

APPENDIX A - PROPOSED PROJECT LIST

January 2016

Strategy
To
Optimize
Resource
Management of
Storm Water

Strategy to Optimize Resource Management of Storm Water

Proposed Project List

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Introduction

This document contains a proposed list of projects developed during the Storm Water Strategic Initiative process. The projects listed in the Draft Proposal for a Storm Water Program Workplan and Implementation Strategy (Appendix B) were reorganized (Table 1) and developed in more detail, as recommended at the August 19, 2015, public workshop. Without eliminating content from the original project list, similar projects were grouped together under unifying objectives. The objectives help categorize and connect projects, to support the intention that the projects should not be viewed as stand-alone efforts. The projects listed under a particular objective may require the same partnerships for implementation, use similar resources, or be headed by the same staff member. By recognizing the cohesion among projects, projects can be implemented in concert to increase the efficiency and effectiveness of the Storm Water Program's efforts. The term "project" refers to any action or work element the Storm Water Program pursues to achieve the Water Boards' goals. Each project description includes the following categories:

Storm Water Strategy Objective

Brief description of overall objective

- ◆ List of Projects

Project Number: Project Title

Priority: Project priority rank based on scored criteria.

Assessment: Explanation of prioritization based on three summary criteria: (1) how important is completing the project for the Storm Water Program to align with the goals, (2) how achievable is the project, and 3) do the Water Boards have the needed authority and resources to complete the project?

Prerequisite: Other project(s) that will inform or must be completed prior to initiation of a project.

Goal(s): The goal(s) each project addresses. The four goals of the Strategy to Optimize Resource Management of Storm Water (Storm Water Strategy) are to:

1. Change the Perspective that Storm Water is a Waste or Hazard, and Treat it as a Valuable Water Resource
2. Manage Storm Water to Preserve Watershed Processes and Achieve Desired Water Quality and Environmental Outcomes
3. Implement Efficient and Effective Regulatory Programs
4. Collaborate in Order to Solve Water Quality and Pollutant Problems with an Array of Regulatory and Non-Regulatory Approaches

Project Objective: A specific action item that supports the identified goal(s).

Scope: A scope of work to accomplish the project objective.

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Background: Information, including barriers, regarding the project. Previous and/or current information is also included to assist in developing the project scope.

Product and Timelines: For each major task, the resulting product is identified and estimates of the timeline and required resources are provided. Resource estimates are given in terms of both staff resource allocations and contract funds.

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Table 1. Current Project Number, Project, and Draft Proposal for a Storm Water Program Workplan and Implementation Strategy (Draft Proposal) Project Number

Project Number	Project	Draft Proposal Project Number
1a	Promote Storm Water Capture and Use	1a
1b	Identify and Eliminate Barriers to Storm Water Capture and Use	1b
1c	Increase Storm Water Capture and Use through Regulatory Approaches	1c
1d	Develop and Establish a Monetary Value of Storm Water	3
2a	Increase Stakeholder Collaboration to Promote Storm Water as a Resource	2
3a	Develop Guidance for Alternative Compliance Approaches for Municipal Storm Water Permit Receiving Water Limitations	5
3b	Develop Watershed-Based Compliance and Management Guidelines and Tools	6
3c	Assess Municipal Storm Water Program Monitoring and Effectiveness	12
3d	Establish Statewide Regulatory Framework for Municipal Storm Water Programs	16
3e	Standardize Minimum Control Measures for Specific Municipal Program Elements	15
3f	Develop Guidance for Implementation of Post-Construction Requirements to Improve Watershed Health	7
3g	Establish Guidance for Storm Water Program Asset Management Planning and Cost Estimation	11
4a	Implement Senate Bill 985 – Incorporate Principles of Storm Water Resource Plan Guidelines into Storm Water Programs	4
4b	Eliminate Barriers to Funding Storm Water Programs and Identify Funding for Storm Water Capture and Use Projects	8
4c	Identify Municipal Storm Water Permit Compliance Cost	9
4d	Identify Industrial and Construction Storm Water Permit Compliance	10
5a	Create Storm Water Program Data and Information “Open Data”	13
5b	Evaluate and Increase Storm Water Permit Compliance	14
5c	Establish Sector-specific Technology-based Numeric Effluent Limitations for Industrial and Construction Storm Water Permits	18
5d	Align Water Quality Statewide Planning Efforts with Storm Water Program Implementation – Pilot Project Using the Biological Integrity Plan	20
6a	Establish Statewide Framework for Urban Pesticide Reduction	22
6b	Identify Opportunities for Source Control and Pollution Prevention	21
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Objective 1: Increase Storm Water Capture and Use through Regulatory and Non-Regulatory Approaches

The projects captured in this objective are intended to increase sustainable management of storm water by establishing a technical guidance on capture and use, identifying key market drivers for estimating a monetary value for storm water and providing permit-driven incentives for storm water capture. Furthermore, the projects will examine the technical, legal, and financial barriers to storm water capture, in order to address and resolve them. The projects are the following:

- ◆ Project 1a – Promote Storm Water Capture and Use
- ◆ Project 1b – Identify and Eliminate Barriers to Storm Water Capture and Use
- ◆ Project 1c – Increase Storm Water Capture and use through Regulatory Approaches
- ◆ Project 1d – Develop and Establish a Monetary Value of Storm Water

Project 1a Promote Storm Water Capture and Use

Priority: Very High, *Assessment: Critically important, readily achievable*

Prerequisite: None

Goal(s): 1 – Change the Perspective that Storm Water is a Waste or Hazard, and Treat it as a Valuable Water Resource

Project Objective: Develop strategies and set regionally-based goals to increase storm water capture and use.

Scope: Identify existing storm water capture and use strategies the Water Boards are successfully utilizing to maintain and restore storm water infiltration and achieve multiple benefits such as, flood control, drought and climate change preparedness, water supply augmentation, groundwater recharge, water quality improvement, habitat restoration and protection, and recreational uses (open space). Consider broadening the use of existing strategies, where appropriate, for implementation throughout the state. Consider new opportunities to increase storm water capture and use. Identify how to align Water Board programs addressing conservation, recycled water, and groundwater management with storm water capture actions that implement multiple benefit projects. With this information, produce regionally-based metrics (or a suite of metrics) for short-term and long-term storm water capture and beneficial use goals. In the project documentation, include the technical rationale and scientific basis of the goals, and implementation requirements including quantifiable measures indicating attainment of the project goal(s). Additionally, commit to the goals and any metrics developed for quantifying the expected storm water capture and beneficial use.

Background: This project represents continued steps forward from the storm water reuse goal identified in the State Water Board's Recycled Water Policy (as amended in State Water Board Resolution 2013-003), by establishing detailed, regionally-based goals and quantifiable performance measures. The current drought has created additional pressure on the state to

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manage its water resources more effectively, as reflected by the goal in Governor Brown's Executive Order B-29-15 to reduce statewide water use by 25 percent. Beyond drought response, storm water projects that provide multiple benefits, in addition to storm water capture and treatment, present opportunities for better buy-in by communities. For example, well-conceived storm water resource projects can provide additional public benefits including increased space for public recreation, increased tree canopy, and increased stream and riparian habitat area, resulting in an overall increased sense of ownership and pride in the natural infrastructure and community empowerment. By establishing a statewide goal for storm water capture and beneficial use, the State Water Board will lead the state's effort to incorporate storm water capture and use in its management of water resources. A statewide storm water capture and use goal will serve as the impetus to implement storm water capture and multiple benefit projects, such as Projects 1b and 1c below. The State Water Board acknowledges that in order to achieve such a goal, local and regional agencies must cooperate and implement their own independent mandates that support the goal. Some agencies, such as the Santa Ana Watershed Project Authority's "One Water, One Watershed" Plan have already benefited from a comprehensive approach that treats storm water as a resource.

