



Regulatory Issues Update

Board of Directors Meeting
November 17, 2021



TRANSFORMING WASTEWATER TO RESOURCES

Overview

Wastewater Regulations/Permitting



- San Francisco Regional Water Quality Control Board (Regional Water Board) is District's primary regulatory agency for water quality
- Permitted through National Pollutant Discharge Elimination System (NPDES) permits
 - Individual NPDES permit, reissued every 5 years
 - Regional Watershed Permits (WSPs) are also issued for specific constituents (mercury, polychlorinated biphenyls, nutrients)
 - General Orders – recycled water
- Wastewater treatment plant (WWTP) NPDES permits in the region have similar requirements
 - When Regional Water Board implements a global change to all individual NPDES permits, a blanket permit amendment is issued

Significant NPDES Permit Change

Chlorine Residual

- Chlorine disinfection removes harmful bacteria, viruses, and pathogens from treated wastewater (effluent) prior to discharge
- Effluent must be “dechlorinated” using another chemical (sodium bisulfite) to avoid impacts to aquatic life
 - Most permits have a Total Residual Chlorine (TRC) effluent limit of 0.0 mg/L with hourly testing and reporting
 - Common source of NPDES permit violations in wastewater sector despite little to no environmental impacts for incidental chlorine residual discharges



Significant NPDES Permit Change

Chlorine Residual (cont'd)

- Regional Water Board approved blanket permit amendment to change TRC limit to water quality-based limit that accounts for dilution in receiving water
 - Change from an instantaneous maximum of **0.0 mg/L** to a one-hour average of **0.43 mg/L**
 - Amendment also removes oil and grease limit (legacy requirement)
- **Key Benefits:** reduction in sodium bisulfite usage and excess residual; reduced analytical testing costs



Successful Advocacy Effort Addressing “Flushable” Wipes

- Improper flushing of wet wipes poses significant regulatory compliance and operational reliability threat with associated cost impacts
 - Contributes to sewer backups and clogging of pumps at pumping stations
- Recent national study estimates California agencies spend \$50M annually to address wipes



Successful Advocacy Effort Addressing “Flushable” Wipes

- In 2018, District led regional campaign to address wipes
 - Press releases to local papers, newsletters, and bloggers
 - Posters in public restrooms, senior centers, government buildings
 - Paid advertising in movie theaters, newspapers, billboards, buses
 - Three videos including two in partnership with students at Deer Valley High School



Successful Advocacy Effort Addressing “Flushable” Wipes

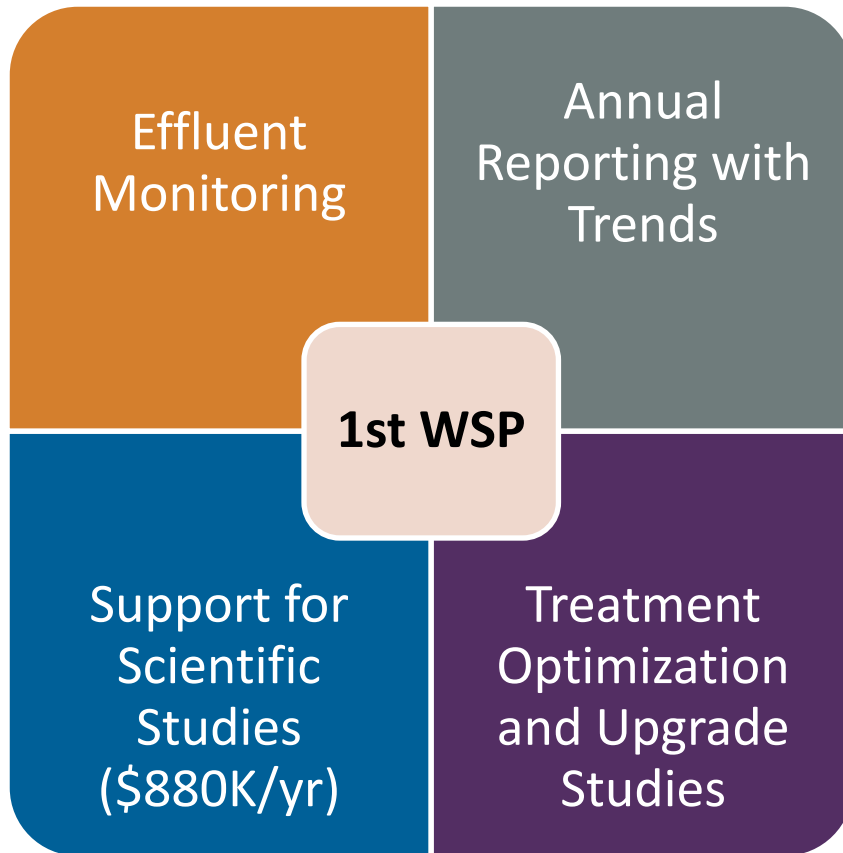
- Key Positive Outcome: AB 818 (Bloom) signed into law on October 6, 2021 to ensure proper product labeling
 - Co-sponsored by California Association of Sanitation Agencies (CASA) and National Stewardship Action Council
 - Manufacturers must display clear “Do No Flush” warnings and symbols on wipes and educate the public on the impacts of improper flushing (in consultation with CASA) by July 1, 2022



