

Table 1.

List of Prioritized Metrics, by Program Goal (for Pre-Construction Project Stages 1 & 2)

Goal	Metric/Data Category	Project Metric Summary: ID. Metric	Metric Tier	Criticality	Effort	Existing	Prelim. Imp. Priority
C. COMMUNITY INVESTMENT BENEFITS							
Accessible space and rec. opps.		C.18. Location in PNA Recreational "Priority Areas"	Tier 2: Achievable Impact	2	3	N	YES
Reducing urban heat		C.21. Location within high priority urban heat areas	Tier 2: Achievable Impact	2	3	N	YES
Flood management		C.3. Flood mitigation approach	Tier 2: Achievable Impact	1	3	N	
Create parks or habitat		C.6. Wildlife protection features	Tier 2: Achievable Impact	1	3	N	
Accessible space and rec. opps.		C.16. People within "benefit tributary" (1/4,1/2, 2 mile)	Tier 2: Achievable Impact	1	3	N	
Reducing urban heat		C.31. Net change in hardscape	Tier 2: Achievable Impact	1	3	N	
Responsiveness to stated needs		C.22. Community and tribe stated needs delivered	Tier 2: Achievable Impact	3	1	N	
Greening of schools		C.29. Net change canopy at maturity 1/4 mile schools	Tier 3: Optimal Utility	2	2	N	
Reducing urban heat		C.19. # and net area of man-made shade structures	Tier 3: Optimal Utility	2	2	N	
Responsiveness to stated needs		C.23. Type and # of participants engaged in community & tribe strength and needs process	Tier 3: Optimal Utility	2	2		
Access to waterways		C.9. Location in area of water-way access need	Tier 4: Strategic Consideration	2	1	N	
Tree canopy		C.32. Net change canopy: post construction	Tier 4: Strategic Consideration	2	1	N	
Greening of schools		C.34. Net change canopy post construction - schools	Tier 4: Strategic Consideration	2	1	N	
Greening of schools		C.35. Net change canopy post construction 1/4 mile schools	Tier 4: Strategic Consideration	2	1	N	
Create parks or habitat		C.36. Detail type of habitat created	Tier 4: Strategic Consideration	1	2	N	
Flood management		C.4. Mitigation Ratio: All options	Tier 5: Exploratory Insight	1	1	N	
Responsiveness to stated needs		C.25. Will project meet needs of community/ tribe - design stage opinion survey	Tier 5: Exploratory Insight	1	1	N	
D. LEVERAGE OTHER FUNDING							
Leveraged funding		D.1. Cost leveraged - parsed by project stage	Tier 1: Strategic Priority	3	3	Y	YES
E. MULT. BENEFITS							
Mult. Benefits		E.1. Number WQ, WS, and CI Benefits	Tier 1: Strategic Priority	3	3	N	YES
F. NATURE BASED SOLUTIONS							
NBS.1: Veg & gr space		F.2. NBS.1. Achievement Units	Tier 1: Strategic Priority	3	3	N	
NBS.2: Incr. permeability		F.4. NBS.2. Achievement Units	Tier 1: Strategic Priority	3	3	N	
NBS.6: Enhance soils		F.9. NBS.6. Achievement Units	Tier 1: Strategic Priority	3	3	N	
NBS Summary		F.1. NBS Level of Achievement	Tier 1: Strategic Priority	3	2	N	

Table 1.

List of Prioritized Metrics, by Program Goal (for Pre-Construction Project Stages 1 & 2)

Goal	Metric/Data Category	Project Metric Summary: ID. Metric	Metric Tier	Criticality	Effort	Existing	Prelim. Imp. Priority
F. NATURE BASED SOLUTIONS							
	NBS.3: Mountains and floodplains	F.6. NBS.3. Achievement Units	Tier 1: Strategic Priority	3	2	N	
	NBS.4: Habitats and wetlands	F.7. NBS.4. Achievement Units	Tier 1: Strategic Priority	3	2	N	
	NBS.5: New landscape elements	F.8. NBS.5. Achievement Units	Tier 1: Strategic Priority	3	2	N	
	NBS.2: Increase permeability	F.11. Net change in permeable surface	Tier 2: Achievable Impact	1	3	Y	YES
	NBS.2: Increase permeability	F.10. Other elements improving permeability	Tier 4: Strategic Consideration	1	2	N	
	NBS.1: Veg & gr space	F.3. % cover, groundcover + canopy	Tier 4: Strategic Consideration	1	2	N	
G. PROJECT SIZES							
	G. Spectrum project sizes	G.2 Project catchment area	Tier 1: Strategic Priority	3	3	Y	YES
	G. Spectrum project sizes	G.4. Project construction cost	Tier 1: Strategic Priority	3	3	Y	YES
	G. Spectrum project sizes	G.1. Project footprint	Tier 2: Achievable Impact	2	3	N	YES
	G. Spectrum project sizes	G.3. BMP footprint	Tier 2: Achievable Impact	2	3	N	
H. ENCOURAGE ADOPTION OF IN NEW TECHNOLOGY AND PRACTICES							
	H. New technologies	H.1 New technologies or practices utilized	Tier 1: Strategic Priority	3	2	N	YES
	H. New technologies	H.2. Budget allocated to new technologies or practices	Tier 1: Strategic Priority	3	2	N	
	H. New technologies	H.3 SCW Goals addressed by new tech or practices	Tier 3: Optimal Utility	2	2	N	
I. INVEST IN INDEPENDENT SCIENTIFIC RESEARCH							
	I. Scientific research	I.1 Types of independent scientific research	Tier 1: Strategic Priority	3	3	N	
	I. Scientific research	I.2.Budget allocated to scientific research	Tier 1: Strategic Priority	3	3	Y	YES
	I. Scientific research	I.3 SCW Goals addressed by scientific research	Tier 3: Optimal Utility	2	2	N	
J. DISADVANTAGED COMMUNITIES							
	J. DAC benefits	J.1.Project DAC benefit ratio for CIBs	Tier 1: Strategic Priority	3	3	N	YES
	J. DAC benefits	J.2. Does the project provide benefit to DACs	Tier 1: Strategic Priority	3	3	Y	YES
	J. DAC benefits	J.3. Is the project within a DAC boundary	Tier 2: Achievable Impact	2	3	Y	
K. MUNICIPAL BENEFITS							
	K. Municipal benefits	K.1.Project municipal benefit ratio for CIBs	Tier 1: Strategic Priority	3	3	N	YES
	K. WMG Benefits	K.2. Project water quality benefit ratio	Tier 3: Optimal Utility	2	2	N	

Table 1.

List of Prioritized Metrics, by Program Goal (for Pre-Construction Project Stages 1 & 2)

Goal	Metric/Data Category	Project Metric Summary: ID. Metric	Metric Tier	Criticality	Effort	Existing	Prelim. Imp. Priority
M. GREEN JOBS & CAREER PATHWAYS							
M. Green jobs		M.1. Total project labor cost	Tier 1: Strategic Priority	3	2	N	YES
M. Green jobs		M.2. Annual FTE jobs created	Tier 1: Strategic Priority	3	2	N	YES
M. Career pathways		M.3. Employees taking SCW training during design/ construction.	Tier 4: Strategic Consideration	1	2	N	
M. Career pathways		M.4.Employees hired from SCW training program design/ construction	Tier 4: Strategic Consideration	1	2	N	
N. ONGOING O&M							
N. Ongoing O&M		N.1 Has project developed an O&M Plan	Tier 1: Strategic Priority	3	3	Y	YES
N. Ongoing O&M		N.4. O&M and Monitoring Funding Ratio	Tier 1: Strategic Priority	3	3	N	YES
N. Ongoing O&M		N.5. O&M Cost Ratio	Tier 2: Achievable Impact	2	3	N	
O. COMMUNITY AND TRIBAL ENGAGEMENT							
O.Engagement		O.1. "Level of Achievement" for Community Engagement	Tier 1: Strategic Priority	3	2	N	
O.Engagement		O.2. "Level of Achievement" for Tribal Engagement	Tier 1: Strategic Priority	3	2	N	
O.Engagement		O.3. Receipt of tribal feedback	Tier 2: Achievable Impact	2	3	N	YES
OTHER DATA: COST							
Cost Metrics		COST.3. Leveraged funding	Tier 1: Strategic Priority	3	3	Y	YES
Cost Metrics		COST.1. Annualized project cost, base 2018	Tier 1: Strategic Priority	3	2	Partial	YES
Cost Metrics		COST.2. Total Project cost, NPV base year 2018	Tier 1: Strategic Priority	3	2	Y	
OTHER DATA: SURFACE TYPE							
Change in Land Surface		S.1. Net change in surface types. 6 basic surface types categories	Tier 1: Strategic Priority	3	2	N	YES
Change in Land Surface		S.2. Detailed net change in habitats	Tier 4: Strategic Consideration	1	2	N	

Note that metrics related to Nature Based Solutions are not included in the "Preliminary Implementation Priority" list and are recommended for further testing with project proponents prior to adoption.

