

SeaWorld San Diego NPDES Permit Reissuance

**June 20, 2018
Item 10**

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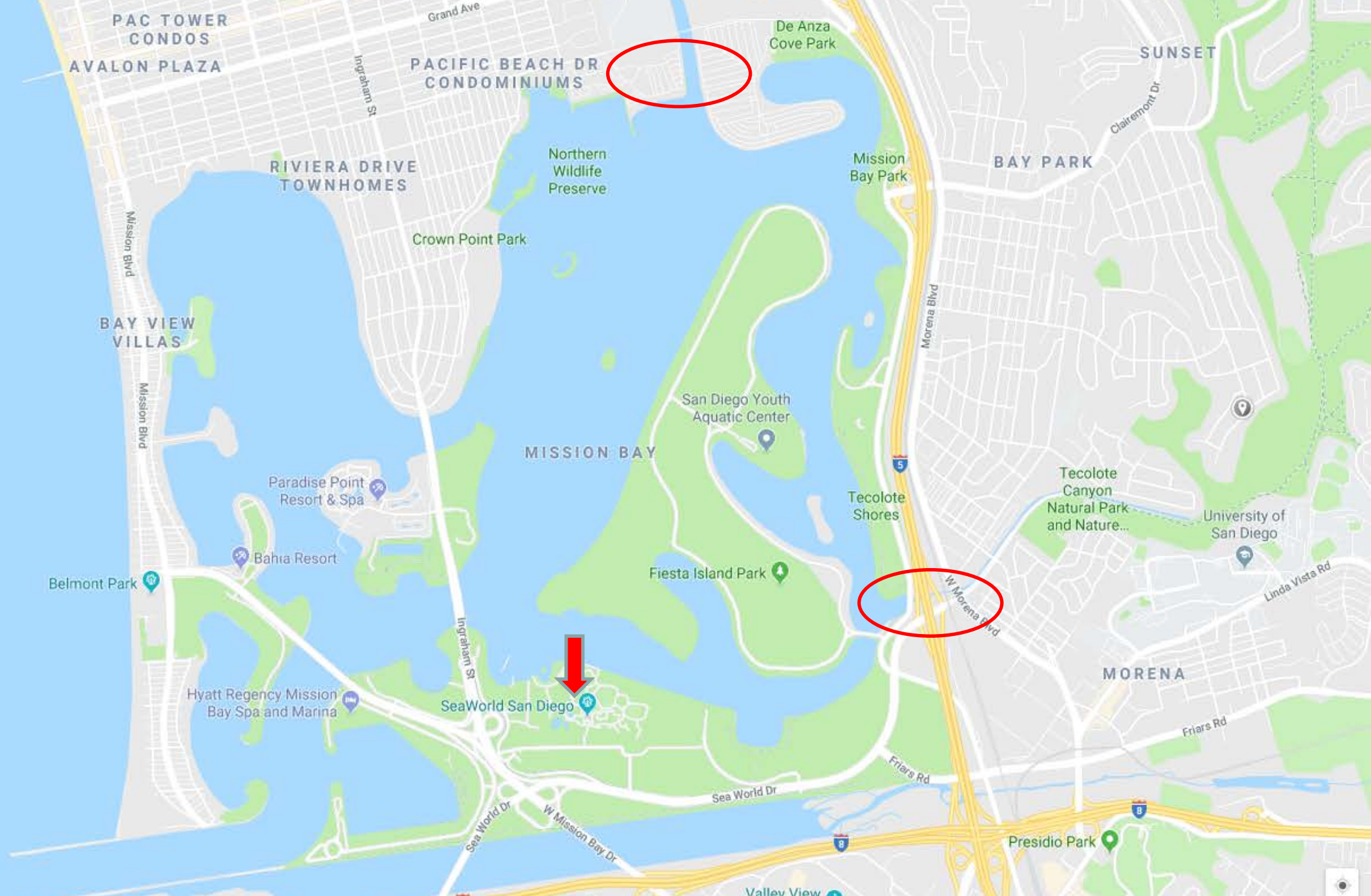
Presentation Outline

