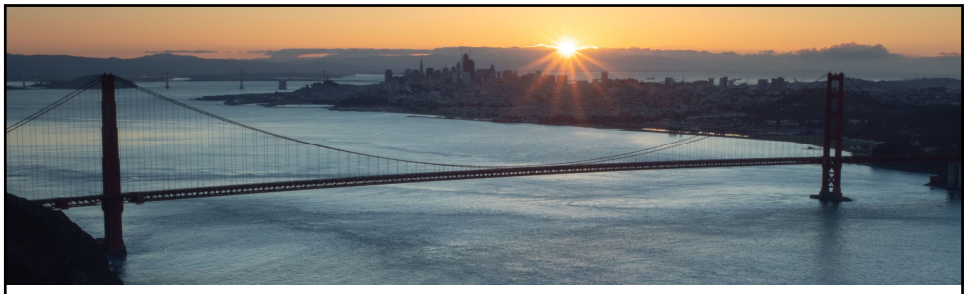


BACWA Laboratory Committee Meeting

Regional PFAS Monitoring

Rebecca Sutton and Diana Lin
August 11, 2020

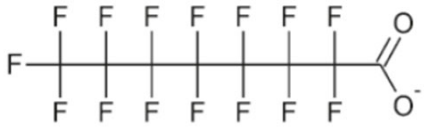
SFEI AQUATIC SCIENCE CENTER
SAN FRANCISCO ESTUARY INSTITUTE & THE AQUATIC SCIENCE CENTER

RMP

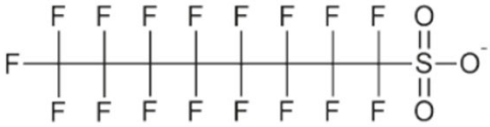
1

Poly- and Perfluoroalkyl Substances (PFAS)

PFOA
Perfluorooctanoic acid



PFOS
Perfluorooctane sulfonate



2

State Water Board Investigation Orders

PFAS concerns

- Contamination of drinking water sources
- Ecological impacts

Monitoring required at facilities >1 MGD

- Quarterly monitoring of influent, effluent, ROC, and biosolids

Region 2 will conduct a regional study

- Not included in 13267 letter

https://www.waterboards.ca.gov/pfas/

3

Advantages of Regional PFAS Study coordinated by SFEI

Inform region-wide understanding

- (Nearly) all effluent goes to the Bay

Develop study design that is efficient and informs management actions

- Reduce unnecessary costs, resources
- Region-wide QA/QC, data management
- Investigate sources of PFAS