Products and Timelines:

1.5 Years: Develop a staff report identifying strategies for increasing storm water capture and beneficial use.

6 Months: Prepare a draft Storm Water Capture and Use Item for State Water Board consideration of adoption.

Project 1b Identify and Eliminate Barriers to Storm Water Capture and Use

Priority: High, *Assessment: Critically important, achievable with moderate barriers*

Prerequisite: None

Goal(s): 1 – Change the Perspective that Storm Water is a Waste or Hazard, and Treat it as a Valuable Water Resource

Project Objective: Identify actions required to eliminate existing legal/regulatory, political, logistic and technical barriers to the implementation of storm water capture and beneficial use and begin to implement them.

Scope: The intent of this project is to increase understanding and address the limitations to the capture and use of storm water. Barriers are diverse and include technical, political, legal/regulatory, and logistical issues, and may differ from region to region. The analysis of technical barriers include: (1) technical feasibility challenges often encountered when attempting storm water quality retrofit projects; (2) a description of high-potential urban retrofit project types to support storm water treatment, infiltration and groundwater augmentation

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(such as detention, retention, and catch basin retrofits); and (3) a summary of potential risks to groundwater quality from infiltration-based storm water management designs (e.g., infiltration basins, bioretention, dry wells) and methods to avoid potential contamination. Identify and evaluate legal considerations, including water rights, instream environmental impacts, and storm water infiltration in adjudicated and non-adjudicated basins. Political and logistical barrier considerations may include potential mitigation by the new Sustainable Groundwater Management Act (SGMA), and the unintended consequences on public health due to vector control issues.¹ Identify and, where feasible, implement follow-up actions to address the identified barriers.

Background: Storm water capture projects are often hindered by concerns related to: water quality, water rights, stream and wetland ecosystem impacts, and funding. Guidance on the technical aspects of determining water quality treatment needs for different types of use, identification of appropriate stream hydrographs to support public trust uses and natural processes, and legal analyses and guidance on water right implications, is needed before many stakeholders can support increased storm water capture and use and funding of such projects. Financial barriers to storm water capture and use are addressed in Project 6b below.

Products and Timelines:

9 Months: Develop a staff report identifying barriers to storm water capture and recharge, and recommend actions to remove or alleviate identified barriers, as appropriate.)

6 Months: Develop guidance for Board consideration, where needed, for addressing legal and technical barriers to implementing storm water capture and use projects.

2 Years: Implement actions identified in the staff report to remove or alleviate barriers.

Project 1c Increase Storm Water Capture and Use through Regulatory Approaches

Priority: Very High, *Assessment: Critically important, readily achievable*

Prerequisite: This project will be informed by Projects 1a and 1b, and should be implemented subsequent to the staff reports developed as outcomes resulting of those projects.

Goal(s): 1 – Change the Perspective that Storm Water is a Waste or Hazard, and Treat it as a Valuable Water Resource

Project Objective: Adopt storm water policies, guidelines, and permits to incentivize storm water capture and use.

¹ The Mosquito and Vector Control Association of California (www.mvcac.org) created a white paper titled, “How Better Planning and Use of the California Environmental Quality Act Can Prevent Mosquitoes and Vector-Borne Disease” discussing the benefits for developers, natural resources and public health when adding vector control considerations to local government project planning and design.

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Scope: Review current storm water permits, policies, and programs to identify where storm water capture and beneficial use can be required or incentivized for both new and existing development. Focus the analysis on the results of Projects 1a and 1b. Consider requiring or incentivizing multiple-benefit approaches, green infrastructure, flood control, regional storm water retention, infiltration facilities, and direct use. Options for regulatory requirement-based actions and incentives could include: (1) incentivizing multiple-benefit project proponents through alternative compliance pathways consistent with the principles discussed in the adopted order resolving the Los Angeles Municipal Separate Storm Sewer System (MS4) Petition; (2) providing funding and financial tools to encourage retrofits and/or alternative compliance pathways; (3) requiring or incentivizing retrofits of existing infrastructure; and (4) using existing regulatory authority to ensure implementation of multiple benefit projects and retrofits.

Background: Traditional permitting practices mainly focus on storm water capture and use for new development/redevelopment and less on modifying the existing urban landscape. Moreover, few permits provide incentives to increase storm water capture and use but rather create unintended obstacles to implementing storm water capture/use. A concerted effort to retrofit the existing urban landscape to green infrastructure is needed to restore storm water infiltration capacity previously lost in developed areas. While large-scale retrofits to urban landscapes appear to be costly, cost-effective options for increasing storm water capture and use while achieving environmental outcomes may include: (1) converting to green infrastructure at the end of existing infrastructure life-cycles; (2) using simple retrofits like standardized parkway curb cuts in public rights of way; and (3) establishing healthy, living soil in landscaped areas. Increasing storm water infiltration in developed areas provides multiple benefits, including improving groundwater recharge, restoring lost watershed processes such as base flow to creeks, and reducing pollutant loads discharged to surface waters.

Products and Timelines:

1.5 Years: Develop a staff report to identify opportunities to require and incentivize storm water capture and use.

6 Months: Prepare a draft Item of proposed regulatory approaches for State Water Board consideration of adoption.

Project 1d Develop and Establish a Monetary Value of Storm Water

Priority: Medium, *Assessment: Critically important, achievable with significant barriers*

Prerequisite: None

Goal(s): 1 – Change the Perspective that Storm Water is a Waste or Hazard, and Treat it as a Valuable Water Resource

Project Objective: Create a Water Boards-supported framework establishing a monetary value of storm water in volumetric terms as an additional source of local water supply as well

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as its value to water quality. Collaborate with the appropriate agencies and stakeholders to institutionalize values of storm water.

Scope: Develop a storm water value framework that will establish a method for calculating the net unit cost of storm water as a water supply source, as compared to the current and projected cost of imported water. The method will consider: (1) groundwater basin-specific factors that will affect the cost of infiltration and extraction for potable use; (2) the cost offset for water quality protection; (3) the cost for imported water; and (4) other factors that influence the monetary value of storm water.

Upon completion of the value framework, evaluate mechanisms for multi-agency agreements that promote storm water capture and use projects. Identify and evaluate the pros and cons of each mechanism. Identify and evaluate legal hurdles and opportunities. The mechanisms could include Memorandums of Agreement (MOAs) or Joint Power Agreements (JPAs) between municipalities and water agencies that address water rights issues, facilitate cooperative funding of storm water capture projects, and establish a crediting system or dedicated revenue stream for municipalities based on the volume of storm water recharged.

Background: Many stakeholders commented that in order for storm water capture and use projects to gain traction, there needs to be an established framework for calculating the monetary value of storm water. The City of Los Angeles Department of Water and Power and the Natural Resource Defense Council have both conducted focused studies to quantify the potential for storm water capture and use projects (Los Angeles and the Bay area, respectively); however, the effort to establish a monetary value has proven challenging and is driven in many cases by local conditions and agency needs. UCLA's Luskin Center and the Pacific Institute have completed some preliminary work on the monetary value of storm water and are currently working to broaden the research on the economic value of storm water.

The SGMA may create a new mechanism for monetizing storm water through the implementation of groundwater sustainability plans. Restrictions on extractions implemented through sustainability plans may cause local groundwater markets to mature without impacting surface water rights. As markets develop, storm water use will be increasingly incentivized. A monetary framework developed within the next five years could support leveraging storm water as a resource when sustainability plans are adopted five to seven years from now.

Products and Timelines:

2 Years: Prepare staff report outlining methods and results of economic value of storm water (or incorporate the results of other studies into Staff Guidance). Compile case studies (if available) and prepare and approve template MOA/JPA legal documents for municipality and water agency water crediting partnerships.