RECOMMENDATION 1B

DEVELOP A COMMUNITY STRENGTHS & NEEDS ASSESSMENT PROCESS TO HELP CHARACTERIZE COMMUNITY-PREFERRED COMMUNITY INVESTMENT BENEFIT NEEDS AND METRICS

THE NEED Every community is different and has different needs. Despite the SCW Program including a "such as" list of priority community investment benefits, communities' stated needs are unevenly documented across the watersheds served by the SCW Program. How a community would prioritize Community Investment Benefits, the style and quantity provided by projects, and specific needs that were not predicted by the SCW Program are difficult to account for during project development. A process is needed to assess and report community needs, strengths, and preferences on an ongoing basis to define locally relevant Community Investment Benefit metrics, as well as better measuring community engagement and Disadvantaged Community Benefits.

THE APPROACH The *Equity in Stormwater Investments* white paper, and the community representatives that gathered to advise that effort, recommended the SCW Program to create a repeatable process of assessing community-voiced strengths & needs by drawing from techniques used in the WaterTalks program led by TreePeople on behalf of the Greater Los Angeles Area Regional Water Management Group. The MMS Technical Advisory Committee mirrored this recommendation as a way to strengthen community engagement and the achievement of sought-after Community Investment Benefits. The MMS tested this concept by aligning data from the WaterTalks program with SCW Program goals to demonstrate how locally expressed needs can be measured and met with SCW Projects. These findings reveal that projects could be more aligned in the benefits they provide, and, when it is clearly just a question of the words used to describe benefits, more directed in communicating how project benefits align with community stated needs.

THE RECOMMENDATION Based on the findings of the white paper, the MMS Team recommends the District develop a Community Strengths and Needs Assessment process to augment the list of MMS metrics with additional information about local community preferences. Watershed Coordinators and other interested parties can contribute to this development process.

See **Appendix A** - *Equity in Stormwater Investments: Measuring Community Engagement and Disadvantages Community Benefits for Equitable Impact in the Safe Clean Water Program*.

See **Appendix C** - *Metric Testing Memo (Attachment A Enhancing Community Investment Benefit Attainment through a Strengths and Needs Assessment for the Safe, Clean Water Program).*

RECOMMENDATION 1C

INCORPORATE MMS TESTED/ GENERATED MONITORING AND METHODS TO STREAMLINE DATA COLLECTION ACROSS SCW PROGRAM.

THE NEED Operationalizing metrics into the SCW Program will require a consistent data collection process as well as clearly defined requirements for project proponents to follow. At the same time, the MMS received numerous concerns from municipalities expressing that they already face capacity challenges to meet existing SCW Program application and reporting requirements. As such, any new processes and requirements need, to the extent practical, to minimize the additional burden placed on project proponents and Municipalities for gathering and entering data. Further, existing processes that may not contribute as significantly to understanding project performance, but which already require significant effort on the part of project proponents, may need to be reconsidered in light of their value to the SCW Program. Examples of these include numerous instances in the application Project Module requesting narrative descriptions about how projects meet specific SCW Program goals. These, at best, provide information that is not consistently comparable across projects and hinder the ability to infer relative project value.

THE APPROACH To streamline data collection and reporting processes, the MMS developed a spreadsheet "example data collection framework" indicating data inputs needed from project proponents as well as the calculations, where relevant, to develop the metrics from these inputs.

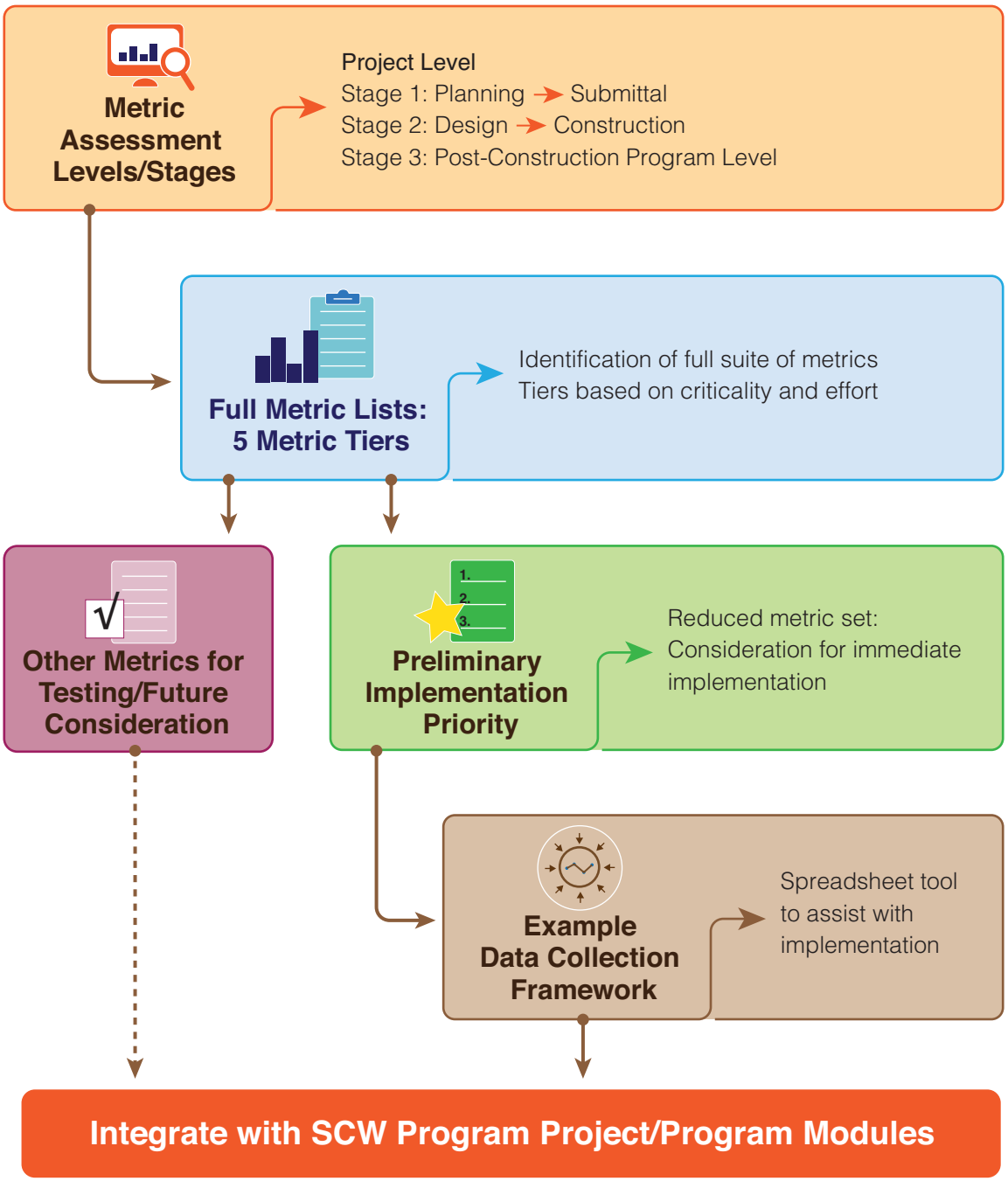
It may also assist the District with integrating selected metrics into a preferred collection and reporting platform or framework such as the existing SCW Project Module. The metrics tool itself can also be used as a data gathering mechanism for individual projects if desired.

