



Strategy to Optimize Resource Management of Stormwater (STORMS)

California Water Commission Meeting



April 17, 2019

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STORMS Unit

Division of Water Quality



- Stormwater Strategic Initiative began in 2014
- Defined four guiding principles:
 - Treat stormwater as a **valuable water resource**;
 - **Preserve watershed processes** to achieve desired water quality outcomes;
 - Implement **efficient and effective regulatory programs**; and
 - **Collaborate** to solve water quality and pollutant problems utilizing an array of regulatory and non-regulatory approaches.
- Identified over 20 projects to address guiding principles
- STORMS was approved by the State Water Board on January 6, 2016
 - Resolution 2016-0003

STORMS Vision

Stormwater is sustainably managed and utilized in California to support water quality and water availability for human uses as well as the environment.

STORMS Mission

To lead the evolution of stormwater management in California by advancing the perspective that stormwater is a valuable resource, supporting policies for collaborative watershed-level stormwater management and pollution prevention, removing obstacles to funding, developing resources, and integrating regulatory and non-regulatory interests.

STORMS Objectives:

- 1. *Increase stormwater capture and use*** through regulatory and non-regulatory approaches
- 2. *Increase stakeholder collaboration*** on a watershed scale
- 3. *Establish permit pathways*** to assess stormwater programs and meet water quality requirements
- 4. *Establish financially sustainable stormwater programs***
- 5. *Improve and align State Water Board oversight*** of Water Board programs and water quality planning efforts
- 6. *Increase source control and pollution prevention***

STORMS Projects



Project Number	STORMS Projects
1a	Promote Stormwater Capture and Use
1b	Identify and Eliminate Barriers to Stormwater Capture and Use
1c	Increase Stormwater Capture and Use through Regulatory Approaches
1d	Develop and Establish a Monetary Value of Stormwater
2a	Encourage Stakeholder Collaboration to Promote Stormwater as a Resource
3a	Develop Guidance for Alternative Compliance Approaches for Municipal Stormwater Permit Receiving Water Limitations
3b	Develop Watershed-Based Compliance and Management Guidelines and Tools
3c	Assess Municipal Stormwater Program Monitoring and Effectiveness
3d	Establish Statewide Regulatory Framework for Municipal Stormwater Programs
3e	Standardize Minimum Control Measures for Specific Municipal Program Elements
3f	Develop Guidance for Implementation of Post-Construction Requirements to Improve Watershed Health
3g	Establish Guidance for Stormwater Program Asset Management Planning and Cost Estimation
4a	Implement Senate Bill 985 – Incorporate Principles of Stormwater Resource Plan Guidelines into Stormwater Programs
4b	Eliminate Barriers to Funding Stormwater Programs and Identify Funding for Stormwater Capture and Use Projects
4c	Identify Municipal Stormwater Permit Compliance Cost
4d	Identify Industrial and Construction Stormwater Permit Compliance
5a	Create Stormwater Program Data and Information “Open Data”
5b	Evaluate and Increase Stormwater Permit Compliance
5c	Establish Sector-specific Technology-based Numeric Effluent Limitations for Industrial and Construction Stormwater Permits
5d	Align Water Quality Statewide Planning Efforts with Stormwater Program Implementation – Pilot Project Using the Biological Integrity Plan
6a	Establish Statewide Framework for Urban Pesticide Reduction
6b	Identify Opportunities for Source Control and Pollution Prevention
6c	Evaluate and Implement Trash Control
Ongoing	Training and Information-Sharing for Water Board Staff and the Regulated Community