2 Years: Propose a framework for storm water capture and recharge crediting systems to be incorporated into institutional mechanisms. Prepare an item for State Water Board consideration of adoption.

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Objective 2: Increase Stakeholder Collaboration on a Watershed Scale

Watershed and waterbody scaled partnerships increase the efficacy of water quality improvement actions and ensure that regional projects receive adequate support and funding. The project captured in this objective promotes collaboration between flood control agencies, water conservation agencies, groundwater sustainability agencies, municipalities, and other key partners, to work toward sustainable management and use of storm water. The project is the following:

- ◆ Project 2a – Increase Stakeholder Collaboration to Promote Storm Water as a Resource

Project 2a Increase Stakeholder Collaboration to Promote Storm Water as a Resource

Priority: Medium, *Assessment: Critically important, achievable with significant barriers*

Prerequisite: None

Goal(s): 1 – Change the Perspective that Storm Water is a Waste or Hazard, and Treat it as a Valuable Water Resource, 4 – Collaborate in Order to Solve Water Quality and Pollutant Problems with an Array of Regulatory and Non-Regulatory Approaches

Project Objective: Partner with flood control agencies, water conservation efforts, groundwater sustainability agencies, water agencies, land use planning departments, and other municipal departments to promote projects that provide multiple benefits.

Scope: Identify opportunities and barriers to collaborating with other agencies to promote the treatment of storm water as a resource and promote water use efficiency. Develop templates for formal or informal partnership agreements to take advantage of opportunities and remove barriers to multiple benefit projects. Identify ways to incentivize multiple benefit projects (e.g. water supply offset or other non-permitting incentives).

Background: Many agencies, especially the Department of Water Resources and other water supply agencies, can potentially benefit from projects that use storm water as a resource. These beneficiaries can be important partners; however, some water supply agencies are cautious of linking their projects to storm water retention projects related to MS4 permits, particularly because of compliance deadlines. Other agencies, such as school districts, that have land that could be used for multiple benefit projects may have concerns about environmental liability. The Water Boards acknowledge that in order for successful completion of this project, other agencies will need to participate and implement their own authorities and mandates in order to increase the use of storm water as a resource. The SGMA may also be one of the catalysts the Water Boards can rely on to encourage treating storm water as a resource, because it provides an opportunity for storm water projects to be leveraged through agency collaboration to help achieve groundwater sustainability.

Products and Timelines:

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6 Months: Identify opportunities and any barriers to collaborate with other agencies.

9 Months: Meet with a select but limited number of water agencies to discuss collaboration opportunities.

1 Year: Propose a template for a Memorandum of Agreement (MOA) or other agreement mechanism with water agencies to form sustainable relationships and communication avenues.

Ongoing: Participate in work groups or meetings to facilitate collaboration.

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Objective 3: Establish Permit Pathways to Assess Storm Water Programs and Meet Water Quality Requirements

The projects captured in this objective aim to evaluate current storm water programs, with particular emphasis on the municipal program, and identify alternative compliance pathways, as well as the appropriate tools and methods applied to assess compliance with these compliance pathways. The projects are:

- ◆ Project 3a – Develop Guidance for Alternative Compliance Approaches for Municipal Storm Water Permit Receiving Water Limitations
 - ◆ Project 3b – Develop Watershed-Based Compliance and Management Guidelines and Tools
 - ◆ Project 3c – Assess Municipal Storm Water Program Monitoring and Effectiveness
 - ◆ Project 3d – Establish Statewide Regulatory Framework for Municipal Storm Water Programs
 - ◆ Project 3e – Standardize Minimum Control Measures for Specific Municipal Program Elements
 - ◆ Project 3f – Develop Guidance for Implementation of Post-Construction Requirements to Improve Watershed Health
 - ◆ Project 3g – Establish Guidance for Storm Water Program Asset Management Planning and Cost Estimation
-

Project 3a **Develop Guidance for Alternative Compliance Approaches for Municipal Storm Water Permit Receiving Water Limitations**

Priority: High, *Assessment: Critically important, achievable with moderate barriers*

Prerequisite: Work will be informed by the State Water Board's decision/order on the Los Angeles County MS4 permit.

Goal(s): 2 – Manage Storm Water to Preserve Watershed Processes and Achieve Desired Water Quality Outcomes

Project Objective: Develop guidance and permit template language for Water Board staff to incorporate alternative compliance measures.

Scope: Compile and evaluate alternative compliance approaches to meeting receiving water limitations in municipal storm water permits throughout California, including the transferability of the alternative compliance approach to other regions/permittees. Monitor implementation of the State Water Board decision regarding the Los Angeles MS4 Permit appeal and other Water Boards' efforts to develop alternative compliance options. Based on this evaluation, develop general guidance, consistent with the State Water Board's action on the Los Angeles MS4 Permit, for Water Boards to incorporate alternative compliance approaches into storm water permits, including permits developed and issued by the State Water Board. The San Francisco Bay Region has also developed an approach applied within the Regional Municipal Storm Water Permit for translating or implementing receiving water limitations through explicit enforceable permit provisions that will be incorporated into this evaluation. Establish technical

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guidance and supporting documentation for Water Board staff to incorporate alternative compliance approaches into storm water permits, while ensuring water quality outcomes are achieved. This project has a direct nexus with Project 3b.

Background: Since the beginning of the storm water regulatory program, the National Pollutant Discharge Elimination System (NPDES) permit requirement that dischargers must not cause or contribute to an exceedance of a water quality standard has been contentious (this discussion was recently expanded to address TMDL requirements. Dischargers claimed that strict reading of the permit requirement would lead to cost-prohibitive compliance efforts that would require many years to implement. Accordingly, two recent NPDES permitting efforts attempted to address this issue. Both the Los Angeles County Permit and the San Diego Region Permit identified an alternative compliance approach for the municipalities to use in demonstrating compliance with permit requirements; however, petitioners associated with the Los Angeles Permit challenged whether the alternative compliance pathway was legal and appropriate. The State Water Board issued an order addressing the arguments on June 16, 2015. The San Francisco Bay Region Municipal Regional Storm Water Permit also provides examples of translating or implementing receiving water limitations through explicit enforceable permit provisions.

Products and Timelines:

2 Years: Staff report evaluating alternative compliance approaches to meeting receiving water limitations in storm water permits throughout California, including the transferability of the alternative compliance approach to other regions/permittees.

1 Year: Present draft general guidance, consistent with the State Water Board decisions/orders, for Water Board staff to incorporate alternative compliance approaches into storm water permits. Prepare Item for State Water Board consideration of adoption.

Project 3b Develop Watershed-Based Compliance and Management Guidelines and Tools

Priority: High, *Assessment: Critically important, achievable with moderate barriers*

Prerequisite: None

Goal(s): 2 – Manage Storm Water to Preserve Watershed Processes and Achieve Desired Water Quality Outcomes

Project Objective: Develop technical and management guidance, including data and modeling needs, for local storm water programs to demonstrate water quality protection and support watershed-based storm water management.

Scope: Develop guidance for municipalities to: (1) prioritize their water quality issues and limit pollutants; (2) identify all sources of pollutants; (3) plan and implement a watershed-based

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storm water management plan; and (4) conduct a reasonable assurance analysis for the water quality outcomes of the watershed-based plans. The reasonable assurance analysis guidance will identify the data and quantitative numeric (including modeling) requirements for demonstrating water quality protection. This project has a direct nexus with Project 3a.