Additional context for the metrics including definitions of terms used, formulas used in the metric calculations, and references for indicative monitoring approaches (as appropriate for post construction stage metrics) are provided in **Appendix D** alongside the associated metric profiles.

THE RECOMMENDATION The MMS Team recommends the District consider adopting the monitoring approaches described in the attached metric profiles (see **Appendix D**) and use the metrics framework to assist with operationalizing the selected metrics. In parallel with Recommendations 1A and 1B, the MMS Team suggests that these reporting and monitoring requirements could be incorporated into the Municipal and Regional Program reporting modules, Municipal Program annual plan module, Regional Program application module, and the SCW Program Dashboard. It may also be beneficial to invite proponents of past awarded projects to provide information to update these projects based on the selected metrics. Lastly, the District could consider removing instances within the project module that request narrative descriptions that could be replaced with the targeted and specific data that informs the metrics.

See Appendix D – Metric and Monitoring Strategies

Integrate with SCW Program Project/Program Modules Flow Chart



Recommendation 2.

Adaptively manage scoring and program guidance to strengthen achievement of SCW Program Goals

The next set of recommendations proposes ways that the MMS outcomes can be used to strengthen the regional program scoring process. While the MMS was not scoped to revise scoring criteria, many of the study outcomes point towards alternative ways to characterize the goals and benefits upon which the scoring criteria are built.

RECOMMENDATION 2A

EVALUATE RESULTS OF WATER SUPPLY SCORING PILOT TO EVALUATE OPPORTUNITIES TO REFINE WATER SUPPLY GUIDANCE AND SCORING

THE NEED In the first few years of Program implementation, the majority of projects proposed for Regional Program funding did not earn points in the Water Supply Cost-Effectiveness category, and only two-thirds of proposed projects earned points for Water Supply Magnitude. Interested parties suggested that each Watershed Area is different, and that some areas are more challenged than others when it comes to regional stormwater capture for Water Supply Benefits. The District also received comments suggesting that cost-based scoring criteria (developed at Program inception in 2018) may warrant updates to account for recent inflation and other economic changes.

The MMS was therefore directed to evaluate the current Water Quality scoring criteria and test how alternative rubrics could impact scoring across all Watershed Areas.

THE APPROACH The MMS evaluated five alternative scoring frameworks to see which may accommodate regional differences and inflation. After analyzing different methods, the District agreed that the most viable option was to calibrate Water Supply scoring criteria to match the range of actual project costs and performance that have been proposed to the Regional Program to date. This approach aligns the rubric with the broad range of multi-benefit project characteristics that proponents feel are worthy of SCW Program funding. It also inherently adjusts for inflation because the rubric is based on cost estimates developed in the last few years.

Additionally, the approach added gradation to the scoring rubric; where the existing rubric is stepwise, the alternative rubric awards points at one-point increments. The charts in **Figure 6** and **Figure 7** compare the current rubric (blue line) to the alternative rubric (black line). The alternative rubric would award points to smaller and less-cost-efficient projects that previously would not have scored, while still awarding maximum points to the largest and most efficient projects.

THE RECOMMENDATION

The District reviewed the findings and released the alternative rubric during the Regional Program call-for-projects that closed July 2023. Proposed projects were given the option to choose the current or the alternative scoring criteria. After Fiscal Year 2023/2024 Stormwater Investment Plans are finalized by the Watershed Area Steering Committees, the MMS recommends that the District review the results and incorporate additional data from the most recent round of project submittals to further refine the alternative rubric, if needed. If criteria and guidance are adapted, the MMS recommends the District also consider scoring based on the *net* Water Supply Benefits of proposed projects to account for any concurrent projects upstream or downstream (instead of assuming the project is performing in isolation).