- Overview of Mission Bay
- Overview of SeaWorld
- Summary of Tentative Order
- Comments and Responses
- Staff Recommendation









PAC TOWER
CONDOS
AVALON PLAZA

PACIFIC BEACH DR
CONDOMINIUMS

De Anza
Cove Park

SUNSET

RIVIERA DRIVE
TOWNHOMES

Northern
Wildlife
Preserve

Mission
Bay Park

BAY PARK

Crown Point Park

BAY VIEW
VILLAS

San Diego Youth
Aquatic Center

MISSION BAY

Paradise Point
Resort & Spa

Tecolote
Shores

Tecolote
Canyon
Natural Park and Nature...

University of
San Diego

Bahia Resort

Fiesta Island Park

Belmont Park

Hyatt Regency Mission
Bay Spa and Marina

SeaWorld San Diego

MORENA

Sea World Dr

W Mission Bay Dr

Sea World Dr

Friars Rd

Presidio Park

Valley View

Linda Vista Rd

Friars Rd

Morena Blvd

Clairmont Dr

Mission Blvd

Mission Blvd

Ingraham St

Ingraham St

Grand Ave

Friars Rd

5

8

Beneficial Uses

- Contact and Non-contact Water Recreation* (REC-1 and REC-2)
- Industrial Service Supply (IND)
- Commercial and Sport Fishing (COMM)
- Estuarine Habitat (EST)
- Wildlife Habitat (WILD)
- Preservation of Rare, Threatened or Endangered Species (RARE)
- Marine Habitat (MAR)
- Migration of Aquatic Organisms (MIGR)
- Spawning, Reproduction, and/or early development (SPWN)
- Shellfish Harvesting (SHELL)