Background: Watershed-based storm water planning, and to a lesser extent, reasonable assurance analysis, is being incorporated into municipal (MS4) permits on a region by region basis. The most recent Los Angeles County MS4 Permit allows permittees to develop and implement Watershed Management Programs and Enhanced Watershed Management Programs to achieve water quality standards (e.g., wasteload allocations) and requires permittees to conduct reasonable assurance analysis to demonstrate that the Watershed Management Plans will attain water quality standards. The San Francisco Bay Water Board is working on similar issues, promoting use of green infrastructure plans, and will be convening workshops with United States Environmental Protection Agency (U.S. EPA) on approaches for conducting reasonable assurance analysis that demonstrates attainment of water quality standards. In addition to highly urbanized areas, MS4s in less developed watersheds with other land uses would benefit from guidance in implementing a watershed based program that addresses all sources of pollutants. This project will incorporate findings, conclusions, and recommendations from existing efforts to standardize watershed-based compliance tools and reasonable assurance analysis methods used across the state.

Products and Timelines:

1 Year: Staff report based on evaluation of the Los Angeles Regional Board staff's guidance for conducting reasonable assurance analysis and developing Watershed Management Programs / Enhanced Watershed Management Programs, and other watershed-based compliance and management tools under development or in use elsewhere in the state.

1 Year: Develop technical guidance (version one) for State Water Board consideration of adoption, based on the staff report findings and recommendations presenting tools for developing watershed-based plans to achieve water quality standards with controls for various pollutants or combination of pollutants of concern. Recommendations will include information and data needs, modeling options for siting and sizing of controls, and conducting reasonable assurance analysis that the watershed-based control plan will achieve water quality outcomes.

2 Years: Develop technical guidance (version two) for State Water Board consideration of adoption, based on the staff report and version one findings and recommendations presenting advanced tools for development of watershed-based control plans and conducting reasonable assurance analysis, including consideration of watershed-based sizing criteria for controls.

Project 3c Assess Municipal Storm Water Program Monitoring and Effectiveness

Priority: High, *Assessment: Important, readily achievable*

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Prerequisite: None

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs

Project Objective: Identify monitoring and effectiveness assessment approaches that efficiently generate information used for adaptive management and improvement of the local municipal storm water programs regulated by Water Board requirements.

Scope: The result of the project is a data and information management approach that will inform Water Board Storm Water Program management decisions, improve program effectiveness, and maximize water quality-based outcomes. After first identifying data and information needs, explore traditional water quality monitoring and new measures of program effectiveness, such as surrogate measures for discharge and receiving water quality (leveraged with efforts already undertaken by stakeholders). Develop methodologies and tools for answering high-priority monitoring and effectiveness assessment questions, such as: (1) how and where compliance with receiving water limitations should be assessed; (2) how to estimate baseline pollutant loads; (3) how to determine relative spatial risks to receiving water quality; and (4) how to quantify the expected load reduction associated with water quality improvement projects. Develop training materials and statewide workgroups to set up implementation, training, and troubleshooting.

Background: Significant funds are spent annually on storm water monitoring and effectiveness assessment; however, the work to date has in some cases been limited in guiding program implementation. Accordingly, reduced costs and increased utility of monitoring and effectiveness assessment is needed. As opposed to past complex techniques, simple models can yield valuable information to support short-term and long-term storm water program decisions and priorities. Use of simple, spatially-based pollutant load and reduction information will support identification and prioritization of water quality actions. For example, the Central Coast Regional Board is developing a spatial approach to estimate pollutant loads and load reductions to provide a simple visual way to identify and prioritize areas for water quality improvements. This work builds from earlier Lahontan Regional Board staff efforts to provide a useable, transparent, and scientifically-credible tool to estimate baseline pollutant loads, determine relative spatial risks to receiving water quality, and quantify the expected load reduction associated with water quality improvement actions. Rather than attempting to model multiple pollutant types, this methodology uses credible and effective representative parameters (i.e., total suspended solids and volume) to create a ranking of municipal catchments in terms of relative risk to the receiving water. The result is information that serves as an effective communication tool between Water Board staff and municipal representatives.

Products and Timelines:

3 Years: Develop technical guidance document that identifies useful data to collect for storm water program effectiveness analysis, and how to report the water data and information on water quality program effectiveness to drive the best responses and management actions. Develop tools, including guidance on: (1) assessing receiving water limitations; (2) estimating baseline pollutant loads; (3) determining relative spatial risks to receiving water quality; and (4)

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quantifying the expected load reduction associated with water quality improvement actions. Develop Item for State Water Board consideration of adoption.

Project 3d Establish Statewide Regulatory Framework for Municipal Storm Water Programs

Priority: High, *Assessment: Critically important, achievable with moderate barriers*

Prerequisite: None

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs

Project Objective: Develop a framework that compliments federal and state regulations, incorporates adaptive management, provides a sustainable pathway to water quality protection, and promotes green infrastructure.

Scope: Develop a framework that will provide guidance in the development and application of technology and water quality based effluent limits, the incorporation of TMDLs into permits, and addressing impacts to beneficial uses during wet weather conditions. The framework may ultimately be incorporated into the State Implementation Plan for Inland Waters, Enclosed Bays, and Estuaries of California, or equivalent document. This project has a nexus with many of the other projects, particularly Projects 3a, 3b, 3c, 4e, and 5b.

Background: The NPDES permitting program for municipalities has evolved from the incorporating technology-based standards of reducing pollutants to the maximum extent practicable (MEP) and general compliance with receiving water limitations; to incorporating more targeted water quality based requirements based on TMDL limitations. The approach taken by Regional Boards in locally issued permits varies; accordingly, stakeholders requested that the State Water Board provide better guidance and consistency in the form of a Statewide Storm Water Policy. Furthermore, both stakeholders and regulators seek opportunities to create an adaptable storm water program that will provide for long-term, sustainable water quality protection. This project will provide consistency and guidance for permit writers in their efforts to craft permits that provide for adaptive management and sustainable water quality protection.

Products and Timelines:

1 Year: Initiate stakeholder process to receive input on framework.

4 Years: Develop guidelines to implement the framework for both the Water Boards and regulated community. Draft either a stand-alone storm water document for State Water Board consideration of adoption, or incorporate guidelines into the State Implementation Plan for Inland Waters, Enclosed Bays, and Estuaries of California, or equivalent document.

Ongoing: As necessary or required, update the document(s) or guideline(s) to reflect changes or additions.

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Project 3e Standardize Minimum Control Measures for Specific Municipal Program Elements

Priority: Medium, *Assessment: Somewhat important, achievable with moderate barriers*

Prerequisite: None

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs

Project Objective: Develop permitting and policy-making guidance tools to implement consistent and applicable minimum control measures statewide.

Scope: Review previous efforts and current permits to identify sections or issues where standardized approaches for storm water permits could improve program efficiency and water quality outcomes. Such focus areas could include minimum control measures for mature program tasks, such as illicit connections/illicit discharges, and establishment of adequate authority for municipalities. Products will consist of minimum control measures for municipal permits.

Background: Significant time and effort is spent preparing and reissuing municipal storm water permits. The time and resources could be reduced if the Water Boards developed a template for issues that do not have region-specific requirements, or will benefit from a conceptual framework that provides regions flexibility to address unique topographic, climatic, hydrologic, geologic, and land use differences. There were several past efforts to develop either draft statewide municipal permit language or statewide permit template for municipal storm water permits, and though some success was achieved in terms of agreements, these efforts were terminated before any products were finalized.

Products and Timelines:

6 Months: Create a work group and identify permitting issues that could be addressed through development of standardized language and water quality outcomes.

1 Year: Produce permit writing tools and sample permit language for the minimum control measures identified for standardization.