See Appendix E – Water Supply Scoring Adaptation Memo

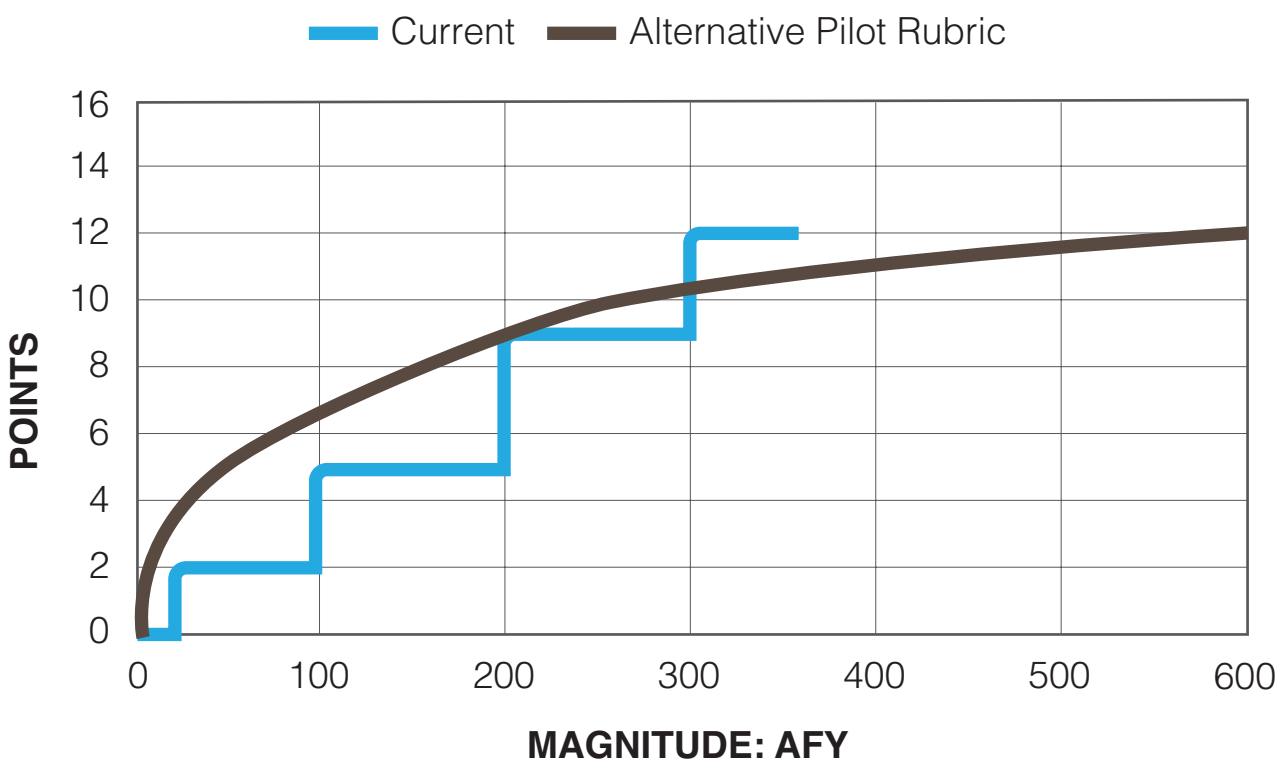


Figure 6. Current and Alternative Pilot Rubric for Water Supply Magnitude

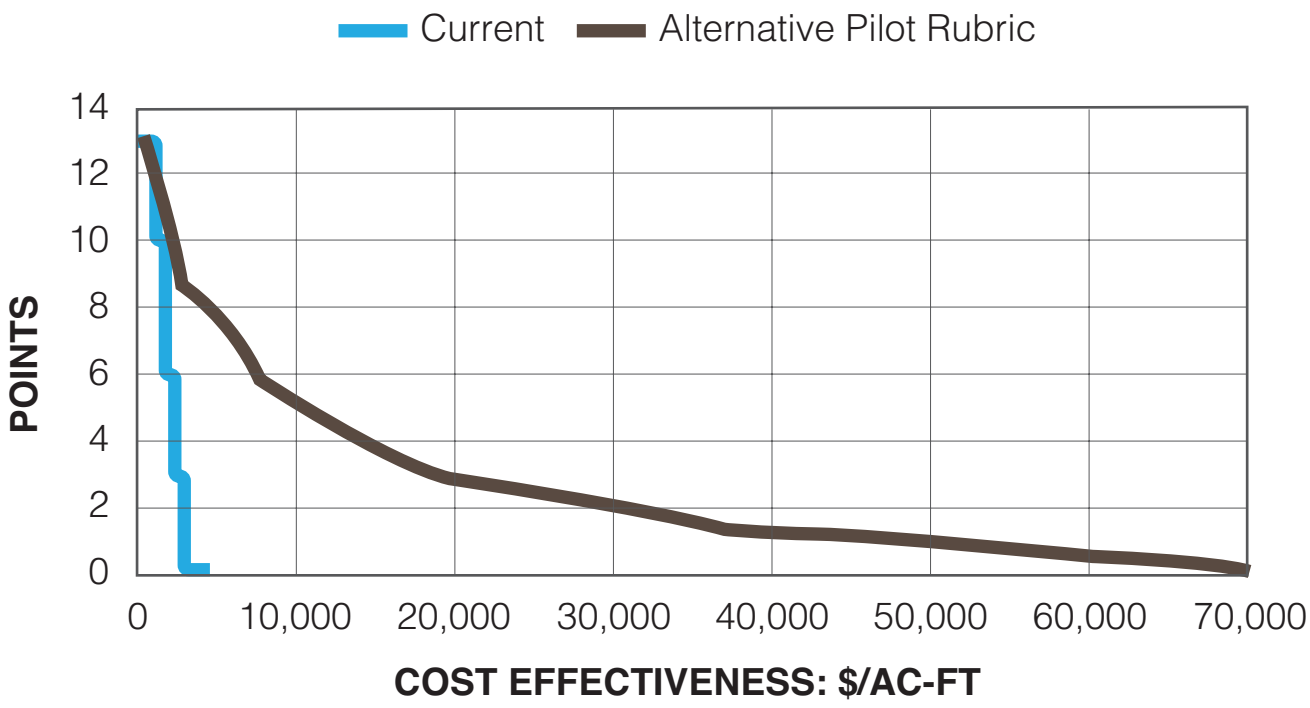


Figure 7. Current and Alternative Pilot Rubric for Water Supply Cost Effectiveness

RECOMMENDATION 2B

BENCHMARK PERFORMANCE TO ADAPT WATER QUALITY GUIDANCE AND SCORING

THE NEED The current Regional Program Water Quality Benefits scoring criteria includes two tracks: wet weather projects and dry weather projects. For wet weather projects, the criteria are intended to score projects according to Water Quality Cost-Effectiveness (measured in acre-feet of 24-hour volumetric capacity per million dollars of capital cost) and Water Quality Benefit (relative reduction of primary and secondary pollutants of concern, as measured between influent and effluent of the project). Dry weather projects must manage all dry weather flows (unless infeasible or prohibited for habitat, etc).

Often, projects that are predicted to capture substantial loads of pollutants at a watershed scale are recategorized by the Scoring Committee as “dry weather” projects because they fail to fully capture the 85th percentile 24-hour design storm. This recategorization reduces the total number of Water Quality Benefit points for which a project is eligible-essentially penalizing projects that could provide the greatest regional Water Quality Benefits. There is therefore a need to evaluate if the current Water Quality scoring criteria could be aligned with MMS-recommended water quality metrics to better reflect regional impact and resolve scoring subjectivity.

THE APPROACH Water Quality scores for Regional Program projects proposed during the first four rounds of the implementation were plotted against MMS-proposed Water Quality Benefit metrics (specifically, pounds of limiting pollutant removed and limiting pollutant removed per dollar). Examining these plots (**Figure 8** and **Figure 9**) shows that current SCW Program scoring criteria do not correlate with the MMS metrics that more directly tie project performance to progress towards waterquality goals. While projects with higher

cost-effectiveness values have achieved the highest point totals for the Water Quality Cost Effectiveness score, the lack of correlation for projects with lower cost effectiveness indicates that the current metrics using 24-hour volumetric capacity are not well-aligned with measured values of pollutant-based cost effectiveness.

There is also a lack of correlation between the pollutant reduction magnitude metric and the Water Quality Benefit scoring criteria; projects with relatively low pollution reduction magnitudes achieved some of the highest scores; whereas, some of the projects with higher modeled pollutant reduction magnitudes (>200 lbs/yr) still only received modest water quality scores under the current criteria. This is because the Water Quality Benefit score is only computed relative to what enters and exits a project; for example, a project could receive and treat just one drop of water per year yet receive full points for Water Quality Benefits because it managed 100% of the pollutants that entered. The analysis suggested that current scoring criteria do not seem well-aligned with the intent for projects to remove pollutant loads from storm drains and receiving waters, and that adaptation may yield a better scale with which to assess and compare projects against each other for SCW Program funding decision-making.

Finally, as with Water Supply Benefits, scoring is currently conducted assuming projects are operating in isolation with no other projects upstream or downstream. In reality, it is important to consider a project's context within the overall watershed, and to evaluate performance based on the *net* Water Quality Benefits resulting from the project.

THE RECOMMENDATION To more proportionally tie Water Quality scoring criteria to progress towards cleaner water, achieving beneficial uses, and attaining compliance with municipal stormwater permits, the MMS Team recommends the District consider pilot testing alternative Water Quality scoring rubrics. Water Quality Cost Effectiveness scoring could be adapted to award points based on pollutant reduction per dollar, while Water Quality Benefit scoring could be adapted to award points based on magnitude of pollutant reduction. Initially, for consistency across Watershed Areas that have varying water quality priorities, scoring could be based on managing a single proxy pollutant--such as heavy metals (specifically zinc) or sediment--that is ubiquitous in urban runoff. To establish a points scale, the performance and cost of historically proposed projects could be benchmarked similar to the methods used for developing the pilot alternative Water Supply Benefits scoring rubric.

Focusing scoring criteria on pollutant removal magnitude could also reduce the frequency at which wet weather capture projects are recategorized as dry weather projects for scoring purposes.

Finally, the District should consider evaluating scoring based on net Water Quality Benefits where projects may be proposed upstream or downstream from other existing or planned projects. This could be done by leveraging the models and initial project library developed by the MMS to update the SCW Program Module or by offering guidance to project developers regarding coordination with concurrent projects (see Recommendation 3A below).

