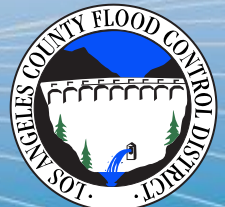


Receiving Water Limitations, Watershed Programs, & Progress in the Los Angeles Region

State Water Board Receiving Water Limitations Workshop
October 8, 2013

Tracy Egoscue, Esq. & Gary Hildebrand, P.E.
County of Los Angeles
& Los Angeles County Flood Control District



Watershed Programs & Receiving Water Limitations

- ▶ Watershed management programs are an appropriate approach for the Los Angeles Region
 - Intended to reflect an adaptive management approach
 - Incentivize watershed-based strategic planning, including multi-benefit projects
 - Will improve surface water quality while providing the opportunity to increase local water supplies

Water Quality Efforts for Water Supply and Flood Protection

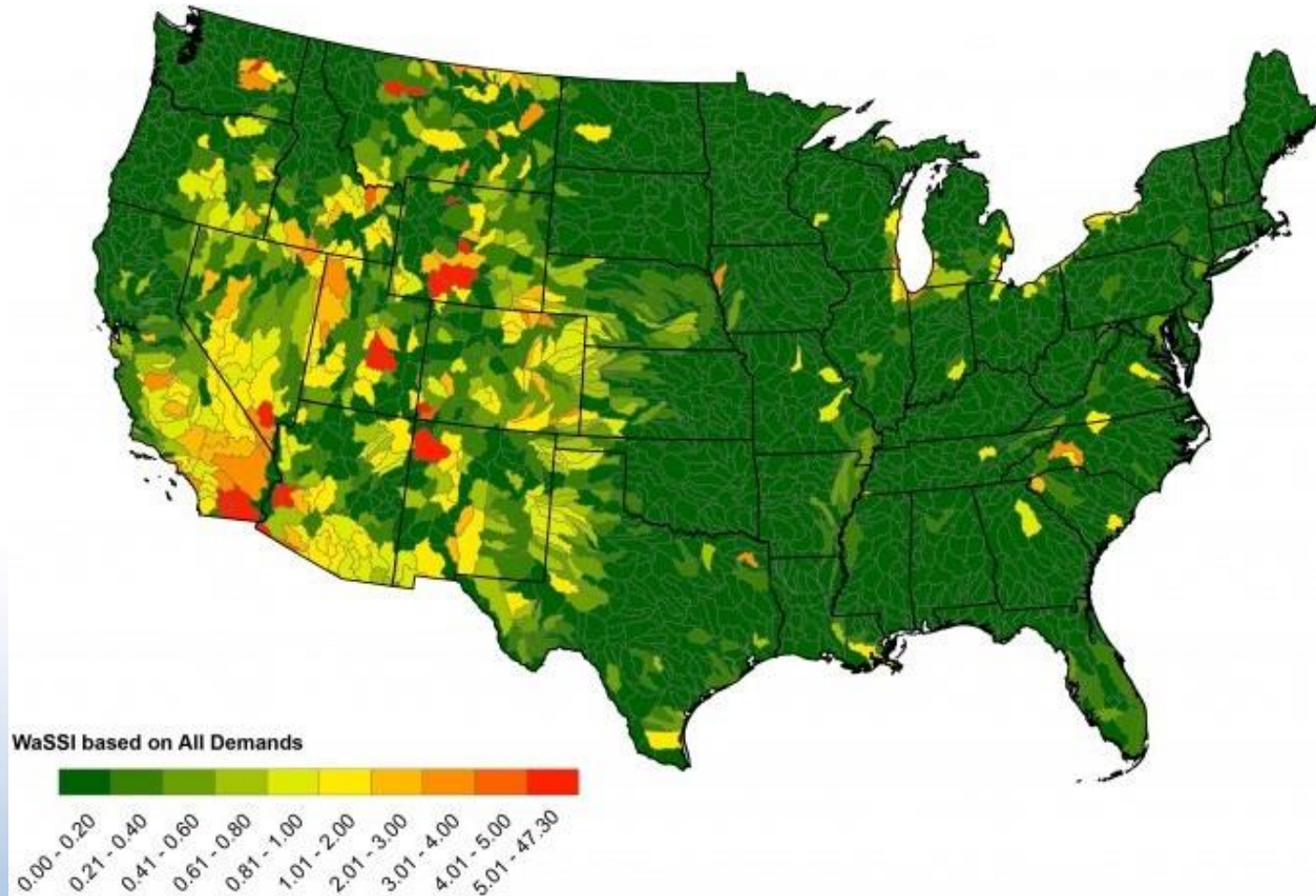
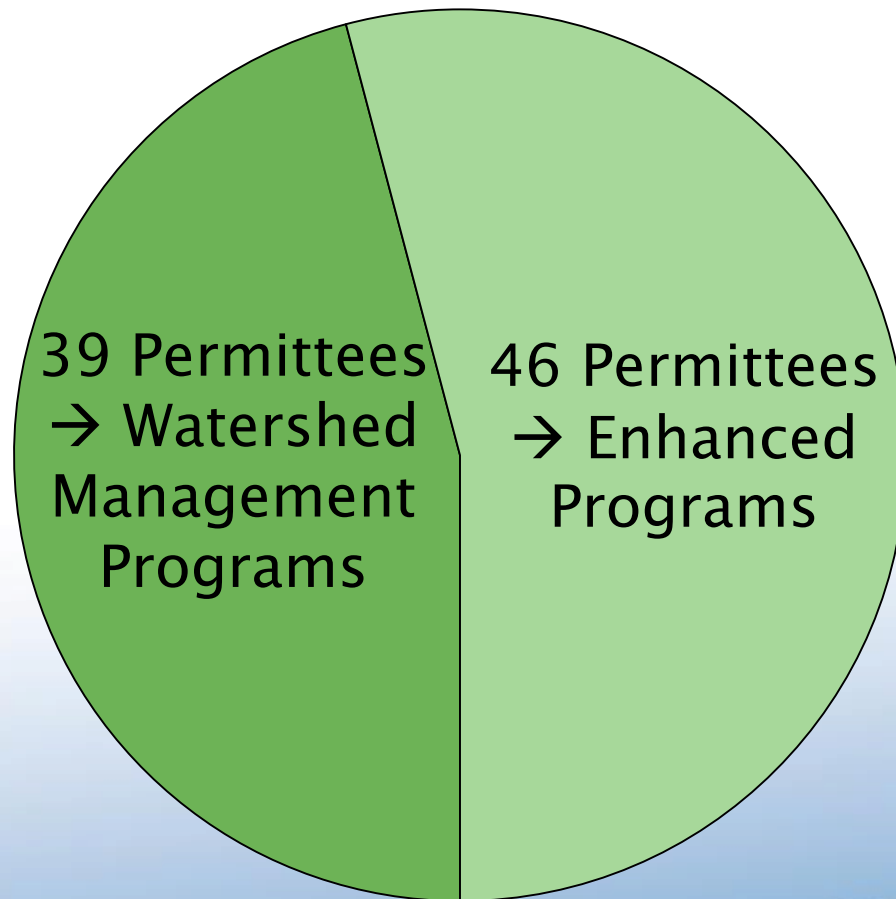
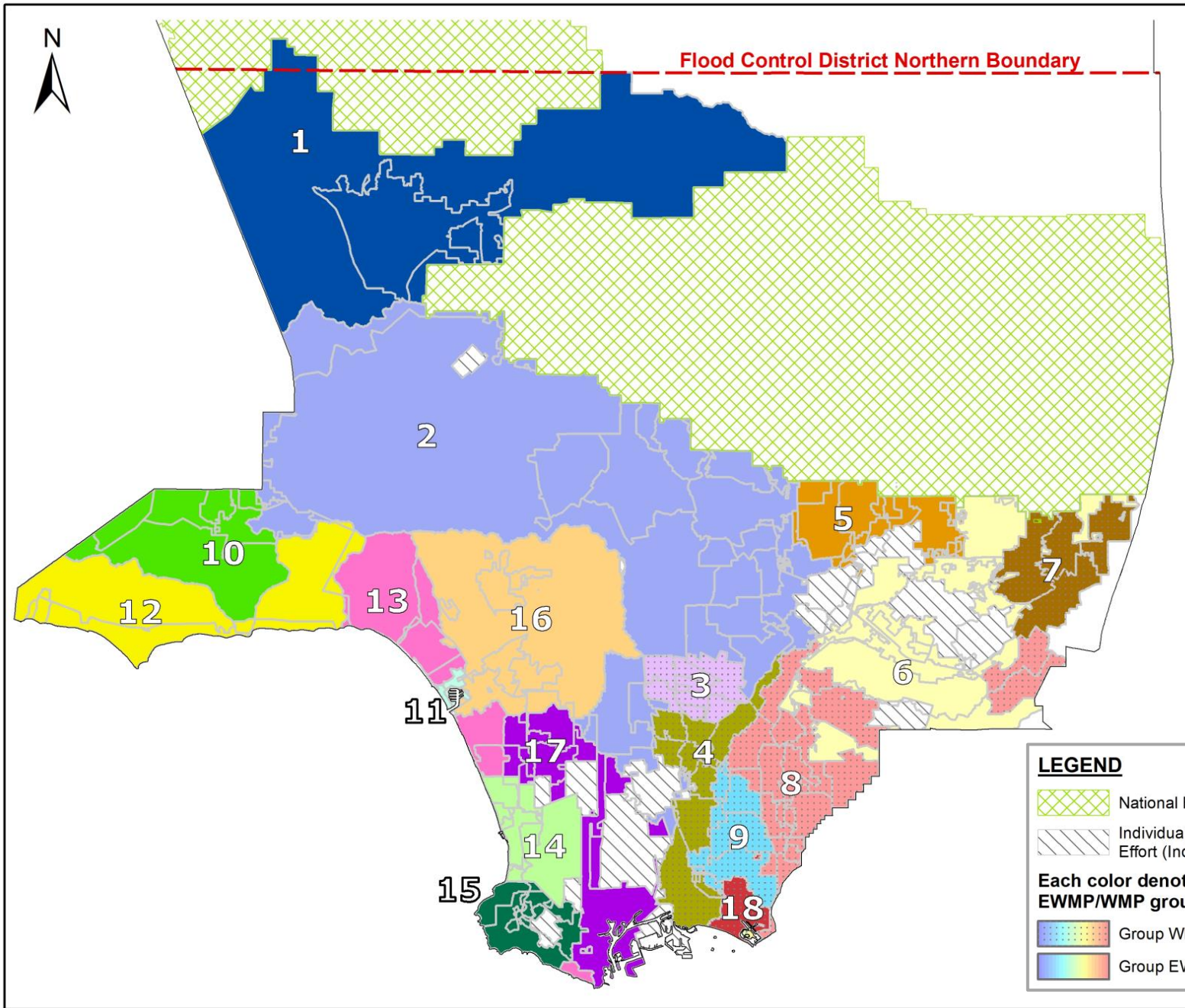