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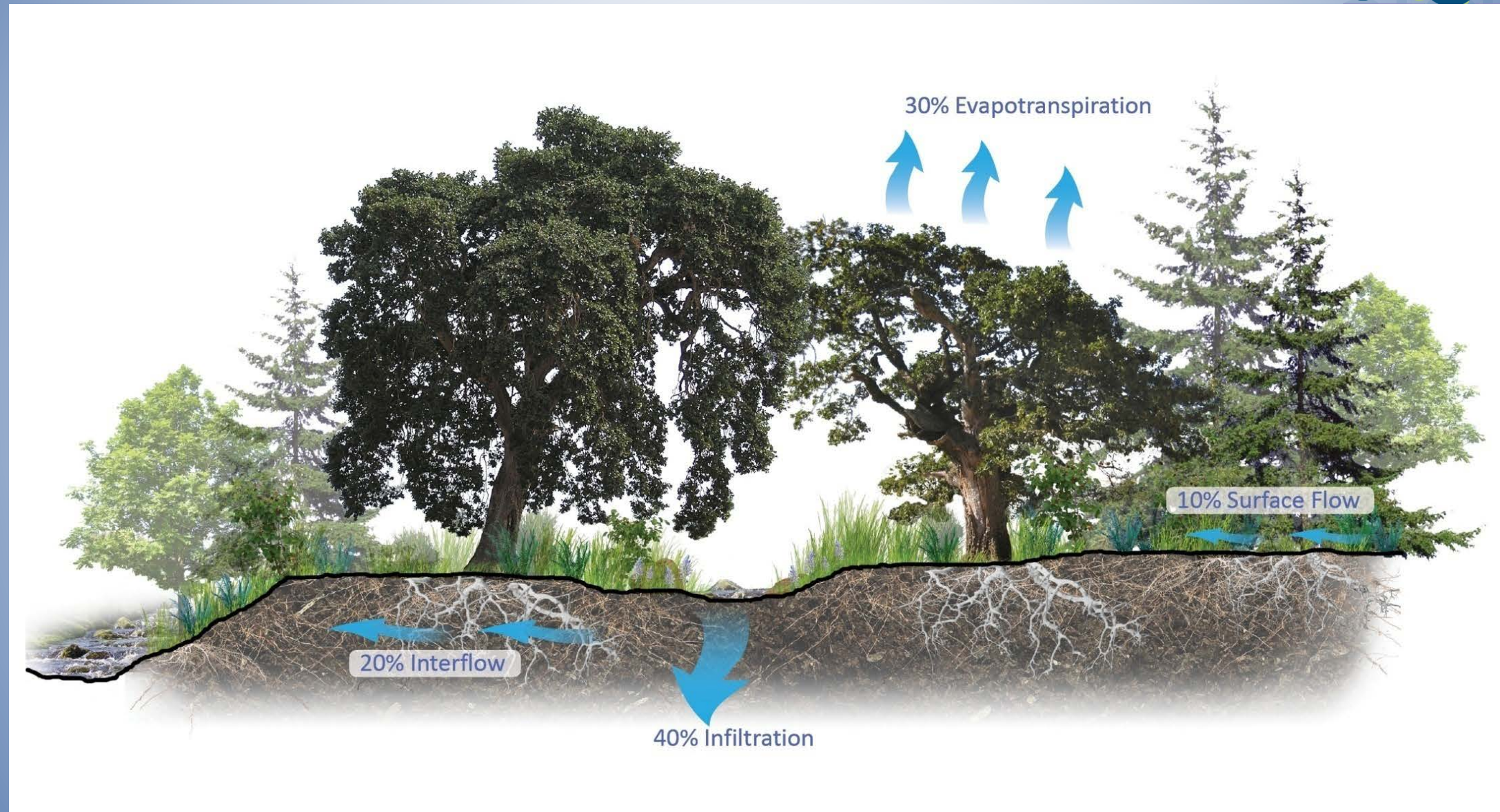
Phase I Projects – *Initiated in 2016*

- 1. Promote Stormwater Capture and Use (1a)**
- 2. Eliminate Barriers to Stormwater Capture and Use (1b)**
- 3. Develop Guidance for Alternative Compliance Approaches (3a)**
- 4. Develop Watershed-Based Compliance and Management Guidelines and Tools (3b)**
- 5. Implement Senate Bill 985 – Stormwater Resource Plans (4a)**
- 6. Eliminate Barriers to Funding (4b)**
- 7. Stormwater Program “Open Data” (5a)**
- 8. Urban Pesticides Amendments (6a)**
- 9. Opportunities for Source Control and Pollution Prevention (6b)**