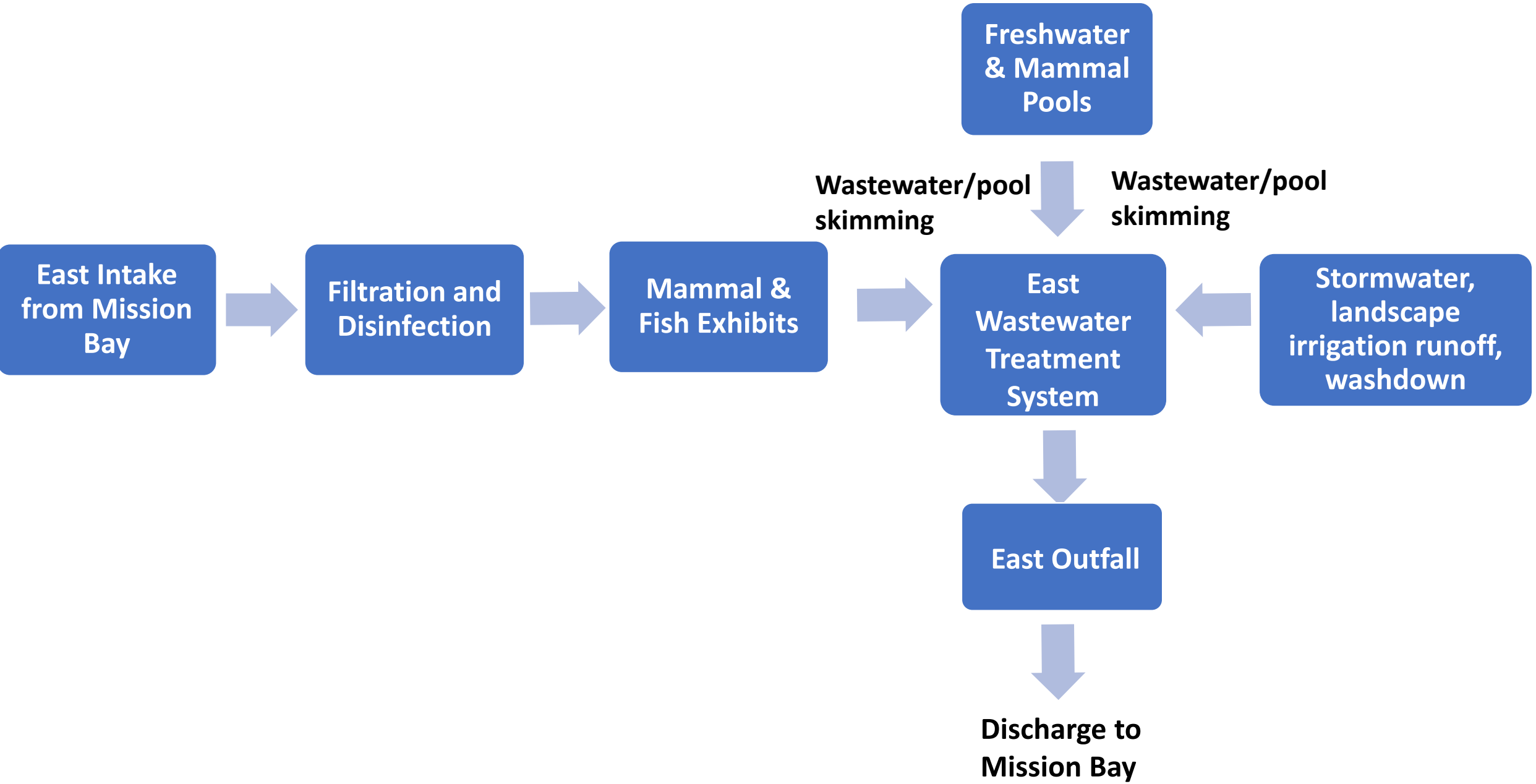


List of Water Quality Impairments

- Indicator Bacteria
- Mercury
- Lead
- Copper
- PCBs
- Toxicity
- Eutrophic Conditions