Image credit: Cooperative Institute for Research in Environmental Science (CIRES).
www.colorado.edu/news/releases/2013/09/18/today's-worst-watershed-stresses-may-become-new-normal-study-finds

Progress in the Los Angeles Region





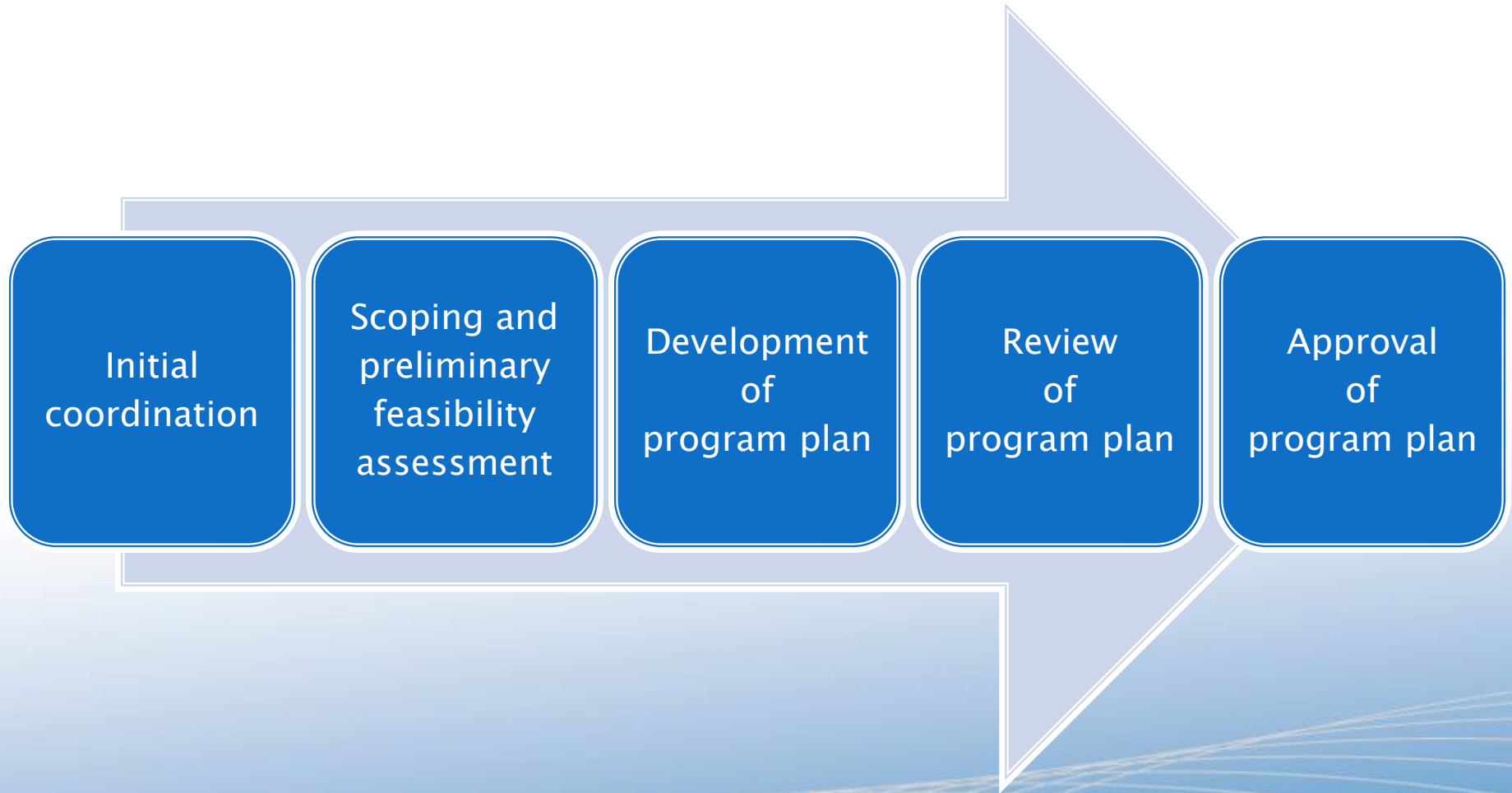
	Group Name	Cities/Permittees Involved (Coordinating Agency shown in blue font)	Selected Plan
1	Upper Santa Clara River Watershed	Santa Clarita , County, LACFCD	EWMP
2	Upper Los Angeles River Watershed Group	Alhambra, Burbank, Calabasas, Glendale, Hidden Hills, La Canada Flintridge, Los Angeles , Montebello, Monterey Park, Pasadena, Rosemead, San Gabriel, San Marino, South Pasadena, Temple City, County, LACFCD	EWMP
3	Los Angeles River Upper Reach 2 Sub Watershed	Bell, Bell Gardens, Commerce, Cudahy, Maywood, Huntington Park , Vernon, LACFCD	WMP
4	Lower Los Angeles River Watershed	Downey, Long Beach, Lynwood, Paramount, Pico Rivera, Signal Hill , South Gate, LACFCD	WMP (w/ option to switch to EWMP)
5	Rio Hondo/San Gabriel River Water Quality Group	Arcadia, Azusa, Bradbury, Duarte, Monrovia, Sierra Madre , County, LACFCD	EWMP
6	Upper San Gabriel River	Baldwin Park, Covina, Glendora, Industry, La Puente, County , LACFCD	EWMP
7	East San Gabriel Valley Watershed Management Area	Claremont, La Verne , Pomona, San Dimas	WMP
8	Lower San Gabriel River	Artesia, Bellflower, Cerritos, Diamond Bar, Downey, Hawaiian Gardens, La Mirada, Lakewood, Long Beach, Norwalk , Pico Rivera, Santa Fe Springs, Whittier, LACFCD	WMP (w/ option to switch to EWMP)
9	Los Cerritos Channel Watershed Group	Bellflower, Cerritos, Downey, Lakewood, Long Beach , Paramount, Signal Hill, LACFCD	WMP (w/ option to switch to EWMP)
10	Malibu Creek Watershed Group	Agoura Hills, Calabasas , Hidden Hills, Westlake Village, County, LACFCD	EWMP
11	Marina del Rey	Culver City, Los Angeles, County , LACFCD	EWMP
12	North Santa Monica Bay Coastal Watersheds	Malibu , County, LACFCD	EWMP
13	Santa Monica Bay Jurisdictions 2 & 3	El Segundo, Los Angeles , Santa Monica, County, LACFCD	EWMP
14	Beach Cities Watershed Management Group	Hermosa Beach, Manhattan Beach, Redondo Beach , Torrance, LACFCD	EWMP
15	Peninsula EWMP Agencies	Palos Verdes Estates, Rancho Palos Verdes , Rolling Hills Estates, County, LACFCD	EWMP
16	Ballona Creek	Beverly Hills, Culver City, Inglewood, Los Angeles , Santa Monica, West Hollywood, County, LACFCD	EWMP
17	Dominguez Channel Watershed Management Area Group	El Segundo, Hawthorne, Inglewood, Los Angeles , County, LACFCD	EWMP
18	Alamitos Bay/Los Cerritos Channel Group	County , LACFCD	WMP