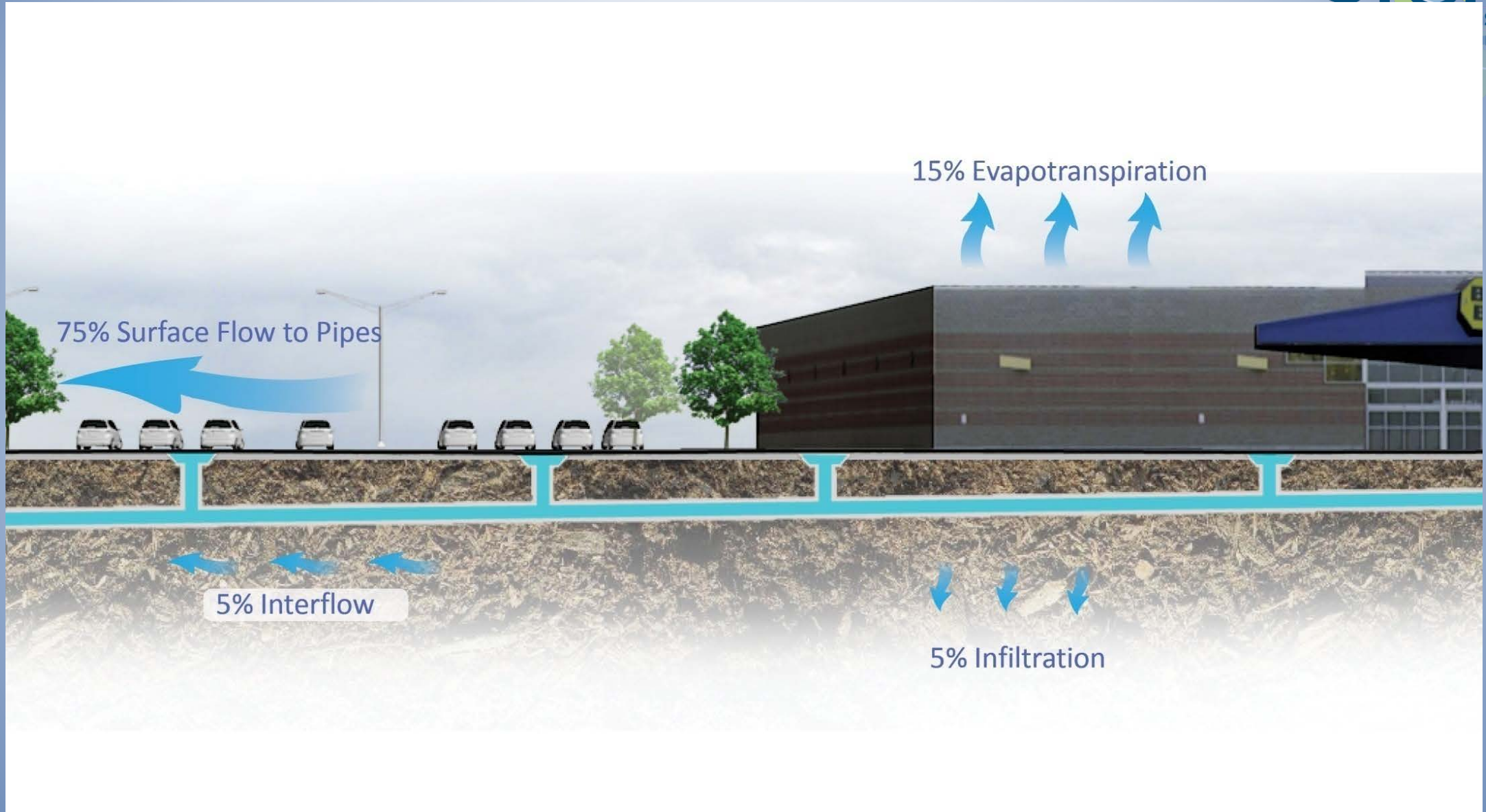
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Hydrologic Cycle in the Natural Landscape