Freshwater & Mammal Pools

Wastewater/pool skimming

Wastewater/pool skimming

East Intake from Mission Bay

Filtration and Disinfection

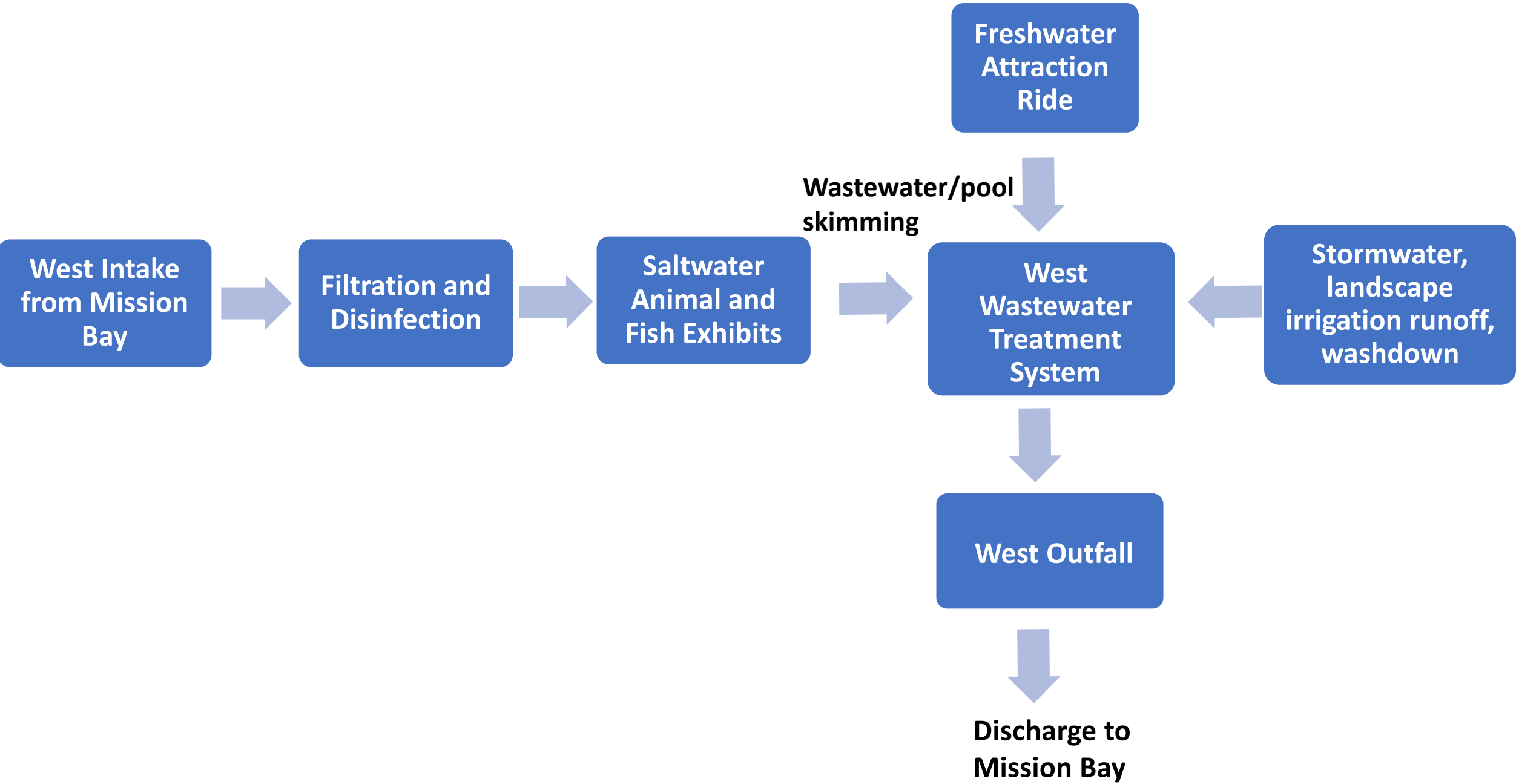
Mammal & Fish Exhibits

East Wastewater Treatment System

Stormwater, landscape irrigation runoff, washdown

East Outfall

Discharge to Mission Bay



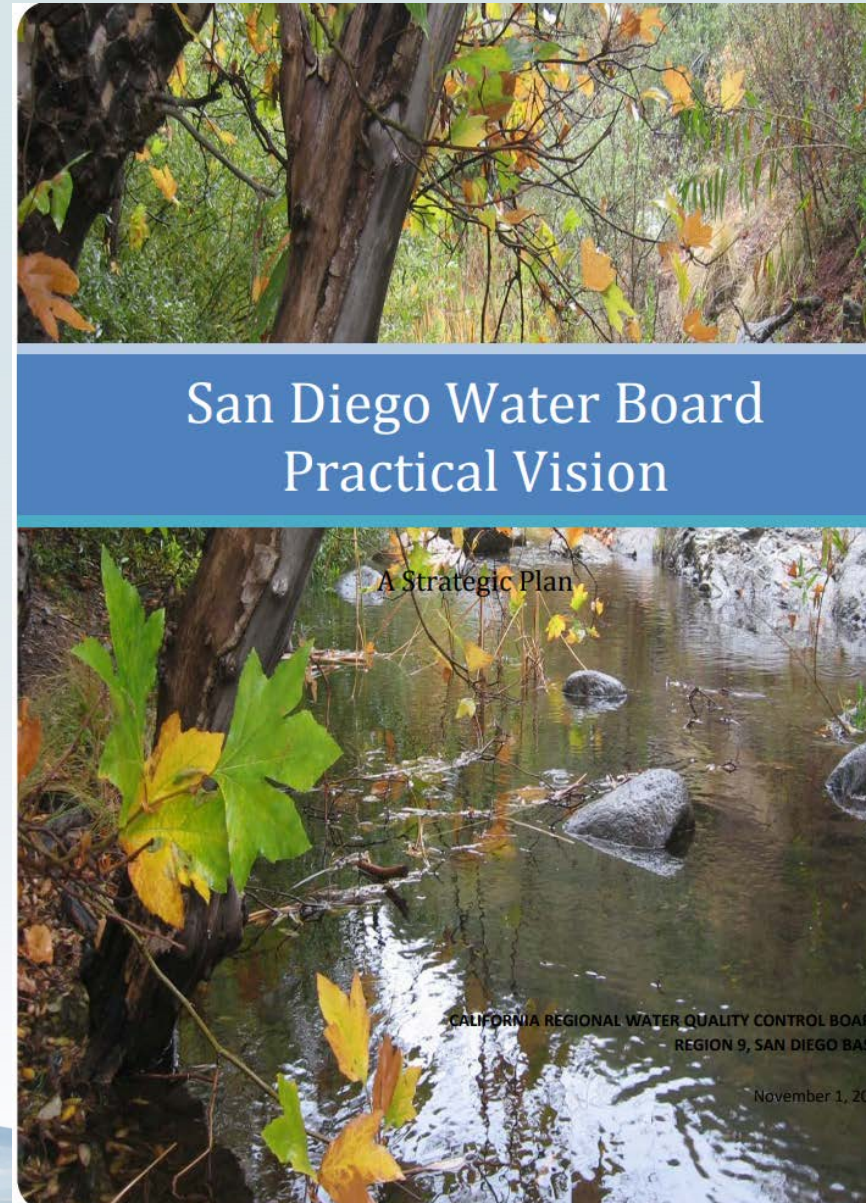
Practical Vision

Chapter 1:

Key Beneficial Uses

Chapter 5:

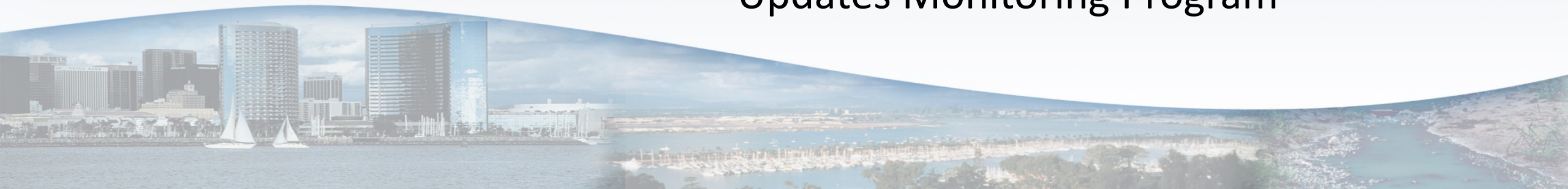
Monitoring Framework



Summary of Tentative Order



- Revisits Effluent & Receiving Water Limitations
- Modifies Stormwater Requirements
- Adds Climate Change Action Plan Requirement
- Updates Monitoring Program



Effluent and Receiving Water Limitations

- Technology-Based Effluent Limitations (TBELs)
 - Settleable Solids, TSS, Turbidity, Oil and Grease
- Water-Quality Based Effluent Limitations (WQBELs)
 - Bacterial Indicators, Copper, Silver, Ammonia, pH
- Performance Goals
 - All Other Priority Pollutants
- Receiving Water Limitations
 - Bacterial Indicators



Climate Change Action Plan

- Consistent with Recent Permits
- Identify Impacts of Climate Change
- Greenhouse Gas Emissions
- Impacts of Flooding and Sea-level Rise
- Identify Steps to Address Effects



Updated Monitoring Program

- Incorporate Monitoring Framework
- Characterize Effluent
- Ensure Data for Permit Reissuance
- Determine Compliance
- Assess Impacts to Mission Bay