	Watershed Management Area	City Involved	Compliance Method
a	Dominguez Channel WMA	Carson	Individual WMP
b	LA River (Compton Creek) & Dominguez Channel	Compton	Individual WMP
c	LA River and San Gabriel River	El Monte	Individual WMP
d	Dominguez Channel WMA	Gardena	Individual WMP
e	LA River and San Gabriel River	Irwindale	Individual WMP
f	San Gabriel River	La Habra Heights	Individual WMP
g	Dominguez Channel WMA	Lawndale	Individual WMP
h	Dominguez Channel WMA (Machado Lake)	Lomita	Individual WMP
i	Dominguez Channel WMA (Machado Lake, LA Harbors) & J7	Rolling Hills	Numerics
j	Los Angeles River	San Fernando	Individual WMP
k	LA River and San Gabriel River	South El Monte	Individual WMP
l	San Gabriel River	Walnut	Individual WMP
m	San Gabriel River	West Covina	Individual WMP

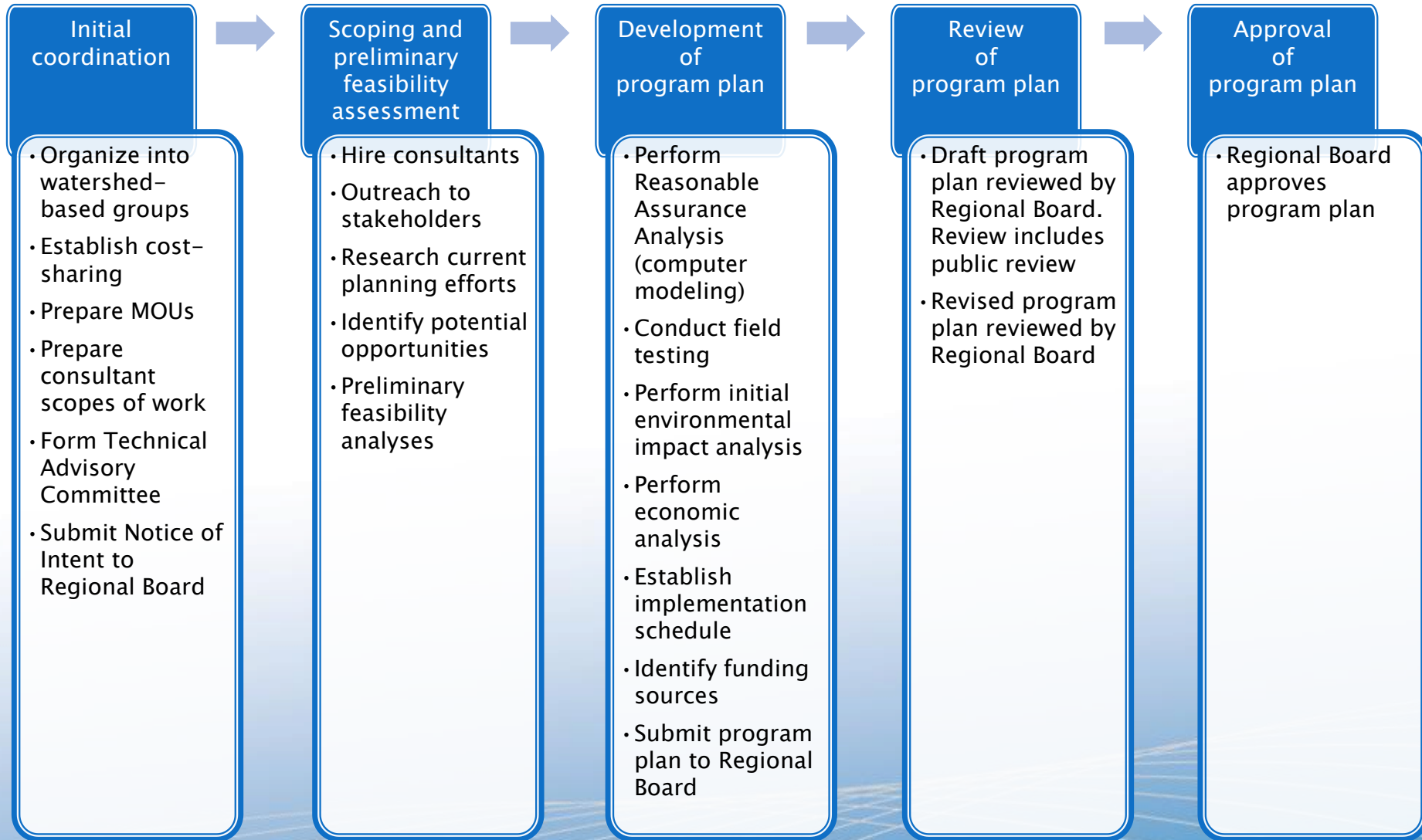
Overview

- ▶ Watershed Management Programs and Enhanced Programs
- ▶ Benefits of the LA approach
- ▶ Early action projects
 - Twenty “30–month projects” as part of the Enhanced Program process
 - Estimated total cost of \$83.5 million

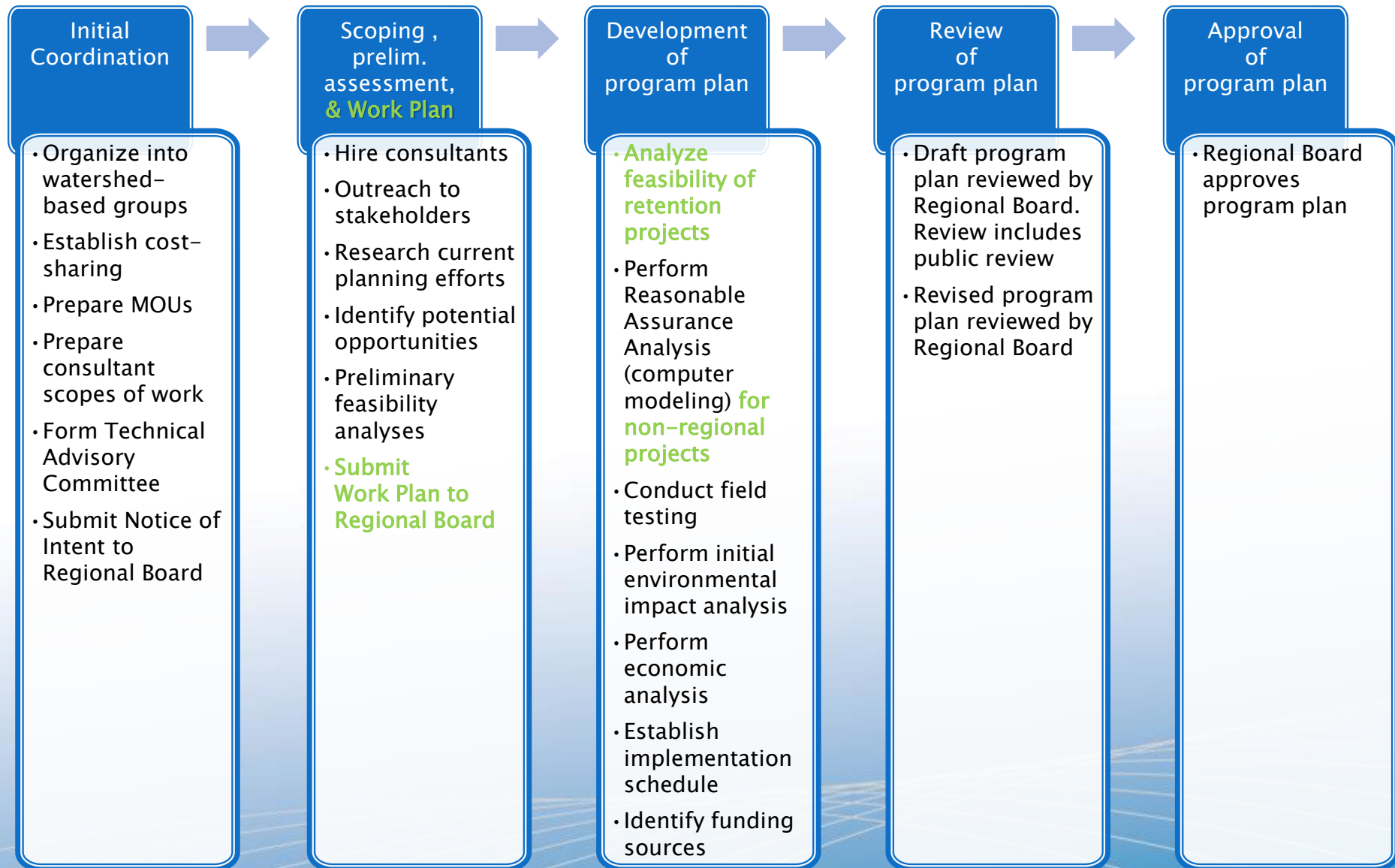
Watershed Management Program & Enhanced Program Process Overview