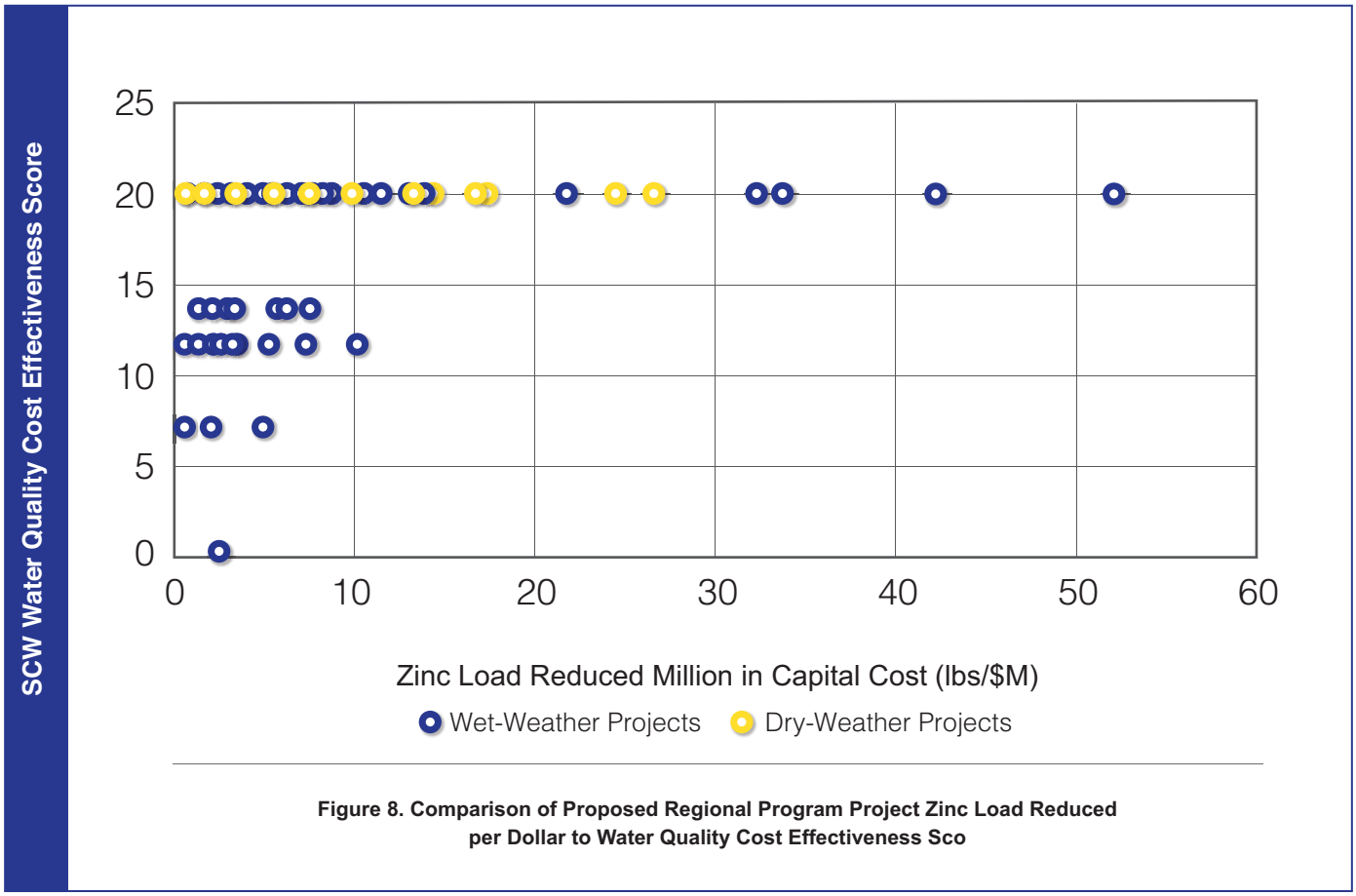


Figure 8. Comparison of Proposed Regional Program Project Zinc Load Reduced per Dollar to Water Quality Cost Effectiveness Sco

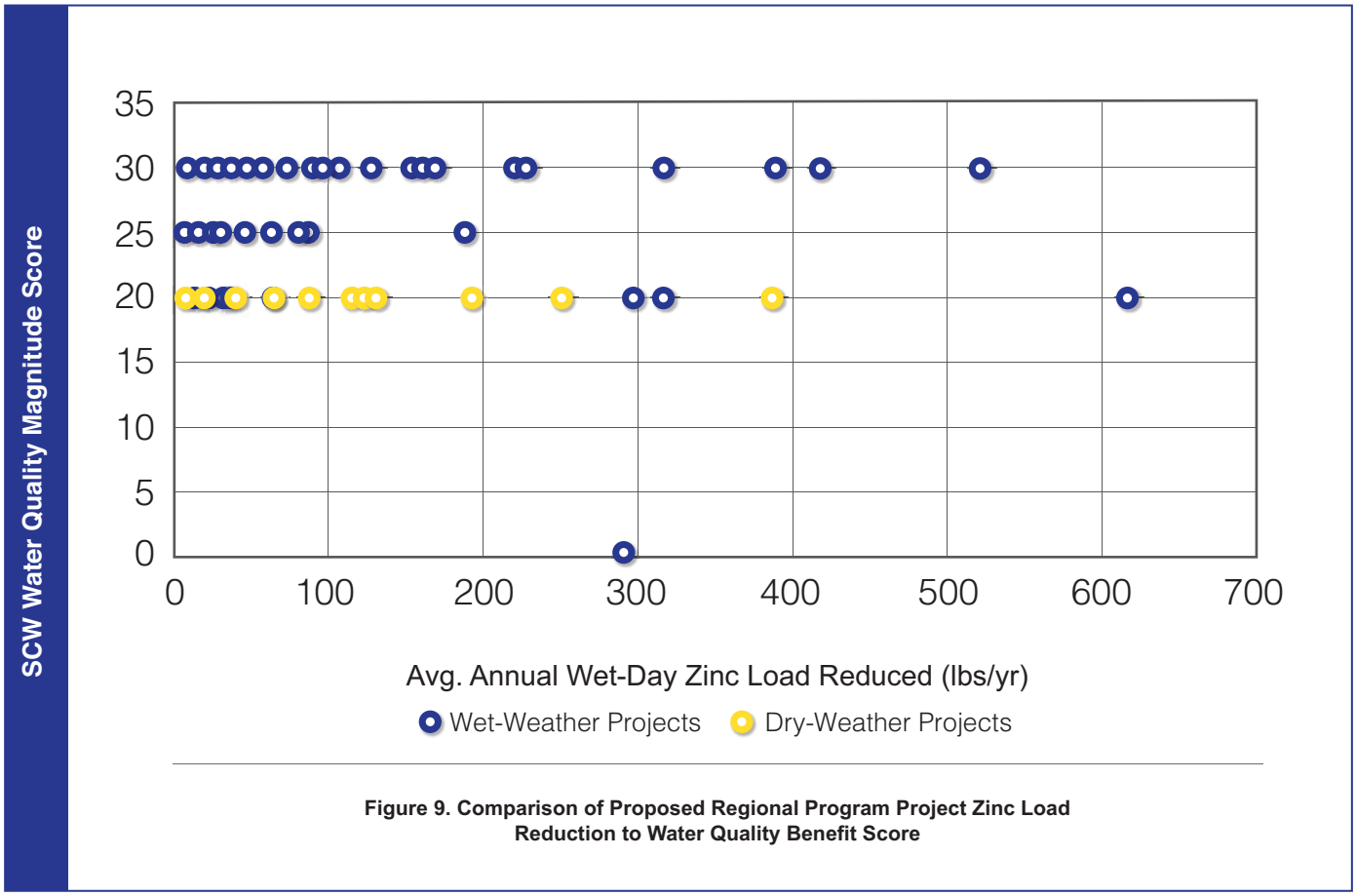
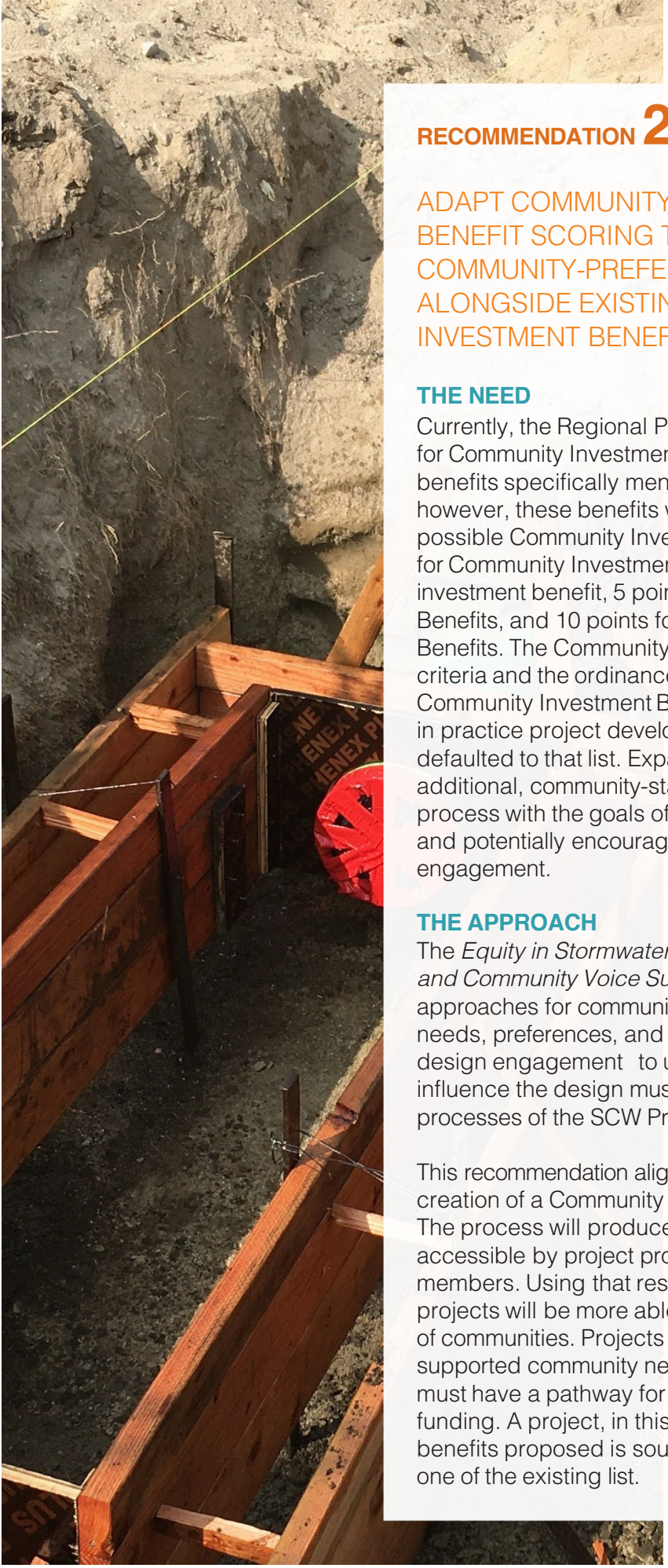