Monitoring Framework

Effluent Monitoring Questions

- *Does the effluent comply with permit effluent limitations, performance goals, and other requirements of this Order, thereby ensuring that water quality standards are achieved in the receiving water?*
- *What is the mass of constituents that are discharged daily, monthly, and annually?*
- *Is the effluent concentration or mass changing over time?*
- *Is the Facility being properly operated and maintained to ensure compliance with the conditions of the Order?*



Monitoring Framework

Receiving Water Monitoring Questions

- *Does the receiving water meet water quality standards?*
- *Are the receiving water conditions getting better or worse over time?*
- *Are densities of bacteria in water contact recreation areas below levels protective of public health?*
- *What are the effects of the discharge on the receiving waters?*
- *What is the fate of the wastewater plume in Mission Bay?*



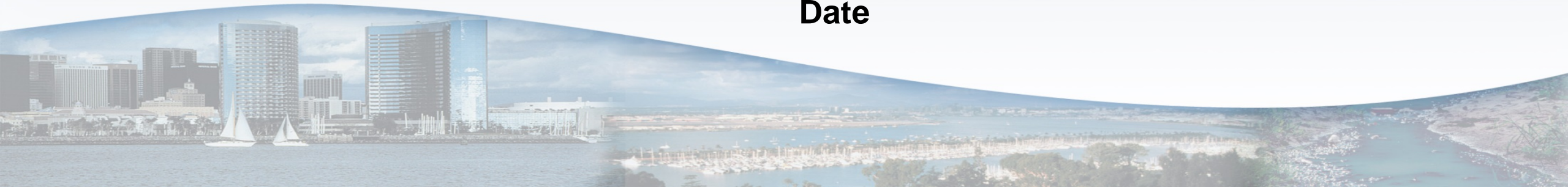
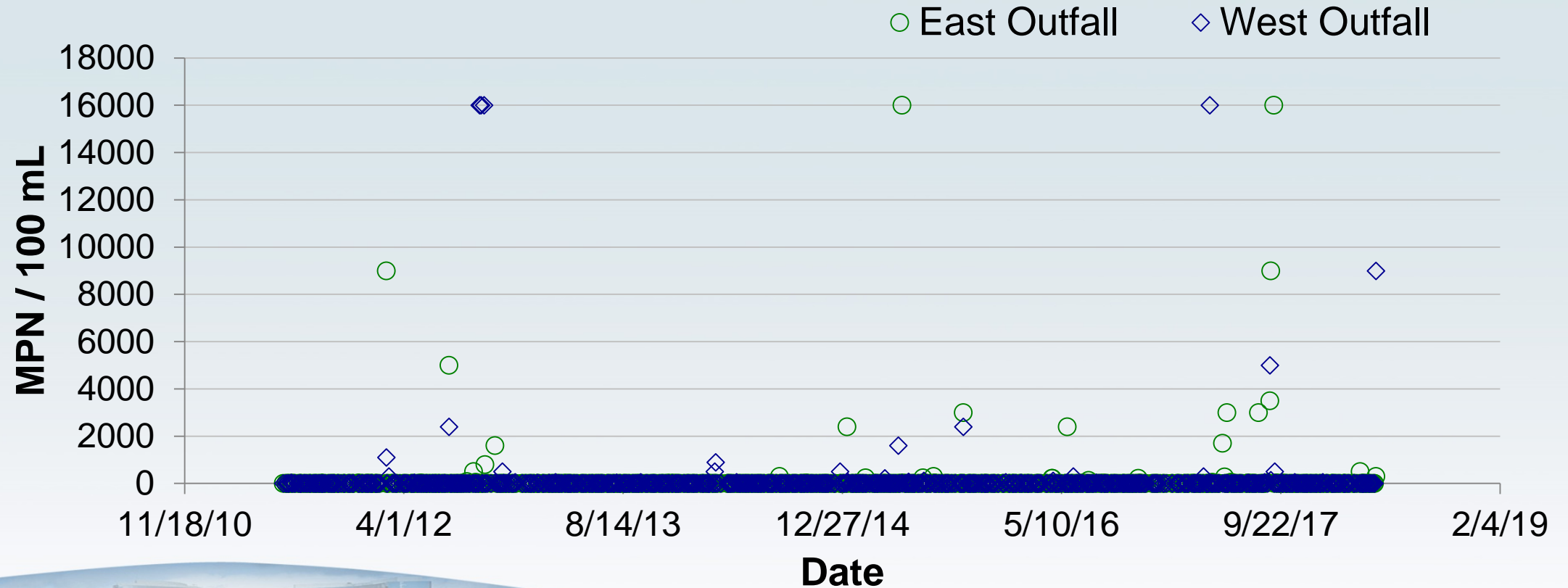
Overview of Effluent Monitoring