Watershed Program Process Detail

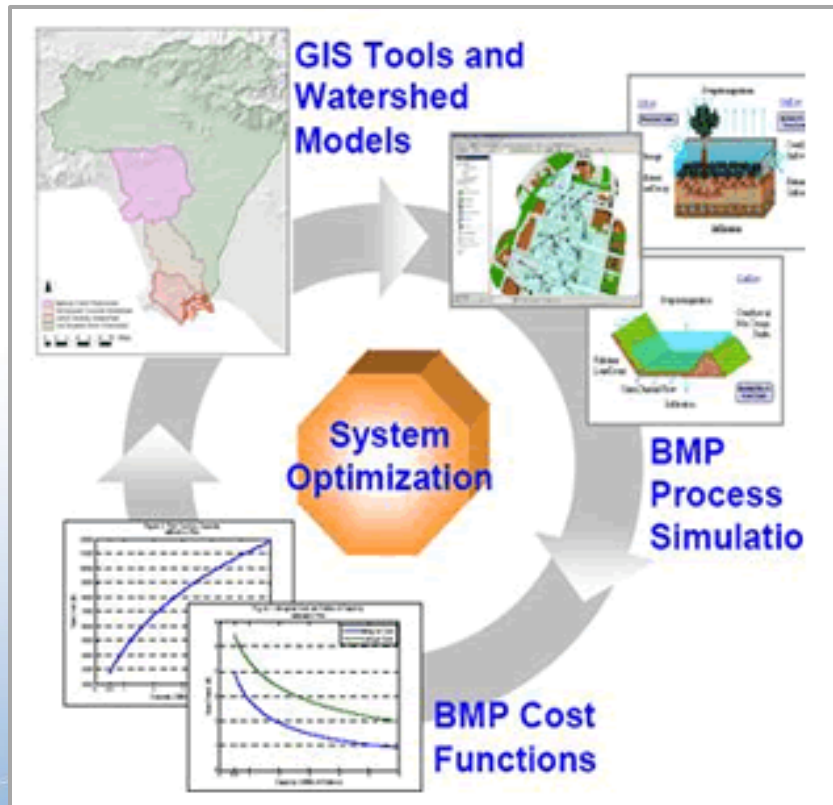


Enhanced Program Process Detail

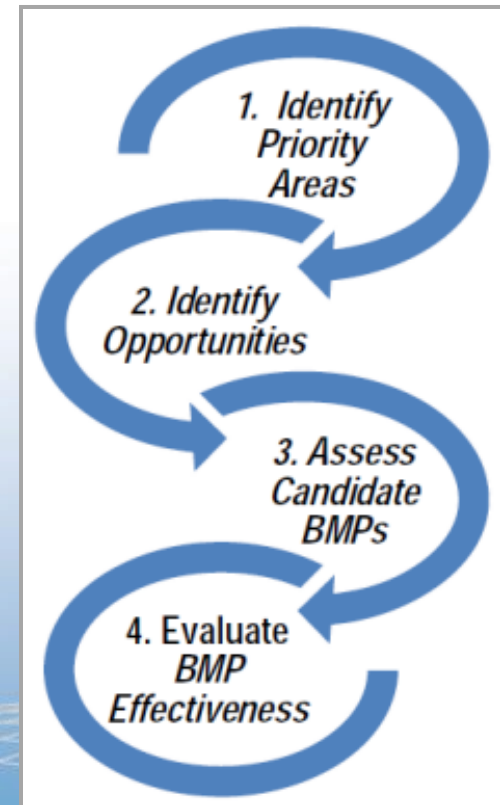


Reasonable Assurance Analysis Models

Watershed Management Modeling System (WMMS)