Figure 9. Comparison of Proposed Regional Program Project Zinc Load Reduction to Water Quality Benefit Score



RECOMMENDATION 2C

ADAPT COMMUNITY INVESTMENT BENEFIT SCORING TO ACCEPT COMMUNITY-PREFERRED BENEFITS ALONGSIDE EXISTING COMMUNITY INVESTMENT BENEFIT CATEGORIES

THE NEED

Currently, the Regional Program Infrastructure Scoring Criteria for Community Investment Benefits award points only for the seven benefits specifically mentioned in the Implementation Ordinance; however, these benefits were not meant to be inclusive of all possible Community Investment Benefits. The Scoring Standards for Community Investment Benefits offer 2 points for one community investment benefit, 5 points for three Community Investment Benefits, and 10 points for six distinct Community Investment Benefits. The Community Investment Benefits list within the scoring criteria and the ordinance both suggest that the seven listed Community Investment Benefits are not an exhaustive list, and yet in practice project developers and governance committees have defaulted to that list. Expansion of the scoring criteria to accept additional, community-stated benefits would better align the scoring process with the goals of community-engaged project development, and potentially encourage more pre-submittal community engagement.

THE APPROACH

The *Equity in Stormwater Investments white paper (Appendix A) and Community Voice Survey memo (Appendix C)* discussed approaches for community engagement to identify specific, local needs, preferences, and opportunities. Projects that complete pre-design engagement to uncover community preferences that influence the design must be acknowledged by the tools and processes of the SCW Program.

This recommendation aligns with 1B, which encourages the creation of a Community Strengths & Needs Assessment process. The process will produce information about communities and be accessible by project proponents and governance committee members. Using that resource, and project-specific engagement, projects will be more able to align their design to the stated needs of communities. Projects that elect this path of meeting specific and supported community needs, or reinforcing community strengths, must have a pathway for those efforts to support their eligibility for funding. A project, in this way, will be able to assert how one of the benefits proposed is sought by the community, though it may not be one of the existing list.

THE RECOMMENDATION

The MMS Team recommends that the District consider expanding the Community Investment Benefit scoring criteria to award points to community-preferred benefits that may not be explicitly included in the current criteria.

The Regional Program project submittal tool can be adapted to allow for Community Investment Benefits that are not within the "such as" list of the ordinance (and seen in the scoring standards figure, below), where a project proponent can document a community-preferred benefit as one of the outcomes of the proposed project. That "user generated" Community Investment Benefits outcome must receive points within the eligibility scoring rubric, and with appropriate supporting analysis and documentation, must be evaluated by the Scoring Committee as one component of the Community Investment Benefit score.

The MMS Team recommends developing an alternative, and then pilot testing the rubric. The results of the pilot could then be evaluated to decide if the District will recommend the new rubric for adoption.

The MMS Team further recommends that once a continuous dataset of community- preferred benefits exists, metrics can be established to evaluate the attainment of those preferences by the program, and the projects it funds. For instance, "how many community-preferred benefits does this project provide within its Community Investment Benefits?" and "what proportion of projects in this watershed area are providing community- preferred benefits within their Community Investment Benefits?". In each case metrics such as these support decision-making and reporting about how the Program is delivering Community Investment Benefits.

COMMUNITY INVESTMENT BENEFITS INCLUDE:

- Improved flood management, flood conveyance, or flood risk mitigation
- Creation, enhancement, or restoration of parks, habitat, or wetlands
- Improved public access to waterways
- Enhanced or new recreational opportunities
- Reducing local heat island effect and increasing shade
- Increasing the number of trees increase and/or other vegetation at the site location that will increase carbon reduction/ sequestration and improve air quality

NEW POTENTIAL CRITERION

- Other Community Investment Benefits Voiced by community members, and documented through engagement

Recommendation 3.

Strengthen planning and collaboration with new data and tools

During engagement, interested parties expressed the need to evaluate watershed potential and establish meaningful targets to guide SCW Program decision making. While the MMS was not charged with planning or target setting, the last set of recommendations involves how the methods, data, and tools developed during the study could be applied to inform next steps.

RECOMMENDATION 3A

UPDATE SCW PROGRAM TOOLS TO AUTOMATE COMPUTATION OF NEW METRICS AND TO ACCOUNT FOR WATERSHED INTERACTIONS

THE NEED Recommendations 1A and 1C suggest additional metrics and monitoring methods to provide additional insight on Program Goals. To ensure that any metrics adopted by the District are accessible by interested parties, there is a need to automate how they are computed and reported.

THE APPROACH While testing the efficacy of alternative metrics, the MMS Team built out working models of each Watershed Area. These models enabled the Team to better understand the water cycle, estimate how much water is already being captured by dams and spreading grounds operated by water and flood control agencies, and forecast how much could potentially be captured by planned and hypothetical projects. Building out these models also let the MMS team evaluate how projects are working together as a system and interacting with other existing water resource infrastructure. Results showed that project interactions can have significant impact on actual project performance as compared to evaluating each project in isolation, as is done in the current SCW Program module. Relationships were therefore developed to pro-rate how much net new stormwater may be captured by SCW Program projects taking into account the baseline operation of each watershed.

THE RECOMMENDATION To streamline how any new metrics are collected and reported to the public, the MMS Team recommends that the District consider incorporating the example formulas and methods into the existing web-based tools, including the Regional Program Infrastructure Program Application module, the Regional and Municipal Program reporting modules, and the SCW Program Dashboard. To provide additional insight into net new water managed, the Module could also be updated to incorporate the MMS-generated formulas (see **Figure 10**) to evaluate how proposed projects water supply benefits may impact, or be impacted by, other projects in the same watershed.

The MMS Team also recommends that funded projects should be programmed into the watershed model underlying the Regional Program Application module so that project proponents can evaluate their projects in the context of projects that may be implemented upstream or downstream. To explore interactions between projects being proposed during each call-for-projects, the MMS recommends that Watershed Coordinators use the data and tools discussed in the following two recommendations (3B and 3C) to support project proponents with evaluating their projects in the context of other concurrent proposals.