	Current Order	Tentative Order
Parameter	Sampling Frequency	
TSS	Quarterly	Monthly
Settleable Solids	Quarterly	Monthly
Turbidity	Semiannually	Monthly
Oil and Grease	Semiannually	Monthly
Ammonia	Semiannually	Monthly
Copper	Quarterly	Monthly
Silver	Quarterly	Monthly
Chronic Toxicity	Annually	Quarterly
Performance Goals	Once per permit term	Annually



Characterize Effluent

Total Coliform



Data for Permit Reissuance

- Tentative Order Based on Few Data Points:
 - 14 ammonia samples
 - 7 chronic toxicity samples
- Need sufficient data for Reasonable Potential Analysis (RPA)



Compliance Determination

Discharge is in compliance with effluent limitations

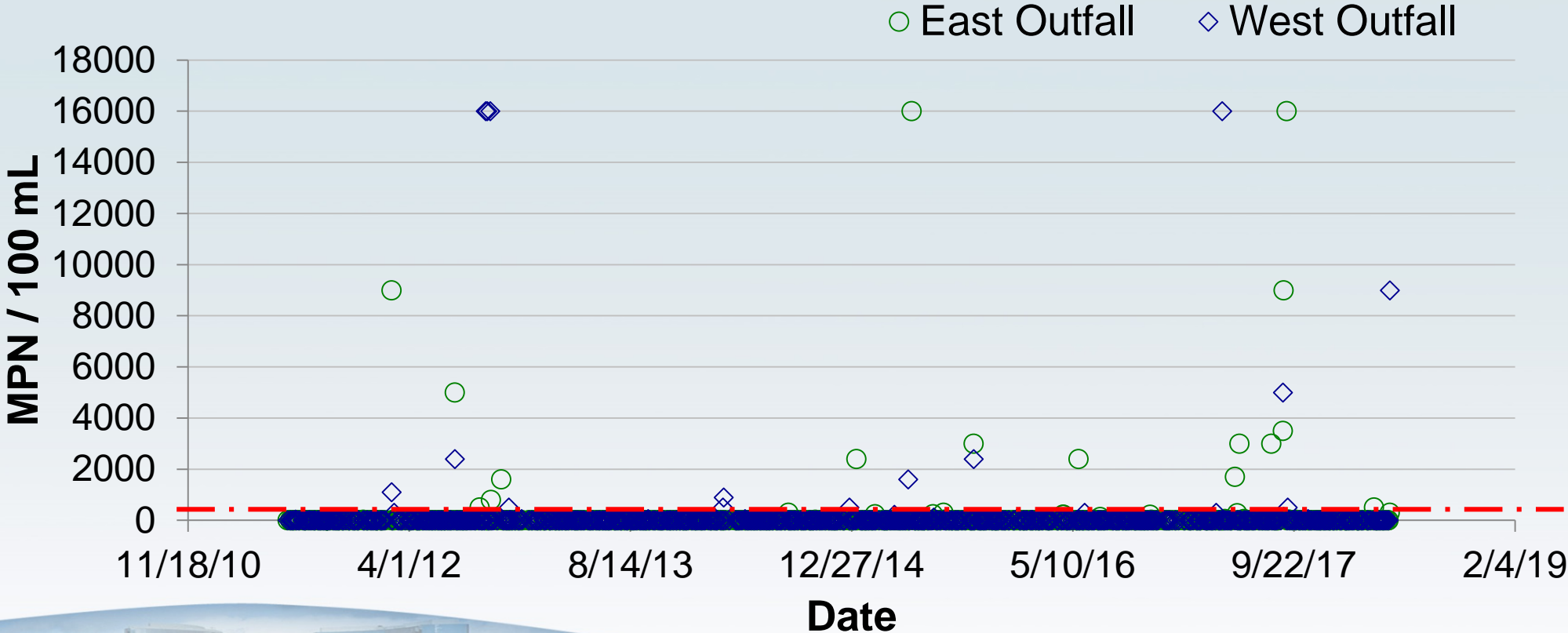
-OR-

Infrequent monitoring is unable to capture events of non-compliance

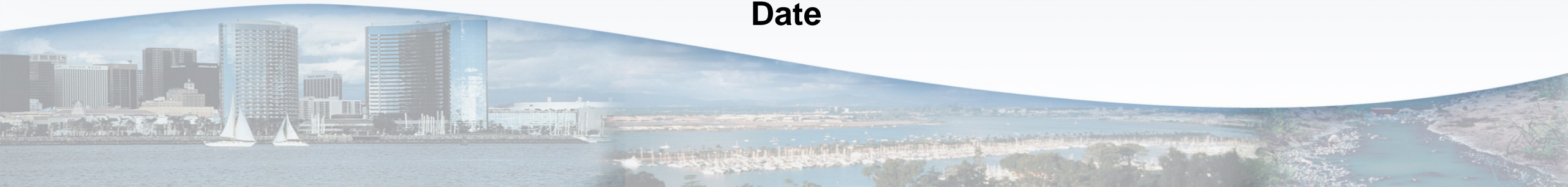


Compliance Record

Total Coliform



230 MPN /
100 mL



Compliance Record

Toxicity



Assess Impacts to Mission Bay



Public Comments

- Released for Public Comment on March 30, 2018
- Comments Due on April 30, 2018
- Comments Received
 - USEPA
 - SeaWorld



USEPA Comment

Comment:

Include explanation of reasonable potential analysis for pH and Ammonia

Response:

Fact Sheet was modified to include an explanation of the reasonable potential analysis for pH and Ammonia



SeaWorld Comment

Comment:

SeaWorld does not agree with the increase in monitoring frequency for several parameters.

Response:

The Tentative Order requires the minimum recommended monitoring to characterize the effluent, to ensure a sufficient data set for future permit reissuances, to determine compliance, and to assess the impacts to Mission Bay.



Parameter	Cost Per Sample (American Scientific Laboratories, LLC)	SeaWorld Proposed	Water Board Proposed
		Sampling Frequency	
TSS	\$20.00	Quarterly	Monthly
Settleable Solids	\$20.00	Quarterly	Monthly
Turbidity	\$15.00	Quarterly	Monthly
Oil and Grease	\$33.00	Quarterly	Monthly
Ammonia	\$25.00	Quarterly	Monthly
Copper	\$8.00	Quarterly	Monthly
Silver	\$8.00	Quarterly	Monthly



SeaWorld Comment

Comment:

SeaWorld would like more information on what is required by the Conceptual Site Model (CSM), specifically whether the CSM will require a full scale 3D hydrological model of the entire bay.

Response:

The CSM will likely not require a full scale 3D hydrological model of the entire bay. However, if the CSM demonstrates the need for a full scale hydrological model, SeaWorld may decide to include one.



**Recommend Adoption of
Tentative Order No.
R9-2018-0004**



Potential Impacts from Discharge

- Nutrients from Uneaten Food
- Nutrients and Bacteria from Animal Excrement
- Chemicals and Pharmaceuticals
- Chlorine
- Episodic Discharges