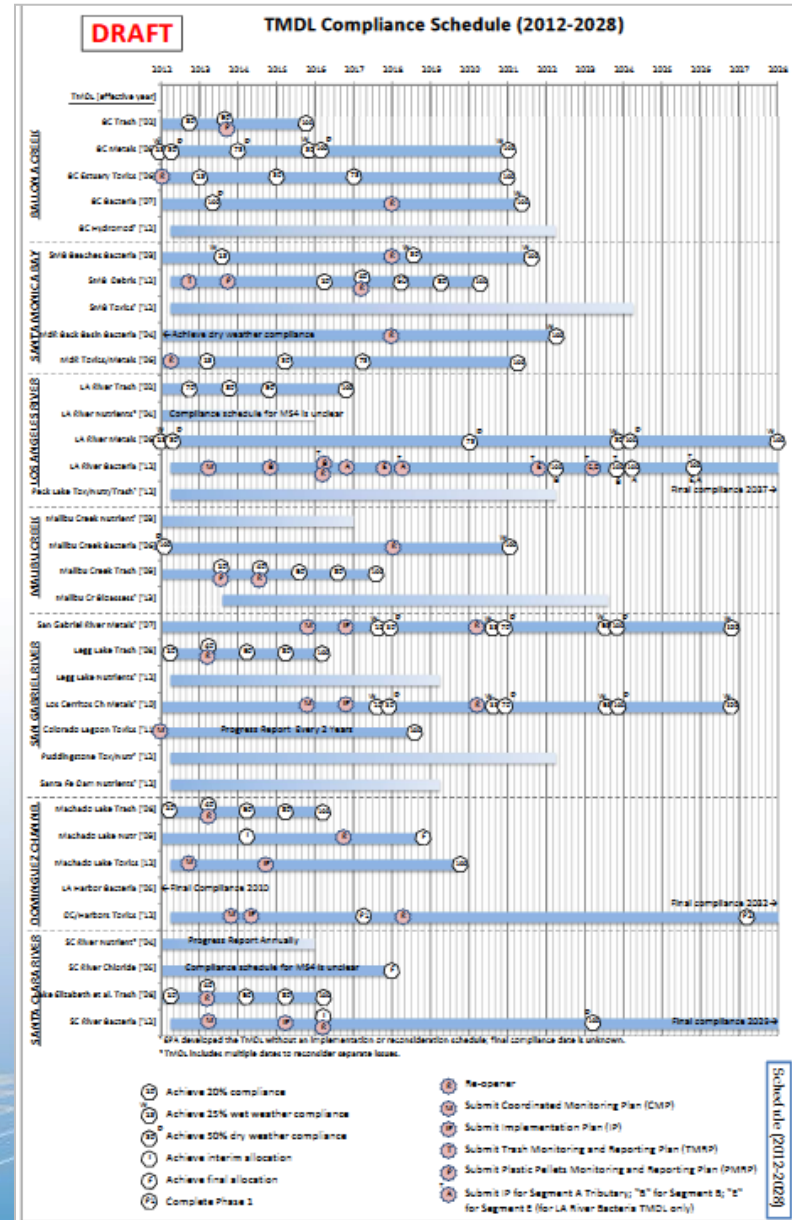


Structural BMP Prioritization and Analysis Tool (SBPAT)



Benefits of LA Permit Approach

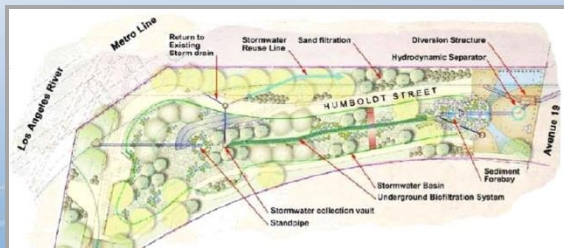
- ▶ Prioritizes water quality planning and integration of 33 TMDLs
- ▶ Watershed Management Program for densely urbanized areas or other areas where retention is clearly infeasible
- ▶ Provides compliance incentives and compliance certainty



Enhanced Programs

Proposed Early Actions

Proposed "30-Month Project(s)"	Estimated Cost
Trash removal BMPs for up to 189 storm drain inlets in commercial and industrial parks in the Upper Santa Clara River Watershed	\$250,000
Green Street and Brandon Street Improvements Project	\$2.9 million
Humboldt Greenway Project	\$4.5 million (design to optimization) + \$50,000 annually in O&M
Monrovia Station Square/Transit Village Multi-Benefit Park and Greenway Project	\$1.524 million
Metro Gold Line Infiltration Project	TBD
Avocado Heights Multiuse Trail	\$4 million
Calabasas Citywide Smart Irrigation Control System	\$700,000
Lindero Parkway Improvements	\$2.1 million