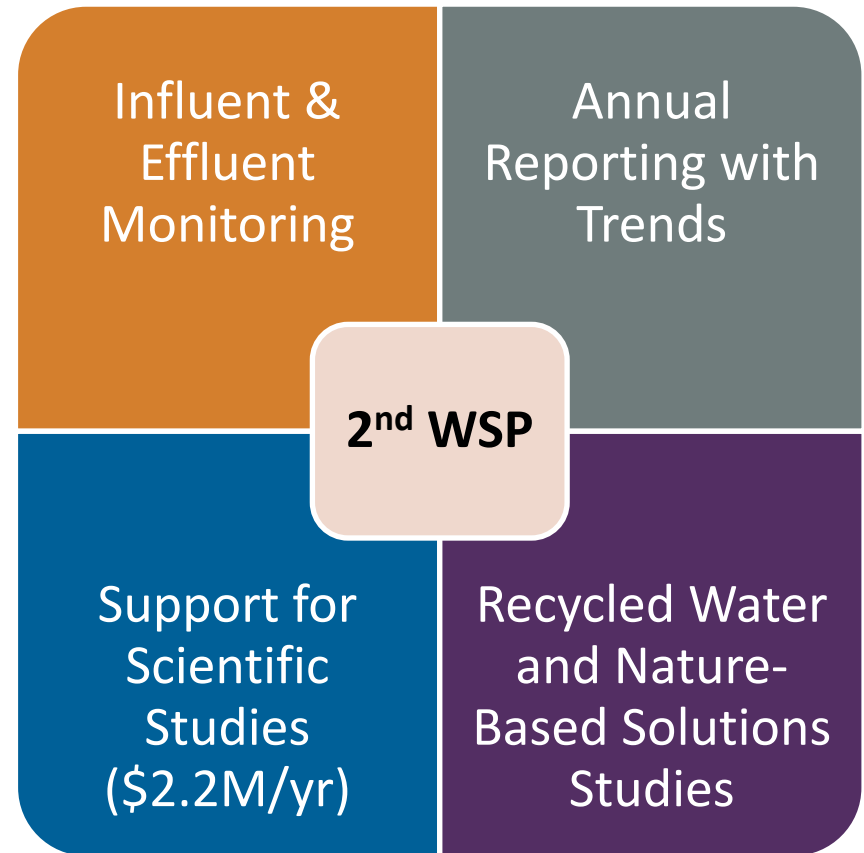
Nutrient Watershed Permit First and Second Permits