Project 3f Develop Guidance for Implementation of Post-Construction Requirements to Improve Watershed Health

Priority: High, *Assessment: Critically important, achievable with moderate barriers*

Prerequisite: None

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Goal(s): 2 – Manage Storm Water to Preserve Watershed Processes and Achieve Desired Water Quality Outcomes

Project Objective: Develop technical guidance and permitting tools to promote statewide implementation of post-construction requirements based on watershed processes.

Scope: Develop a methodology to identify watershed-specific processes that are critical to watershed health, to be applied to all watersheds at the statewide scale. Conduct analysis to identify dominant watershed processes and sensitivity of receiving water bodies to degradation of those processes, for each watershed throughout the state. Determine post-construction management strategies necessary to protect watershed health for each dominant watershed process/receiving water type combination, and whether those strategies are best applied at the regional or site scale. Develop tools, guidance, permitting approaches, permit language, and/or policies to implement the post-construction management strategies. Identify and prioritize options such as the development of technical resource centers, dedicated web site, or workshops for promoting the implementation of post construction requirements.

Background: Many regions are expected to experience significant growth over the next two decades. Much of this growth is planned for the existing urban margins or undeveloped foothills where the potential for hydromodification could severely harm already stressed riparian habitats and natural hydrogeology. Anticipating potential impacts, the Central Coast Regional Board developed several post-construction requirements tailored to protecting watershed processes that are critical to watershed health. Post-construction requirements vary between watersheds, ensuring that sensitive watersheds receive adequate protection, while also allowing development projects to avoid implementing unnecessary storm water management strategies.

Products and Timelines:

1 Year: Produce a staff report outlining a methodology for conducting the watershed analysis at the statewide level (Region 3's efforts could serve as a foundation), results of the analysis using available data, validation using ground truthing, and recommendations for post-construction management strategies. The report will also identify options for promoting implementation of the post-construction requirements.

3 Years: Using a stakeholder process, develop tools, guidance, permitting approaches, permit language, and/or policies to implement recommended post-construction management strategies at the appropriate regional or local scale. Develop Item for State Water Board consideration of adoption.

Project 3g Establish Guidance for Storm Water Program Asset Management Planning and Cost Estimation

Priority: Low, *Assessment: Somewhat important, achievable with moderate barriers*

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Prerequisite: None

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs

Project Objective: Create a guidance document for local storm water permittees to develop asset management plans that assist municipalities to accurately estimate program assets.

Scope: Evaluate existing storm water asset management methods and prepare a California-specific method for developing asset management plans.

Background: The concept of an asset management plan for a watershed is a relatively new concept. An asset management plan is a long-range planning document used to provide a rational framework for understanding and planning the asset portfolio. In California, the City of San Diego has taken the lead on the concept of asset management by developing a Watershed Asset Management Plan (WAMP). The WAMP documents the current state of assets (e.g., asset inventory, valuation, condition, risk) and projects the long-range asset renewal (rehabilitation and replacement) requirements for the City's Storm Water Division. The City has developed a WAMP for each of the six watersheds in the City's jurisdiction; each WAMP identifies the assets owned and managed by the City provides an understanding of critical assets required to deliver the services, records the strategies that will be used to manage the assets, and documents the future investments required to deliver the committed services. This information is used by the City to develop more accurate and transparent cost information that can be provided to the public, which can also be used to demonstrate the need for more stable funding sources.

Products and Timelines:

1 Year: Review existing plans from City of San Diego, U.S. EPA Environmental Finance Center, and others. Develop statewide guidance document for State Water Board consideration of adoption, for storm water permittees to develop a storm water asset management plan.

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Objective 4: Establish Financially Sustainable Storm Water Programs

The cost of compliance is a major issue for many storm water permittees and a significant source of contention among the regulated community, environmental advocacy groups and Water Boards. The projects captured in this objective aim to identify the costs of compliance with the municipal, industrial, and construction permitting programs. Additionally, projects within this objective will focus on making funding accessible to storm water projects. The projects are the following:

- ◆ Project 4a – Implement Senate Bill 985 – Incorporate Principles of Storm Water Resource Plan Guidelines into Storm Water Programs
- ◆ Project 4b – Eliminate Barriers to Funding Storm Water Programs and Identify Funding for Storm Water Capture and Use Projects
- ◆ Project 4c – Identify Municipal Storm Water Permit Compliance Cost
- ◆ Project 4d – Identify Industrial and Construction Storm Water Permit Compliance Cost

Project 4a **Implement Senate Bill 985 – Incorporate Principles of Storm Water Resource Plan Guidelines into Storm Water Programs**

Priority: Very High, **Assessment:** *Critically important, required by statute*

Prerequisite: None

Goal(s): 1 – Change the Perspective that Storm Water is a Waste or Hazard, and Treat it as a Valuable Water Resource, 2 – Manage Storm Water to Preserve Watershed Processes and Achieve Desired Water Quality Outcomes

Project Objective: Monitor application of Storm Water Resource Plan Guidelines pursuant to the Storm Water Resource Planning Act of 2014, and in accordance with Water Code section 10565 (Senate Bill 985, Pavley, Statutes of 2014). Modify storm water planning, permitting, and funding programs to support the priority actions identified in Storm Water Resource Plan Guidelines.

Scope: Implement Senate Bill 985:

- 1) Develop review criteria for Water Board staff to evaluate Storm Water Resource Plans.
- 2) Review current storm water permits, policies, plans, and funding programs to identify how to best incorporate storm water resource planning efforts.

Background: Water Code section 10563(c)(1), as amended by Senate Bill (SB) 985, requires a public agency to develop a Storm Water Resource Plan (Plan) as a condition of receiving funds from any bond approved by voters after January 2014. The intent of SB 985 was to encourage the use of storm water and dry weather runoff as a resource to improve water quality, reduce localized flooding, and increase water supplies for beneficial uses and the environment. Accordingly, the development of Plans will encourage public agencies to identify opportunities to use existing publicly owned lands and easements to capture, treat, store, and

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use storm water and dry weather runoff either onsite or offsite. The Plans should prioritize projects that will assist in attaining water quality outcomes. Water Code section 10565 also requires the State Water Board to specify the types of local agencies that must be consulted in Plan development, which provides an opportunity to ensure collaboration with water supply and groundwater sustainability agencies. Resources to develop the Storm Water Resource Plan Guidelines were provided in the Governor's budget for Fiscal Year 2015/16; however, resources to review the Plans have not been proposed.

Products and Timelines:

2 Years: Monitor application of Storm Water Resource Plan Guidelines in accordance with Water Code section 10565 (as amended by SB 985).

Ongoing: Review Storm Water Resource Plans. Work with other watershed planning efforts to incorporate the principles of Storm Water Resource Plan Guidelines in related programs.

Project 4b Eliminate Barriers to Funding Storm Water Programs and Identify Funding for Storm Water Capture and Use Projects

Priority: High, *Assessment: Critically important, achievable with moderate barriers*

Prerequisite: None

Goal(s): 1 – Change the Perspective that Storm Water is a Waste or Hazard, and Treat it as a Valuable Water Resource, 2 – Manage Storm Water to Preserve Watershed Processes and Achieve Desired Water Quality Outcomes, 3 – Implement Efficient and Effective Regulatory Programs

Project Objective: Support funding of storm water programs throughout the state.

Scope: Review funding programs including the: Integrated Regional Water Management Grants, Clean Water State Revolving Fund (Water Boards), Infrastructure State Revolving Fund (I-Bank), Bond funds (including transportation, climate change, SB 985, and Proposition 1), and evaluate opportunities for the State Water Board to support funding of storm water programs throughout the state. Potential Board actions include: (1) adopting a resolution that recognizes consistent funding sources as a key to treating storm water as resource; (2) supporting the concept that storm water is a utility and supporting efforts to amending Proposition 218; (3) engaging local elected officials and establishing regional resource centers; and (4) supporting changes to grant and loan guidelines to help meet storm water program requirements and make loans more accessible to municipalities. The State Water Board should also develop a strategy to educate the public regarding storm water funding opportunities.