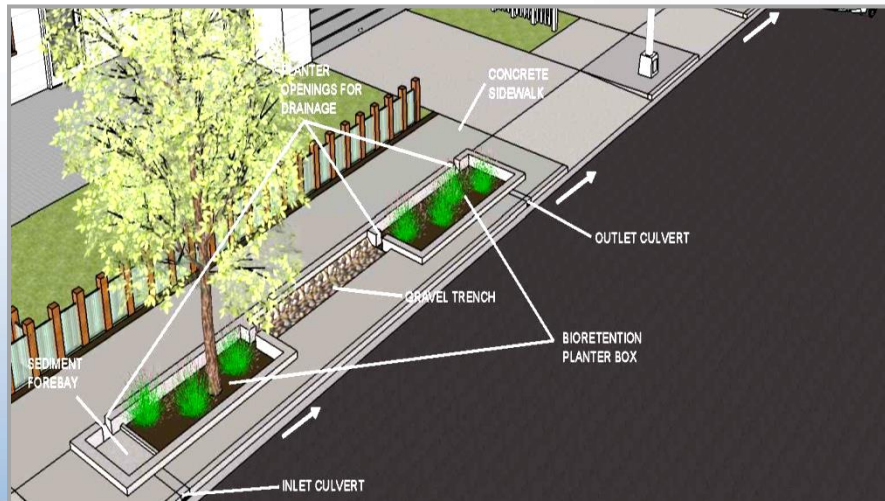


Proposed "30-Month Project(s)"	Estimated Cost
Oxford Basin Multi-Use Enhancement Project	\$10.7 million
Broad Beach Biofiltration Project	\$1.68 million
Wildlife Road Storm Drain Improvements	\$230,000
Malibu Legacy Park Pump Station Improvements	TBD
Penmar Water Quality Improvement Project	20.75 million
Manhattan Beach Greenbelt Infiltration System	\$730,000
Torrance Stormwater Basin Recharge and Enhancement Project	\$4.4 million
Accelerated Implementation of Machado Lake Trash TMDL	\$1.6 million
Model Equestrian Center	\$1.75–2 million
San Ramon Canyon Stormwater Flood Reduction Project	\$20 million
Phase II of the Mar Vista Recreation Center Stormwater Best Management Practices Project	\$1.5 million
Phase IV Trash TMDL Implementation Project	\$4.2 million

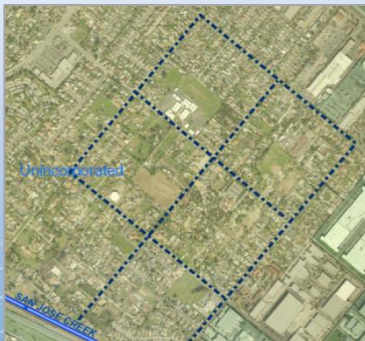
Total ~ 83.5 million +

Green Street and Brandon Street Improvements Project

- ▶ Permeable pavers
- ▶ Bio-retention planters
- ▶ Sediment filtration catch basins
- ▶ Underground infiltration basin
- ▶ ~ 3.75 acre-feet of water to be infiltrated per year



Avocado Heights Multiuse Trail



- ▶ Infiltration swale
- ▶ Decomposed granite multiuse trail
- ▶ Reduction of impermeable surface
- ▶ Reduction of potential sources of bacteria associated with horse manure
- ▶ ~115 acre-feet of water to be infiltrated per year

Oxford Basin

Multiuse Enhancement Project

- ▶ Removal of contaminated soil
- ▶ Increased circulation → improved water quality
- ▶ Additional capacity → mitigation of localized flooding
- ▶ Native habitat and aesthetic improvements

Current conditions



Image credit
(Bottom images):
Google



Admiralty Way: Parkway planting and path elevation change buffers pedestrian path from traffic.



Basin Overlook: Ornamental planting, seating and interpretive signage at lookouts.

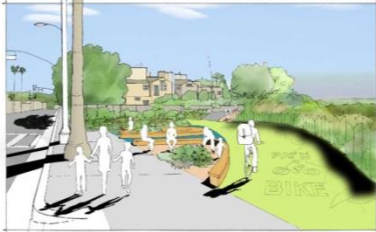
Bike path and decomposed granite walking path, ornamental fencing and native planting



Washington Boulevard: View to the street with bike path, new Gateway paving, seatwalls, and bioswale planting



Gateway at Washington Boulevard: bike path, seatwalls, enhanced paving, bioswale planting.



Washington Boulevard: Sidewalk, decomposed granite parkway, and basin overlooks. Parapet wall decreases risk of flooding.



Admiralty Way Overlooks: Views into the basin, and interpretive signage.



Rory M. Shaw Wetlands Park

- ▶ Example of a multi-benefit regional project
- ▶ Conversion of a 46-acre engineered, inert landfill into a multi-purpose wetlands park
- ▶ Stormwater collection from an 929-acre drainage area
- ▶ Stormwater treatment & infiltration
- ▶ ~ 590 acre-feet of water to be infiltrated per year
- ▶ Estimated design & construction cost = \$52 million



Thank you

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& Los Angeles County Flood Control District