Hydrologic Cycle in the Urban Environment



Conventional Management Devalues Water



Stormwater Control Measures



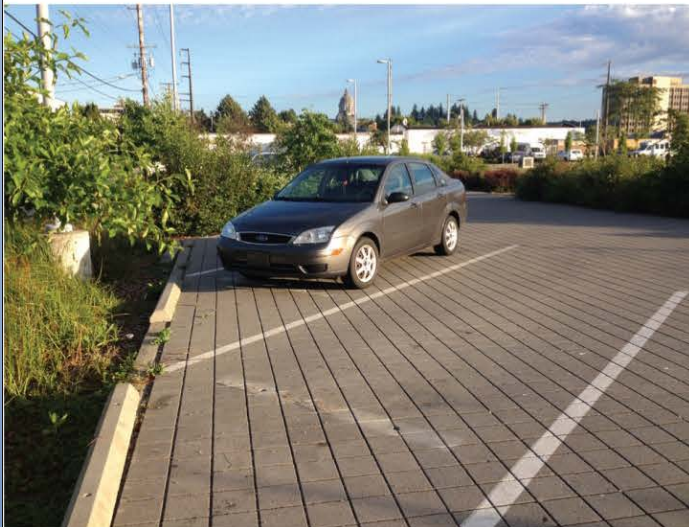
Vegetated Swales



Stormwater Planters



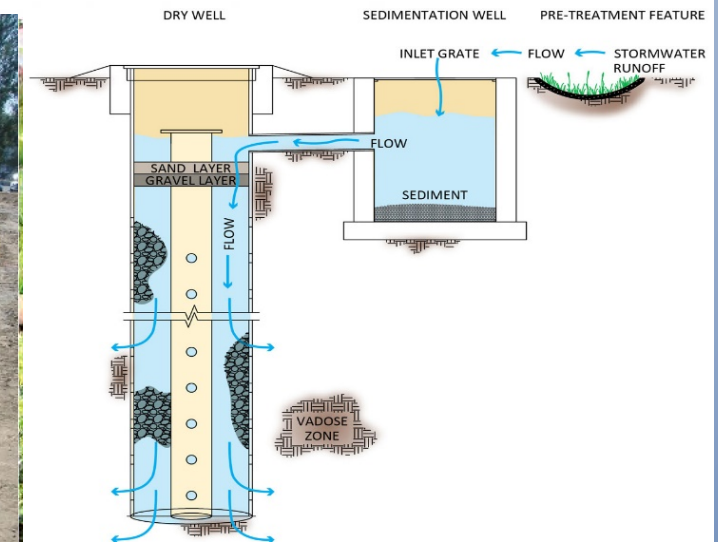
Rain Gardens



Permeable Pavement



Infiltration Chambers



Drywells

Projects 1a and 1b Objectives:

- Identify actions required to **eliminate** existing legal/regulatory, political, logistic and technical **barriers** to the implementation of stormwater capture and use

Results: Sacramento State, Office of Water Programs (OWP) report with 6 recommendations

OWP Recommendations for State Actions

1. Explore options for funding stormwater capture and use
2. Resolve regulatory and policy issues related to the use of drywells for stormwater management
3. Expand/improve regulatory performance measurements to reflect capture and use objectives
4. Establish a framework to assess local ecological impacts, positive and negative, to capture and use diversions
5. Improve consideration of (even quantify) urban stormwater capture and use in Integrated Regional Water Management Plans (IRWMPs)
6. Require that capture and use planning for developers and municipal planners be adopted into city and county ordinance governing entitlement.

Continuing efforts:

- Drywell infiltration guidance being developed through a contract with Geosyntec
 - Potential drywell infiltration policy by State Water Board
- Exploring the potential impact of water rights on stormwater capture and use

Projects 4a and 4b Objectives:

- Modify stormwater planning, permitting, and funding programs to support priority actions identified in **Stormwater Resource Plan Guidelines (SB 985)**
- **Support** and promote **funding of stormwater projects** and programs by identifying funding opportunities and addressing barriers

Results: Stormwater Funding Report with eight recommendations based on potential actions by the State Water Board staff

Staff Recommendations

1. State Legislation (SB 231) and Stormwater Fee Development
2. Drinking Water State Revolving Fund (DWSRF) Pilot Project
3. CASQA Stormwater Funding Website
4. Stormwater Public Messaging
5. Clean Water State Revolving Fund (CWSRF) Accessibility
6. Greenhouse Gas Reduction Quantification Methodology for Stormwater
7. Building Local Resource Capacity
8. Evolve Municipal Separate Storm Sewer System Permits

Continuing efforts:

- Supporting Drinking Water State Revolving Fund deviation request for inflatable dams that will capture dry weather and stormwater runoff

Projects 5a Objective:

- Increase the **amount and quality of data** and information entered in and queried out of the Water Boards' existing data collection systems

Results: SCCWRP is developing data standards for performance assessment of stormwater control measures and methodologies for **estimating runoff volume capture**



Continuing efforts:

- Identification (or development) of database for management of stormwater data
- Identification of performance data sources



Forum for stakeholders to work with staff on continued evaluation and guidance of STORMS

Includes:

- Association of California Water Agencies
- California Association of Sanitation Agencies
- California Coastkeeper Alliance
- California Council for Environmental and Economic Balance
- California Stormwater Quality Association

Proposed Phase II Projects

- 1. Increase Stormwater Capture and Use through Regulatory Approaches (1c)**
- 2. Assess Municipal Stormwater Program Monitoring and Effectiveness (3c)**
- 3. Establish Statewide Regulatory Framework for Municipal Stormwater Programs (3d)/
Standardize Minimum Control Measures for Specific Municipal Program Elements (3e)**
- 4. Establish Guidance for Stormwater Program Asset Management Planning and Cost Estimation (3g)**
- 5. Identify Municipal Stormwater Permit Compliance Costs (4c)**
- 6. Evaluate and Increase Stormwater Permit Compliance (5b)**
- 7. Evaluate and Implement Trash Control (6c)**

Thank You

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