2014 to 2019



2019 to 2024



Nutrient Watershed Permit Source Apportionment

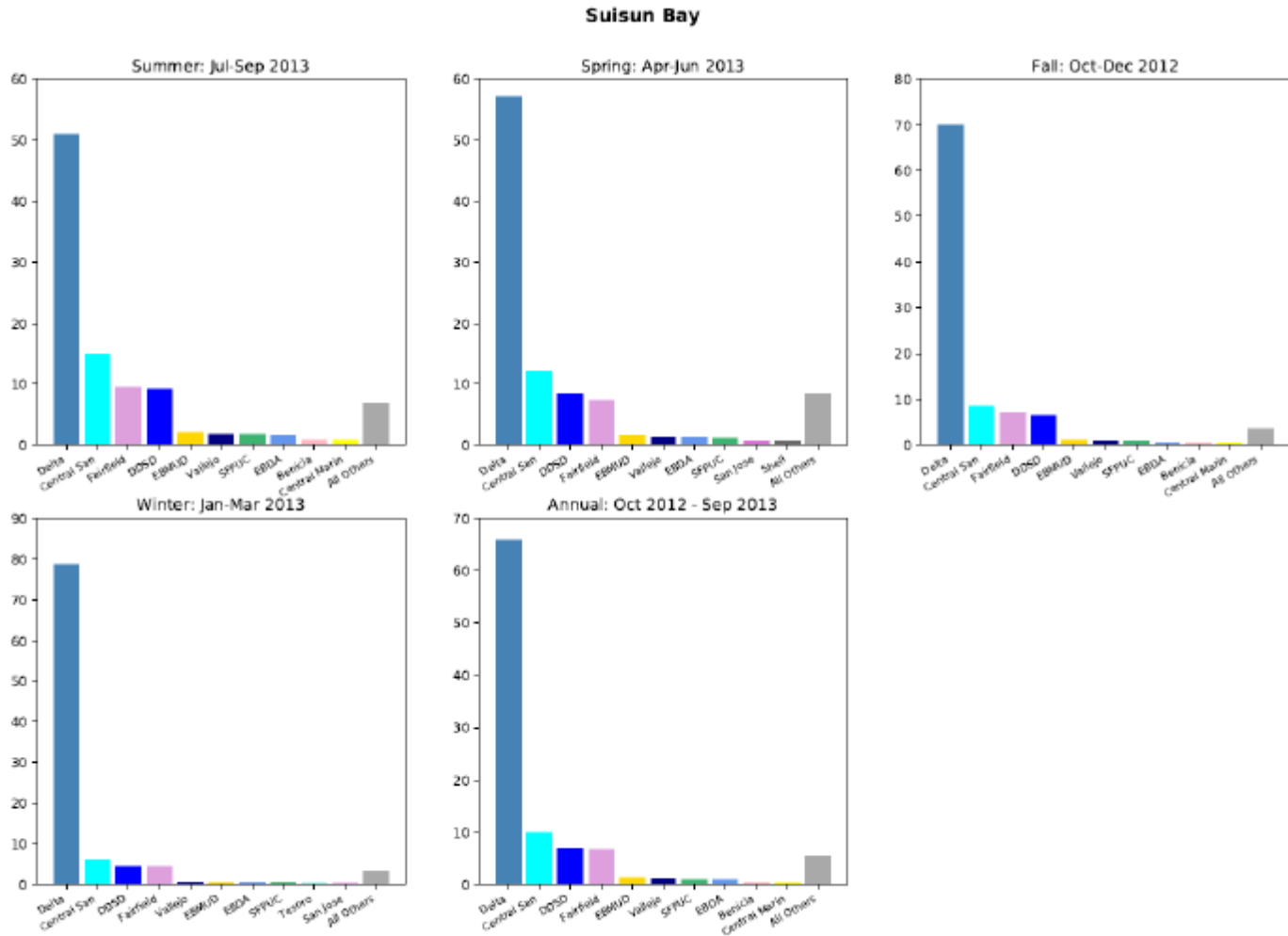
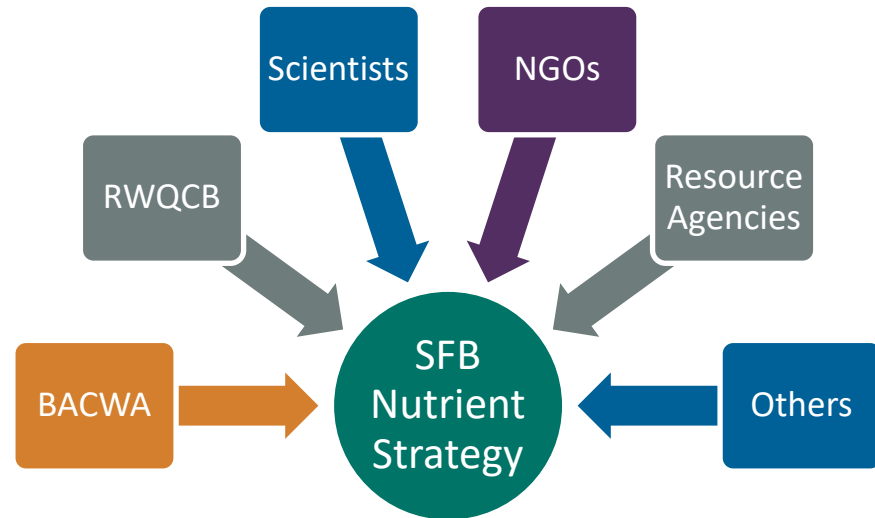