Background: With California facing a fourth year of drought, storm water programs will play a larger role in providing solutions. Storm water programs in California are either not funded by

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fees or have fees that are inadequate to fully fund the program. The Water Boards' support for consistent funding will enable municipalities to implement effective programs that improve water quality and help mitigate drought conditions. Estimates of the cost needed for storm water programs will be informed by Projects 36, 4c, and 4d.

Products and Timelines:

6 Months: Produce a staff report summarizing the limitations of current storm water funding programs.

1.5 Years: Develop a strategy and recommendations for increasing funding for storm water programs.

Project 4c Identify Municipal Storm Water Permit Compliance Costs

Priority: Medium, *Assessment: Critically important, achievable with significant barriers*

Prerequisite: None

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs

Project Objective: Develop a framework to identify cost of compliance with storm water permit requirements.

Scope: Develop a standard accounting and allocation method to estimate the Storm Water Program costs including costs for personnel, operation and maintenance, and capital improvements. The method will differentiate cost of compliance from unrelated costs of infrastructure construction and maintenance.

Background: Previous studies have shown that municipalities are not consistent in their approaches in estimating the cost of a storm water program. Different accounting and allocation methods (e.g., allocation of street sweeping to which public works program – storm water or street maintenance) are used to assign cost to a program. This creates a range in calculated program costs that varies from municipality to municipality and creates confusion as to the true cost of permit compliance. Previous work that includes cost information will be utilized where possible.

Products and Timelines:

1.5 Years: Produce a staff report outlining costs associated with storm water permits standardized estimating procedures, and a case study.

6 Months: Develop Item for State Water Board consideration of adoption.

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Project 4d Identify Industrial and Construction Storm Water Permit Compliance Cost

Priority: Medium, *Assessment: Important, achievable with moderate barriers*

Prerequisite: This project may be informed by Project 5c.

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs

Project Objective: Establish a procedure for Water Board staff to use in the permit development process that will estimate sector-specific costs for all new requirements in future construction and industrial storm water permits.

Scope: For some sectors and at the best management practice (BMP) level, identify the range of costs expected for a discharger to be in compliance with the requirements. This information will support the work associated with Project 5c, Sector-Specific Technology-Based Numeric Effluent Limits.

Background: The Industrial and Construction General Storm Water Permit requirements often result in unknown costs to the discharger(s), and many perceive overall program costs to be increasing. Recent staff attempts to mitigate costs include complex permit systems aimed at aligning costs and/or requirements with riskier and/or more appropriate facilities and situations. However, the missing pieces of information for decision makers are the cost of compliance.

Products and Timelines:

1.5 Years: Produce a staff report outlining costs associated with storm water permits, standardized estimating procedures and a case study.

6 Months: Develop Item for State Water Board consideration of adoption.

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Objective 5: Improve and Align State Water Board Oversight of Water Board Programs and Water Quality Planning Efforts

Storm water is unique in comparison to other types of discharges and these differences are rarely accounted for in program planning, data collection or integration with other monitoring efforts. The projects captured in this objective aim to improve program oversight through a data-driven approach, and align storm water data collection with other water quality planning efforts at the Water Board. The projects are the following:

- ◆ Project 5a – Create Storm Water Program Data and Information “Open Data”
 - ◆ Project 5b – Evaluate and Increase Storm Water Permit Compliance
 - ◆ Project 5c – Establish Sector-specific Technology-based Numeric Effluent Limitations for Industrial and Construction Storm Water Permits
 - ◆ Project 5d – Align Water Quality Statewide Planning Efforts with Storm Water Program Implementation – Pilot Project Using the Biological Integrity Plan
-

Project 5a Create Storm Water Program Data and Information “Open Data”

Priority: High, *Assessment: Important, achievable with moderate barriers*

Prerequisite: None

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs, 4 - Collaborate in Order to Solve Water Quality and Pollutant Problems with an Array of Regulatory and Non-Regulatory Approaches

Project Objective: Increase the amount and quality of data and information entered in and queried out of the Water Boards’ existing data collection systems.

Scope: Integrate existing data and information reporting functions available in the Storm Water Multiple Application and Report Tracking System (SMARTS), the California Integrated Water Quality System (CIWQS) and the California Environmental Data Exchange Network (CEDEN).

The Water Boards use the above systems to collect and track information of interest to the Water Boards and stakeholders. Types of data and information collected include: permittee information (enrollment in general permit, co-permittees, type of facility, industry code, location, size, etc.), compliance evaluations (inspections, ad-hoc and annual report review, etc.), and enforcement actions (notices of violation, notices of non-compliance, formal enforcement, etc.) Create a website that improves the ability to query permittee information and improves the efficiency of assessing compliance. Additionally, improve program performance review by conducting a pilot project to test the ability of new technology (e.g., tablets, smart phones) to increase efficiency and effectiveness of data entry (e.g., inspections

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and inspection reports) by collecting and transmitting inspection data directly from the field to pertinent databases. To continue the Storm Water Programs' progression towards collection of usable data and information, produce a report with recommendations for how to make further improvements to achieve open, free, and available data and information for all stakeholders.

Background: "Open data" is public data and information that can be used, modified, and shared for any purpose. The Water Boards' existing storm water data collection systems limit data-collaborative activities, thus limiting the Water Boards' ability to use data and information in daily decision making and program advancement processes. Stakeholders view this problem as multi-faceted: (1) hurdles to enter data into our existing data systems, like SMARTS, CIWQS and CEDEN; (2) obstacles to making changes to the data infrastructure to enhance openness; and (3) challenges to extracting data and information from the data systems, especially when using multiple sets of information simultaneously. The Water Boards currently have an open data project led by the Office of Information Management and Analysis (OIMA) that may be able to support the development of a web site for storm water data. The Water Boards regulate thousands of storm water sites, facilities, and municipalities; however, because of inadequate staff levels, the Water Boards are not able to assess compliance for every site, facility, and municipality. Accordingly, new methods and tools are needed to broaden the number of sites assessed for compliance.

Products and Timelines:

2 Years: Build a website for real-time connections to SMARTS, CIWQS and CEDEN reporting information for the Storm Water Program.

1 Year: Obtain permission and secure funding for the purchase of 25 field devices for Water Board storm water inspectors. Develop template to standardize inspection information/data uploaded into SMARTS through the field devices.

1 Year: Prepare a staff report with recommendations for incorporating open data concepts and collaborative activities for the Water Boards' Storm Water Program.

Project 5b Evaluate and Increase Storm Water Permit Compliance

Priority: Medium, *Assessment: Important, achievable with significant barriers*

Prerequisite: None

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs, 4 – Collaborate in Order to Solve Water Quality and Pollutant Problems with an Array of Regulatory and Non-Regulatory Approaches

Project Objective: Develop recommended focus areas for existing storm water permit compliance evaluation, and identify potential additional resources for conducting focused

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program audits and compliance inspections to deter noncompliance (through increased Water Board staff field presence). Collaborate with other state and local agencies on existing compliance efforts.

Scope: Assist Water Board Storm Water Program staff by focusing compliance evaluations on permit requirements that provide the most effective water quality outcomes. The project includes: (1) research to identify and prioritize elements of the program's permits that require additional resources to determine effective compliance strategies; (2) revisions of the Administrative Procedures Manuals to outline standard methods used by the program for audit, inspection and compliance determination procedures; and (3) collaboration within the agency and with other agencies on increasing the efficiency of the program's inspections, audits and compliance determinations. The project includes assisting the program with outreach to storm water permittees to distribute compliance evaluation results. This compliance assistance is proposed in addition to existing compliance responsibilities, and will provide additional resources for evaluating the overall effectiveness of the Storm Water Program.