Gain insights from RMP PFAS studies

RMP

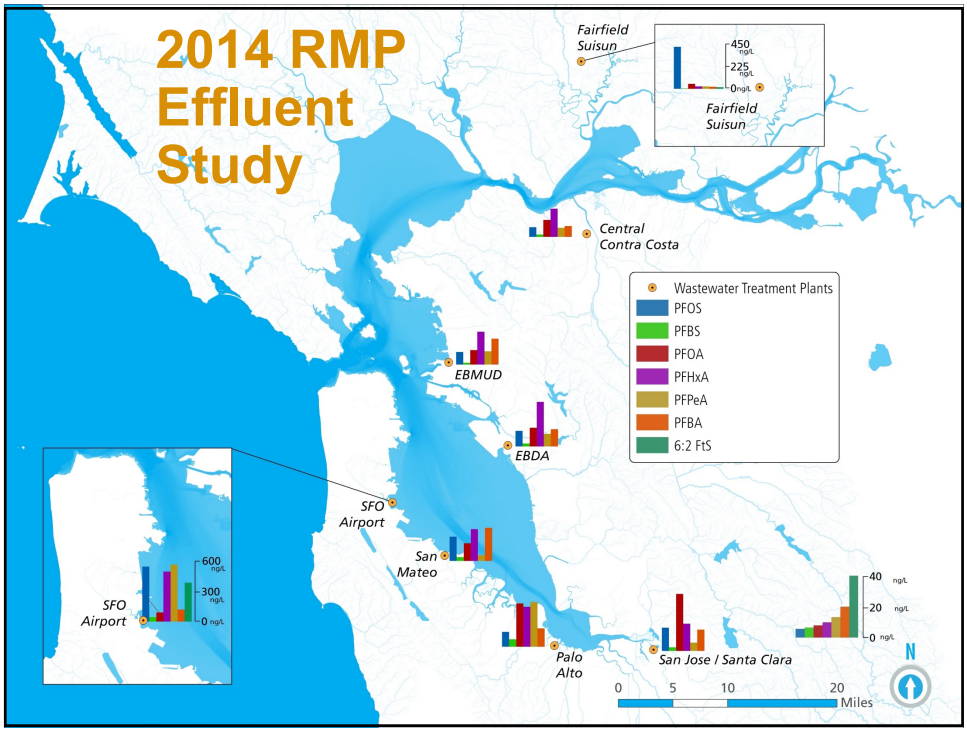
4

CECs in San Francisco Bay

High Concern moderate or high impact	None currently
Moderate Concern low impact	PFAS Alkylphenols, Alkylphenol Ethoxylates Fipronil, Imidacloprid, Bisphenols Organophosphate Esters, Microplastics
Low Concern limited impact	PBDEs and HBCD Pharmaceuticals, Pyrethroids* Personal Care & Cleaning PBDDs / PBDFs
Possible Concern uncertainty as to impact	Alternative Flame Retardants Pesticides, Plastic Additives, QACs Siloxanes, SDPAs, UV-BZTs, others

RMP

5



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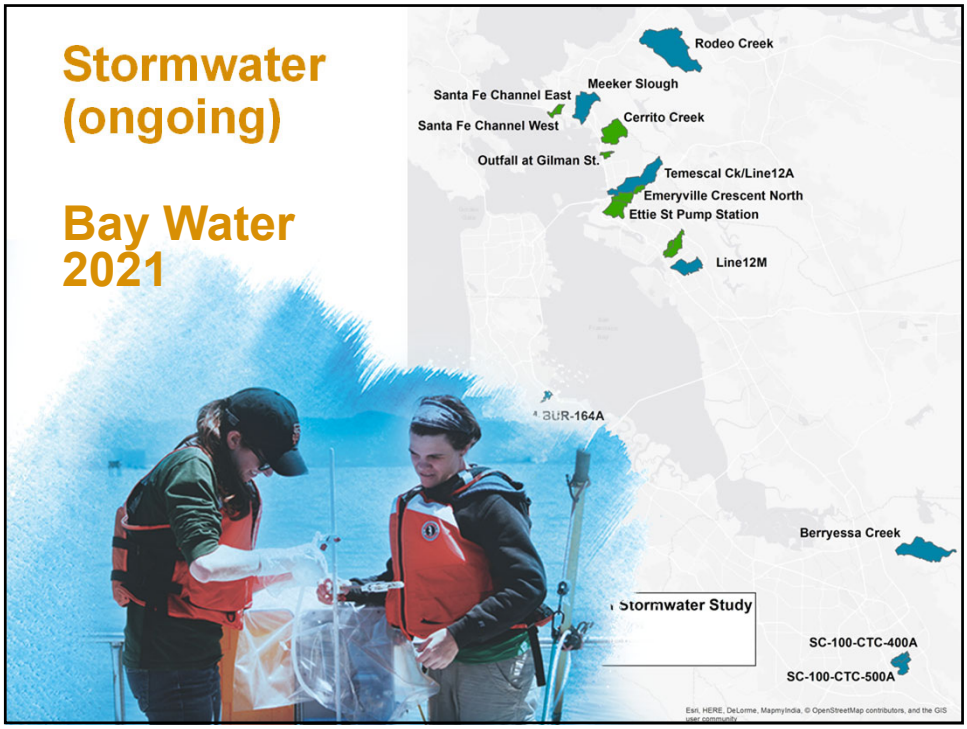
Stormwater (ongoing)

Bay Water 2021



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Phased Study Approach

Phase 1: Monitor up to 15 facilities (Q4 2020)

- SFEI will:
  - Prepare sampling and analysis plan
  - Coordinate sample collection by facilities
  - QA and upload commercial lab data
  - Analyze data, prepare report with Phase 2 monitoring design recommendation

Phase 2: Additional monitoring to support evaluation of PFAS occurrence, trends, and/or source identification

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Phase 1 Outline

Select up to 15 facilities for participation

- Largest facilities
- A few medium and small facilities

Detailed sample collection instructions, webinar

- 24-hour composites of influent and effluent
- Products and conditions to avoid

Coordinate sample collection (Q4 2020)

Targeted analysis (31 PFAS) on influent, effluent, ROC, biosolids

- Possible inclusion of Total Oxidizable Precursors (TOP) assay on biosolids, influent

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Phase 1 Timeline

- **Aug 7: Draft SOW shared and discussed with Water Board and BACWA**
- **Aug 21: Approve SOW**
- **Aug 24: Send POTW Questionnaire, responses needed within 2 weeks (Sept. 7)**
- **Sept 15: Draft Sampling and Analysis Plan**
- **Oct 19: Final Sampling and Analysis Plan**
- **Oct 19 – Nov. 30: Sample Collection**