See Appendix B for modeled water balance of each Watershed Area (useful for understanding volume available for capture)

See Appendix C for net water capture formulas

See Appendix D for example metric formulas

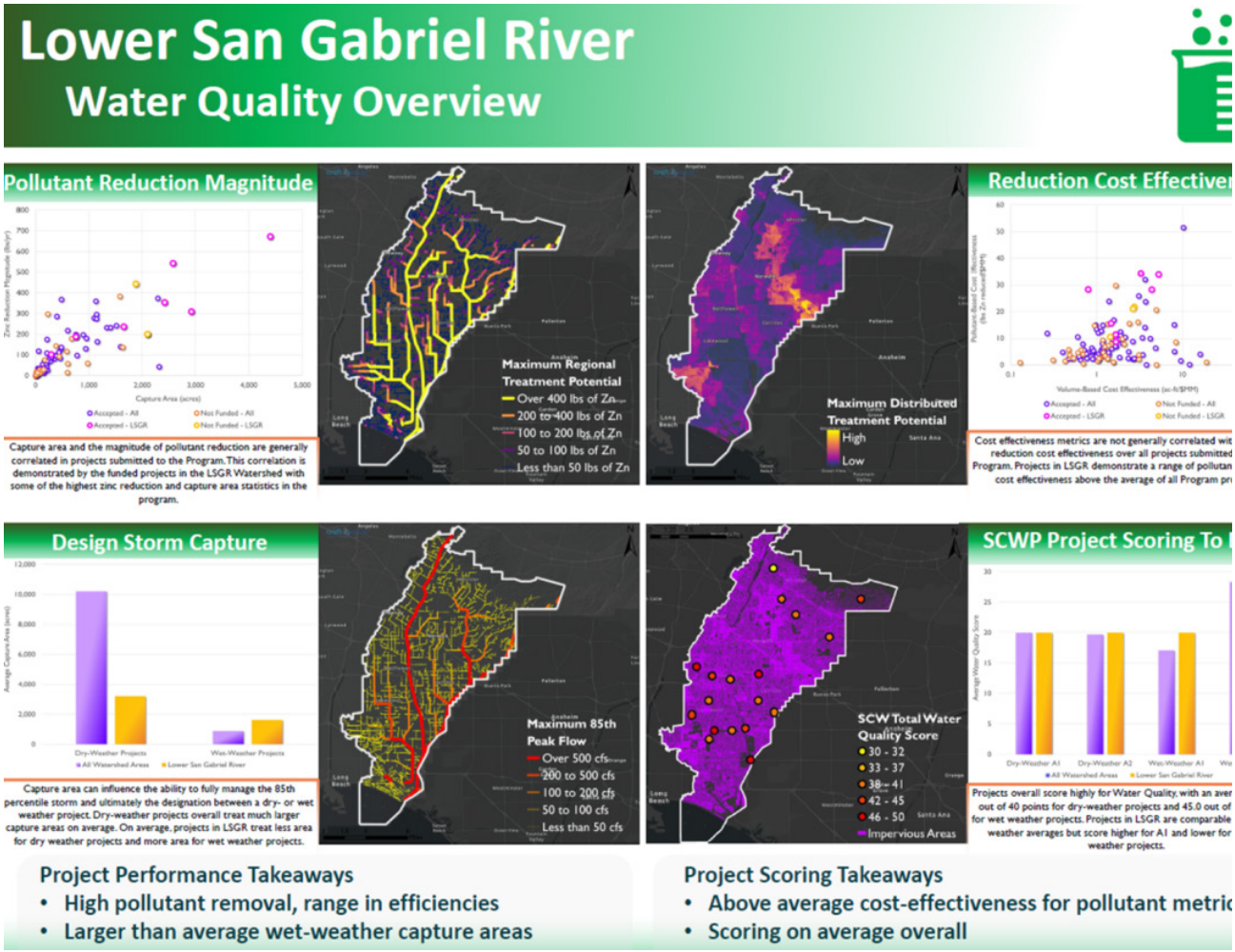
Figure 10. Screenshot of Example Metric Calculations Framework

B. Water Supply							
B.4. Average annual capture volume		acre-ft/yr,	15				
B.1. Annual volume managed (parsed by fate)							
	B.1.a. Estmated volume managed (Fate 1)	acre-ft/yr, Fate 1	6	Fate	Treated and discharged to storm drain	Counts as Local Water Supply?	No
	B.1.a. Estmated volume managed (Fate 2)	acre-ft/yr, Fate 2	4	Fate	Infiltrated over confined aquifer	Counts as Local Water Supply?	Yes
	B.1.a. Estmated volume managed (Fate 3 etc...)	acre-ft/yr, Fate 3	5	Fate	Used onsite for potable offset	Counts as Local Water Supply?	Yes
B.2. Progress towards water supply objectives		Total new local water supply (acre-ft)	9	% of Regional Objective	0.003%	% of Watershed Area Objective	0.02%
C. Community Investment Benefits							
Improved flood management, conveyance, or flood risk mitigation							
C.1. Does the project mitigate a known flooding issue		n.a.	Yes				
C.2. Type of flooding issue mitigated		Type	Pluvial (surface floods or ponding)				
Creation, enhancement or restoration of parks, habitat							
C.5. Net area of Park, created, enhanced or restored		acres total	16				
	C.5.a. Does the project create a new park or enhance or restore and existing park?	acres	Restore				
	C.5.b. Area of park created	acres	0.0	acres	2		
	C.5.b. Area of park enhanced	acres	0.0	acres	3	Descriptor	added new parking lot
	C.5.b. Area of park restored	acres	11.0	acres	5	Descriptor	replaced delapidated toil

RECOMMENDATION 3B
SHARE MMS DATASETS TO IDENTIFY OPPORTUNITIES AND GAPS

THE NEED Interested parties have suggested that SCW Program decision making would benefit from establishment of watershed targets; however, estimating what may be is physically possible in each watershed is a key step to set realistic targets. To better understand baseline conditions and benchmark future potential benefits, there is a need to better characterize stormwater and community opportunities and gaps in each Watershed Area.

THE APPROACH Using the models discussed in Recommendation 3A, spatial datasets were developed to predict pollutant loading, design storm volume generation, and potential regional and distributed runoff capture opportunities throughout each Watershed Area. The MMS Team also compiled limited datasets related to community needs, including County Park Needs Assessment and CalEnviroscreen environmental justic layers. These datasets were compiled into series of maps, and then compared with the historical SCW Program Regional Program projects and scoring to gain initial insight about each Watershed Area's opportunities and constraints (**Appendix B**).



Example Data Inventory Showing Snapshot of Water Quality Data that Could be Shared Publicly

THE RECOMMENDATION The MMS team is recommending the District consider sharing the opportunity datasets publicly (potentially via the existing web mapping tools). These data can help estimate potential water quality and water supply benefits, support project developers with identifying impactful projects, and also inform future watershed planning. While the insights discussed the **Appendix B** exhibits represent a snapshot of use cases for the data, providing the raw data in a geographic information system (GIS) environment would enable interested parties to independently explore and use it to meet many needs. The data could also be supplemented with inputs from a Community Strengths and Needs Assessment process (Recommendation 1B) to produce a more comprehensive and local understanding of potential Community Investment Benefits.

See Appendix B - Watershed Area Initial Data Inventory

RECOMMENDATION 3C

Incorporate MMS compiled watershed area opportunity information to support comprehensive watershed planning

THE NEED

To understand an individual project's true net benefits, the MMS analysis demonstrated the importance of characterizing the project's context in the overall system of planned or operational projects in a given Watershed Area; however, Regional projects are currently evaluated in isolation, which in some cases overpredicts the stormwater capture and pollutant reduction benefits. Conversely, to benchmark the upper end of potential benefits that may be achieved at a watershed-scale (i.e., to inform realistic planning targets), it is also critical to estimate the range of potential future project opportunities available. To guide more accurate project performance assessment and to inform future planning, there was a need to build and maintain a living library of existing and potential project opportunities.

THE APPROACH

The MMS compiled an initial library of project opportunities to guide analysis of potential metrics. Existing and planned projects were incorporated into the library from SCW Program Regional Program applications, as well as from a cursory review of watershed plans (where spatial data were publicly available). Additionally, hypothetical regional and distributed project opportunities were mapped using geospatial analysis to build out a more robust set of opportunities to test metrics.

THE RECOMMENDATION

The MMS Team recommends that the District consider incorporating the initial project opportunity library into public GIS resources to inform future project development and SCW Program planning (as well as other regional watershed and infrastructure plans). While certainly not comprehensive, the data may prove valuable to project developers, SCW Program Committee Members, and the District when considering the current and future potential impacts of individual projects. This data too may provide guidance when estimating the upper end of potential benefits under different scenarios of full watershed buildout, providing a basis for distance-to-target metrics.

See Appendix B - Watershed Area Initial Data Inventory

While robust, the project opportunity library is not exhaustive. The dataset provides a snapshot of existing and hypothetical opportunities compiled to test potential metrics; however, the MMS was not charged with watershed planning, so the MMS Team did not vet the hypothetical opportunities with local watershed managers and interested parties, nor did the MMS solicit additional opportunities from others. At the time of analysis, Municipal Program-funded projects were not yet digitized and incorporated into the dataset.