Background: Significant funds are spent annually on storm water audits, inspections and compliance evaluations; however, focused compliance evaluations on key permit requirements related to effective water quality outcomes need to be identified, and will support implementing requirements developed in Storm Water Program permits. Many agencies have a program for audits, inspections, and compliance evaluations that directly overlaps with elements within the Storm Water Program's compliance determinations. This project will provide resources for conducting effective collaboration with other agencies and will identify focused compliance issues that exist across multiple programs statewide. Developing and supporting these partnerships is a crucial element for expanding Storm Water Program staff knowledge on the breadth of environmental concerns at regulated facilities (and MS4s), and it will lead to direct water quality benefits and increased efficiency of compliance determinations

Products and Timelines:

1 Year: Develop a technical guidance document for State Water Board consideration of adoption that identifies storm water permit compliance areas to focus on, and conduct meetings to disseminate recommendations with associated Water Board storm water programs. If necessary, amend the Administrative Procedures Manual to add additional procedures for the agreed upon enforcement procedures related to the enforcement goals.

3 Months: Provide assistance to the associated Water Board storm water programs in conducting outreach through letters or meetings with permitted storm water facilities and MS4s to disseminate the goals of the outcome-oriented compliance review.

1 Year: Provide resources for developing a point of contact for facilitation between the Water Board Storm Water Program and other agencies that conduct work that overlaps the Storm Water Program and host and attend coordination meetings with other agencies and provide deliverables that assist with compliance determinations statewide. The main objective is to increase the efficiency of compliance determinations and facilitate coordination with other

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agencies that regulate the same permitted storm water facilities and MS4s of the Storm Water Program.

Ongoing: Provide assistance to the associated Water Board storm water programs in conducting inspections and audits of permitted storm water facilities and MS4s with specific emphasis on the identified outcome-oriented enforcement objectives.

Project 5c Establish Sector-Specific Technology-Based Numeric Effluent Limitations for Industrial and Construction Storm Water Permits

Priority: Low, *Assessment: Somewhat important, achievable with significant barriers*

Prerequisite: None

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs, 4 – Collaborate in Order to Solve Water Quality and Pollutant Problems with an Array of Regulatory and Non-Regulatory Approaches

Project Objective: Continue the collection of pollutant discharge data for specific sectors and implement sector-specific-technology based numeric effluent limitations (NELs) as appropriate, in industrial and construction storm water permits.

Scope: Review existing effluent and BMP performance data (SMARTS), along with information about industrial and construction scenarios (e.g., high risk) where there is sufficient data to develop a technology based NEL. For each sector and pollutant, determine the control and treatment options to evaluate. Determine the scenarios (e.g., compliance storm) to evaluate. For each scenario, estimate the pollutant load and pollutant load reduction. In the review, include an analysis on how the proposed NELs relate to TMDL requirements, and include researching options for developing NELs that comply with the TMDL requirements. Provide assistance to the associated Water Board storm water programs in conducting outreach via letters or meetings with permitted storm water facilities to discuss the proposed outcomes of this project.

Background: The Water Boards have the authority to include NELs in NPDES storm water permits. Previously, data to support the development of technology-based NELs for the majority of sectors permitted and pollutants of concern did not exist. While there is not sufficient data to develop NELs across all sectors and pollutants, the Water Boards likely can identify some specific sectors and pollutants for which to develop NELs. The Water Boards can improve efficiency and water quality by evaluating opportunities where the NELs also address TMDL requirements.

Products and Timelines:

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1.5 Years: Develop a staff report for public comment summarizing available data (including a data quality analysis) and suggesting sectors and pollutants for technology-based NEL development.

1 Year: Develop a technical document for State Water Board consideration, to outline source control, treatment options, and scenarios to be analyzed.

2.5 Years: Develop a staff report for public comment that estimates pollutant load reductions for each identified scenario, and proposes technology-based NELs.

1 Year: Develop item for State Water Board consideration of adoption, permit language that includes, where appropriate, technology-based NELs.

Project 5d Align Water Quality Statewide Planning Efforts with Storm Water Program Implementation – Pilot Project Using the Biological Integrity Plan

Priority: High, *Assessment: Important, readily achievable*

Prerequisite: None

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs

Project Objective: Using the Draft Biological Integrity Plan being prepared by State Water Board staff as a pilot, incorporate compliance endpoints in storm water permits that further support statewide planning efforts.

Scope: Integrate storm water staff into the Biological Integrity Plan advisory groups to exchange information and use bioassessment² in the Storm Water Program. Review the draft bioassessment narrative developed for the Biological Integrity Plan and work with stakeholders to develop a framework for conducting biological assessments and interpreting biological data as a measure of compliance with a storm water permit.

Background: Statewide water planning efforts often identify the Water Boards' Storm Water Program as a key implementation tool or key partner; examples include the (recently approved) statewide Trash Amendment, sediment quality objectives, and groundwater sustainability planning. The Draft Biological Integrity Plan will provide Water Board staff an opportunity to be involved in the development stage of the plan and better integrate guidance on coordinating plan outcomes and storm water regulations.

Through SWAMP, Water Board staff has developed standard bioassessment protocols and has used them for the past 13 years to monitor the condition of California streams. Bioassessment monitoring requirements have been incorporated into storm water permits to evaluate environmental condition and assess the effectiveness of management actions. The

² Bioassessment is a tool for assessing the biological integrity (ecological condition) of a waterbody.

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State Water Board's Draft Biological Integrity Plan intends to promote statewide consistency in conducting bioassessments and interpreting biological data. The plan will include an implementation section describing how bioassessment should be incorporated into each Water Board regulatory program.

Products and Timelines:

2 Years: Review existing efforts, identify appropriate use of bioassessment data, and inform the implementation section of the State Water Board's Draft Biological Integrity Plan. (Expected date of State Water Board consideration of adoption of Biological Integrity Plan: Fall 2017)

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Objective 6: Increase Source Control and Pollution Prevention

The projects captured in this objective aim to develop strategies to reduce storm water pollutant discharges to water bodies through the promotion of source control and other non-regulatory strategies that would reduce the exposure of pollutants to runoff. The projects are the following:

- ◆ Project 6a – Establish Statewide Framework for Urban Pesticide Reduction
- ◆ Project 6b – Identify Opportunities for Source Control and Pollution Prevention
- ◆ Project 6c – Evaluate and Implement Trash Control

Project 6a Establish Statewide Framework for Urban Pesticide Reduction

Priority: High, *Assessment: Important, achievable with moderate barriers*

Prerequisite: None

Goal(s): 4 – Collaborate in Order to Solve Water Quality and Pollutant Problems with an Array of Regulatory and Non-Regulatory Approaches

Project Objective: Establish statewide source control efforts for pesticides in urban storm water.

Scope: Amend the statewide Water Quality Control Plans to account for urban pesticide discharges to: (1) recognize one of the primary mechanisms for urban pesticide pollution prevention is through use management under the authority of agencies that regulate pesticide use; (2) establish a framework for working with the Department of Pesticide Regulation (DPR) and U.S. EPA Office of Pesticide Programs (OPP) to improve pesticide evaluation and mitigation processes; (3) establish a framework for coordinating pesticide/toxicity monitoring by appropriate agencies; and (4) establish minimum source control efforts for urban storm water permittees.