Figure 3.9. Point source PS%-contributions to DIN across seasons, Suisun Bay. Boundaries: default, WB boundaries. Analysis: default, Area-weighted

Nutrient Watershed Permit Collaboration



District Strategic Plan

Goal ② Environmental Stewardship (cont'd)

Meet or surpass environmental and public health requirements to maintain public trust

STRATEGY NO. 3 Advocate for achievable, sustainable, and cost-effective environmental regulations based on sound science and public health benefits

Key Objectives

- Actively engage with regulators and scientific community via Bay Area Clean Water Agencies to continue investment data collection and understanding water quality impacts and public health benefits associated with nutrient management in San Francisco Bay
- Support development of a regional nutrient load “trading” program to reduce capital infrastructure investment costs at the District



Constituents of Emerging Concern Background



- Constituents of Emerging Concern (CECs) is a growing category of pollutants
- Most treatment plants are not designed to remove certain chemicals
- Most cost-effective method to remove many pollutants is to prevent initial discharge into wastewater stream
 - Pollution Prevention (P2) and Source Control are becoming increasingly important

BY THE NUMBERS

- **157,000** Individual chemicals identified by CAS numbers, according to the most comprehensive global inventory to date*
- **75,000** Mixtures, polymers, and substances of unknown or variable composition*
- **120,000** Substances that could not be conclusively identified

* Individual chemicals, mixtures, polymers, and other substances were identified by CAS numbers

Source: *Environ. Sci. Technol.* 2020,
DOI:10.1021/acs.est.9b06379

Significant Focus on Key Constituent of Emerging Concern: PFAS

- Per and polyfluoroalkyl substances (PFAS)
 - Over 9,000 chemicals; PFOS and PFOA banned
 - In commercial use since 1940s
 - Known for heat, water, and oil resistant properties
- Ubiquitous in our homes and environment
 - Recent studies indicate average concentration of 10-50,000 parts per trillion in household dust
- Recent legislative (bans) and regulatory actions (drinking water thresholds)



Significant Focus on Key CEC: PFAS Regional Approach



- Regional Water Board is implementing a practical approach to regulating CECs
 - Conduct watershed monitoring and studies through Regional Monitoring Program (RMP) instead of effluent monitoring
 - Develop a risk-based CEC Strategy

	Risk Level Description	Monitoring Strategy	Water Quality Management Actions
High Concern	Bay occurrence data suggest a high probability of a moderate or high level effect on Bay wildlife.	Studies to support TMDL or alternative management plan.	303(d) listing.* TMDL or alternative management plan.* Aggressive control/treatment actions for all controllable sources.
Moderate Concern	Bay occurrence data suggest a high probability of a low level effect on Bay wildlife.	Consider including in Status and Trends monitoring. Special studies of fate, effects, sources, pathways, and loadings.	Action plan/strategy. Aggressive pollution prevention. Low-cost control/treatment actions.
Low Concern	Bay occurrence data suggest a high probability of minimal effect on Bay wildlife.	Discontinue or conduct periodic screening level monitoring in water, sediment, or biota. For CECs previously considered moderate concern, maintain Status and Trends monitoring for at least two cycles. Periodic screening level monitoring for chemical(s) detected in wastewater or stormwater to track trends.	Low-cost source identification and control. Low-level pollution prevention. Track product use and market trends.
Possible Concern	Uncertainty in toxicity thresholds suggests uncertainty in the level of effect on Bay wildlife. In some cases, analytical methods are inadequate.	Screening level monitoring to determine presence in water, sediment, or biota. Screening level monitoring for presence in wastewater or stormwater.	Maintain (ongoing/periodic) effort to identify and prioritize emerging contaminants of potential concern. Track international and national efforts to identify high priority CECs. Develop biological screening methods and identify available analytical methods.

Constituents of Emerging Concern Blanket Permit Amendment



- In October, Regional Water Board approved a blanket permit amendment that shifts resources from monitoring legacy pollutants to CECs
 - Reduction in monitoring for dioxins, mercury, PCBs, and other priority pollutants
 - Cost savings from monitoring reduction (\$320K/yr) will be applied toward Regional Monitoring Program for CEC monitoring and associated studies
 - District cost is estimated at \$7,000 per year