The MMS Team recommends that the District consider maintaining a living project library, with the support of Watershed Coordinators, to serve as a more exhaustive and locally relevant list of project opportunities. A “living” project library could be updated intermittently in parallel with SCW Program and WMP reporting cycle to reflect new projects and changes reported through Project Modification Requests. Key metrics could be computed for each potential project in the context of other upstream or downstream projects, and also assuming the project is operating in isolation, so that users could sort and explore projects according to their priorities and view the range of potential watershed benefits. The MMS Team suggests that maintenance of a project library, in collaboration with Watershed Coordinators, should be conducted at least semi-annually.

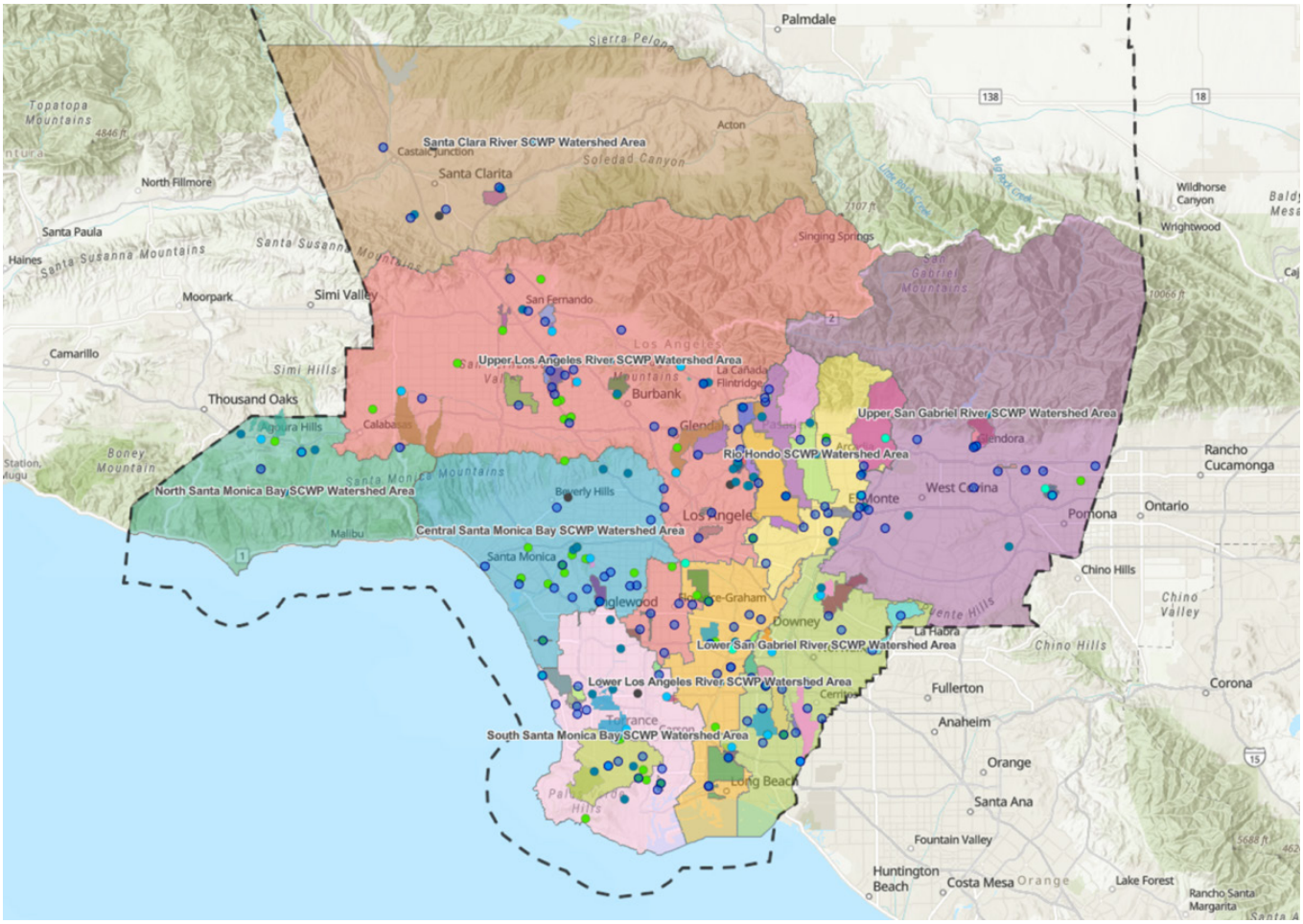


Figure Screenshot of the District's Existing SCW Program Digital Library

Summary & Next Steps

The MMS accomplished its goal to **develop recommendations for program methods, metrics and monitoring criteria to inform tracking, planning, reporting and decision making within specific areas of the SCW Program**. Nine specific recommendations are presented herein for District consideration, along with supporting attachments to aid in implementation. The MMS recommendations are also cross-referenced with a subset of concurrent SCW Program adaptation recommendations in **Table 2**.

Table 2. Alignment of MMS Recommendations with Concurrent SCW Program Adaptation Recommendations

	1. Apply new metrics to improve reporting, inform decision-making, and maximize benefits			2. Adaptively manage scoring and program guidance tostrengthen achievement of SCW Program Goals			3. Strengthen Planning & Collaboration with New Data & Tools		
CONCURRENT RECOMMENDATIONS	**1A**	**1B**	**1C**	**2A**	**2B**	**2C**	**3A**	**3B**	**3C**
Draft Regional Oversight Committee 2023 Biennial Report Recommendations:									
1. Expedite watershed planning efforts	●	●	●	●	●	●	●	●	●
1a. Obtain additional dedicated resources to provide pro-active leadership									
1b. Conduct a strategic goal setting process to be completed with the Director of Public Works	●	●					●	●	●
1c. Establish watershed specific goals, objectives, metrics, and timelines,	●	●					●	●	●
1d. Establish Water Quality quantitative goals and develop a plan with timelines to accomplish these goals	●				●		●	●	●
1e. Establish Community Investment Benefit quantitative goals	●	●				●		●	●
1f. Set a region wide water supply target				●			●	●	●
1g. Clarify that claiming Water Supply Benefits requires an applicant to demonstrate that the storm water capture is “new” water				●			●	●	●
1h. Develop guidelines/criteria to incentivize large infrastructure projects and investments	●			●	●		●		
1i. Develop guidelines/criteria to streamline applications for various sized projects and various stages of development				●	●	●			
1j. Create/strengthen collaborative planning and co-funding with other agencies/ organizations	●	●	●		●	●	●	●	●
1k. Coordinate between the Regional and Municipal programs	●	●	●				●	●	●
2. Establish Disadvantaged Community Investment quantitative goals and develop a plan	●	●				●		●	●
3. Make strategic investments in workforce development programs		●							
4. Revise Regional Program quarterly reporting to twice yearly			●						
5. Revise the process and timeline for the ROC			●						
6. Evaluate Recommendations that will results from the in-process Metrics and Monitoring Study and recommend changes, if and when appropriate, to the procedures, guidelines, and scoring criteria currently used to manage the various goals/programs of the SCW Program.	●	●	●	●	●	●	●	●	●
Accelerating Implementation of the Safe, Clean Water Program (Motion by Supervisor Horvath):									
1. Accelerate Comprehensive Watershed Planning	●	●		●	●	●	●	●	●
2. Improve, Streamline, and Simplify Regional Program Applications	●	●		●	●	●	●	●	●
3. Establish a SCW Program Planning Group	●	●	●				●	●	●

Appendix

APPENDIX A **Equity in Stormwater Investments:** Measuring Community Engagement and Disadvantaged Community Benefits for Equitable Impact in the Safe, Clean Water Program

APPENDIX B **Watershed Area Initial Data Inventory**

APPENDIX C **Metric Testing Memo**

APPENDIX D **Metric and Monitoring Strategies**

- **D1** – Project- and Program-Level Monitoring Plan Recommendations
- **D2** – Metric Profiles (Microsoft Excel File)
- **D3** – Example Data Collection Framework

APPENDIX E **Water Supply Scoring Adaptation Memo**