Background: Pesticides continue to cause impairments to urban water bodies across the state, even as “old” pesticide uses are banned and replaced by new pesticides. Some practices and structures can reduce pesticide concentrations, but practically speaking, attaining reductions necessary to meet water quality standards through engineering changes to storm water systems and municipal discharger-led changes to pesticide use practices would likely be cost-prohibitive for two reasons: (1) the pesticides of interest are widely used and cause or contribute to toxicity at very low concentrations, and (2) state law does not allow local authorities to ban or limit pesticide sales and use. Accordingly, the most effective way to reduce urban pesticide-related impairments is through managing pesticide usage via existing state and federal pesticide regulatory authorities. Previous experiences suggest that resources focused on working with pesticide regulators (i.e., DPR and U.S. EPA OPP) to implement their authority will more effectively achieve our goals, as compared to attempting to control pesticides solely by using our own regulatory authorities on municipal dischargers.

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A statewide framework for urban pesticide pollution control efforts, established via an amendment to the state's Water Quality Control Plans, with a scope including the four elements listed above, could help more effectively and consistency control urban pesticides.

Regional Board staff, mainly from San Francisco Bay and Central Valley Regional Boards, in coordination with CASQA and other members of the Urban Pesticide Pollution Prevention Partnership, has invested significant efforts into working with DPR and U.S. EPA OPP with considerable success. A formal commitment by the Water Boards to implement a pollution prevention framework could strengthen these proactive efforts and relationships with pesticide regulators. A statewide plan would also encourage collective monitoring, data sharing, and education efforts by the regulated community, and establish consistent minimum pesticide source control efforts for urban storm water permittees.

This effort relates to increased use of storm water as a resource for groundwater recharge, as pesticide pollution prevention will benefit groundwater quality in areas where urban runoff is captured for groundwater recharge. Additionally, this project will contribute to the reduction and filtration of runoff, as well as conversion to sustainable landscapes that require fewer chemical inputs.

Products and Timelines:

6 Months: Develop a detailed project management and scoping plan.

1 Year: Draft staff report for a general framework to improve pesticide evaluation, establish mitigation processes, coordinate pesticide/toxicity monitoring, and establish minimum source control efforts for urban storm water permittees. This effort will include holding stakeholder meetings, approximately quarterly, during development.

6 Months: Develop Item for State Water Board consideration of adoption with proposed plan amendment language.

Project 6b Identify Opportunities for Source Control and Pollution Prevention

Priority: Medium, *Assessment: Important, achievable with significant barriers*

Prerequisite: None

Goal(s): 4 – Collaborate in Order to Solve Water Quality and Pollutant Problems with an Array of Regulatory and Non-Regulatory Approaches

Project Objective: Identify opportunities to control storm water pollutants through measures of pollution prevention during the pollutant life-cycle.

Scope: Identify pollutants causing water quality degradation that are still being manufactured and in use, while considering the strength of the relationship between the pollutant and impacts to aquatic life or human health. Priority will be placed on those pollutants that exhibit

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a strong relationship between environmental exposure and effect. Evaluate pollutants identified during the analysis that could most effectively be controlled through true source control or other life-cycle pollutant prevention measures. This will include evaluating the impacts on human health and welfare, quality of life, feasibility associated with regulated (limited) use, product bans, identification of critical steps in product life-cycles for pollution prevention management practices, and replacement products and the risks to the environment associated with replacement compounds or products. Identify potential or promising institutional controls that could be applied to better protect storm water quality, and identify codes and regulations that will affect the use of institutional controls, agencies, and departments with the legal authority to amend the regulations and codes (e.g., Department of Toxic Substances Control, Department of Pesticide Regulation). Collaborate with those agencies and departments to support development of institutional controls to protect storm water quality. Develop cooperative agreements with appropriate authorities responsible for maintaining the California Building Code, plumbing code, pesticide use regulations, and Cal Green to amend or develop codes and/or regulations that are consistent with or support the implementation of the State Water Board source control and pollution prevention-related permits, plans, and policies.

Background: Source control, for the purposes of this document, means the interruption or removal of pollutants from the storm water pathway before there is any risk of exposure. This can be achieved by using alternative products, green chemistry, or by altering/limiting uses and applications. Costs associated with removing pollutants from storm water may be much greater than costs associated with source control or other life-cycle interruption or pollution prevention-based actions; however, only a few pollutants have been controlled using this tool, and as a result, site-based source control and treatment-related management practices still dominate the landscape. This effort is intended to identify where opportunities exist to control storm water pollutants through source control or other measures of pollution prevention during the pollutant life-cycle.

Products and Timelines:

3 Years: Develop study and permit language or incentives.

1.5 Years: Develop agreements, straw man language, and template permit language.

Project 6c Evaluate and Implement Trash Control

Priority: Medium, *Assessment: Important, achievable with significant barriers*

Prerequisite: None

Goal(s): 3 – Implement Efficient and Effective Regulatory Programs, 4 – Collaborate in Order to Solve Water Quality and Pollutant Problems with an Array of Regulatory and Non-Regulatory Approaches

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Project Objective: Evaluate current strategies and develop new methods to address the generation of trash in “hot spots”, such as discharges from homeless encampments, high-use beaches, and parks adjacent to waters of the state.

Scope: Evaluate the current strategies available and being used to address trash generation in “hot spots” within the San Francisco Bay Region, Los Angeles Region, and San Diego Region. Compile strategies for determining and addressing trash generation in “hot spots” that can provide statewide guidance to region specific efforts. Establish a mechanism to determine areas that are “hot spots” and require trash controls efforts. Develop tools, guidance, permitting approaches, permit language, and/or policies to implement trash control strategies. Determine where ongoing efforts by stakeholders and non-governmental organizations can be leveraged to support the Water Boards’ trash control efforts. Provide implementation support for the amendments to the Water Quality Control Plan for Ocean Waters of California to Control Trash and Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (Trash Amendments), and amend the Trash Amendments, if needed.

Background: The Trash Amendments were adopted by the State Water Board in April 2015. The Trash Amendments established a statewide water quality objective for trash and implementation provisions using a land-use based compliance approach that targets high trash generating areas. The Trash Amendments will be implemented through NPDES permits, waste discharge requirements (WDRs), and waivers of WDRs. The Trash Amendments focus on necessary trash controls (e.g., structural and instructional controls) at industrial facilities and within municipal storm water systems in specific high trash generating areas. For municipalities, controlling trash is focused in five priority land uses: (1) high density residential, (2) industrial, (3) commercial, (4) mixed urban, and (5) public transportation stations. In addition to these land uses, Regional Water Boards can determine that, within a municipal service area, specific locations or land uses generate substantial amounts of trash and require additional trash controls. These areas may include schools, stadiums, and utility roads.

Significant sources of trash that adversely impact beneficial uses of a water body are often outside the jurisdiction of the municipal storm water permittee. In these cases, Regional Water Boards may implement trash control requirements in WDRs or waivers of WDRs for areas that generate trash and/or where direct dumping to a water body may occur. These areas may include high-use campgrounds, picnic areas, beach recreation areas, marinas, and/or homeless encampments. Some Regional Water Boards, like San Francisco Bay, Los Angeles, and San Diego, are already addressing sources of trash from areas deemed to be “hot spots”. During adoption of the Trash Amendments, the State Water Board directed Water Board staff to further evaluate strategies to address trash at “hot spots”.

Products and Timelines:

1 Year: Produce a staff report outlining existing strategies to address trash generation in “hot spots” outside of a municipality’s jurisdiction.

Strategy to Optimize Resource Management of Storm Water

Proposed Project List

2.5 Years: Develop tools, guidance, permitting approaches, template permit language, and/or policies to implement trash control strategies for State Water Board consideration of adoption. Leverage ongoing local efforts by stakeholders and non-governmental organizations. Provide support to all parties (Water Board staff, permittees, stakeholders) responsible for implementing the recently adopted Trash Amendments, and amend the Trash Amendments, if needed.