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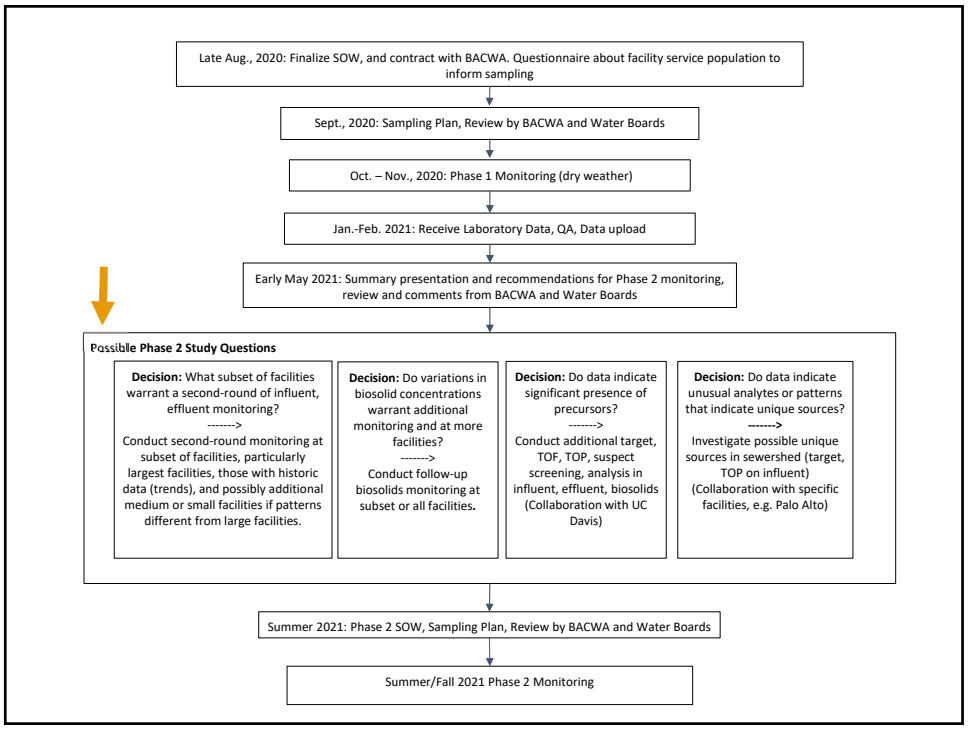
What about Phase 2?

11



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POTW Questionnaire

Developed by the State Water Board

Essential tool for site selection, source identification

Identifying information required:

- Waste Discharger Identification Number
- GeoTracker Global ID
- Contact information for sampling and reporting

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Types of Wastewater Inflow and Volume Percentages

2(a). Estimate relative contribution for each type of wastewater (e.g. Residential/Commercial, industrial) entering the treatment plant based on calendar year 2019 flows.

_____ % Residential/Commercial _____ % Industrial

2(b). If wastewaters are received from industrial sources, provide the types of industries that are contributing flow and the estimated percentage for the calendar year of 2019 in the following table. If the types of industries are not correlative to the data collected at your facility, please provide the industry types and correlative volume percentages in the blank lines provided.

Industry Types – Influent Flow	Continuous Flow? (Yes/No/)	Periodic Flow? (Yes/No)	Non-Routine Influent Flow? (Yes/No)	2019 - Estimated Industrial Total Volume by Percentage (>5% of the total volume)
Airports				
Agricultural				
Automatic Vehicle Washing				
Breweries and Wineries				
Electronic Manufacturing (e.g., electronic components, semiconductors, capacitors, batteries)				
Fabricated Metal Products (e.g. chrome plating, electroplating, plating, polishing, anodizing, and coloring				
Fire Training Centers				

Total industrial volume

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Sewage Sludge and Biosolids

5(a). What is the amount of sewage sludge and biosolids (by class type) produced in the calendar year of 2019?

Amount discharged by the facility

Type	Amount Produced in Calendar Year 2019
Sewage Sludge – Any solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a municipal wastewater treatment facility. It includes solids removed or used during primary, secondary, or advanced wastewater treatment processes. It does not include grit or screening material generated during preliminary treatment of domestic sewage at a municipal wastewater treatment facility. Sewage sludge does not include biosolids that meet the criteria in Table 1 of 40 Code of Federal Regulations section 503.13.	_____ dry metric tons
Class A – Biosolids meeting the vector attraction, and meeting pollution concentration limits specified in 40 CFR Part 503 and pathogen reduction standards specified in 40 CFR Part 503.32(a).	_____ dry metric tons
Class A EQ (Exceptional Quality) – Biosolids which meet metals standards, Class A pathogen reduction standards, and vector attraction reduction standards contained in 40 CFR Part 503.13(3), 40 CFR Part 503.32(a), and 40 CFR Part 503.33(b)(1-8), respectively.	_____ dry metric tons
Class B – Biosolids which meet the vector attraction and meeting pollution concentration limits specified in 40 CFR Part 503 and pathogen reduction standards specified in 40 CFR Part 503.32(b).	_____ dry metric tons

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Landfill Leachate

6(a). Has your facility accepted landfill leachate?

☐ YES
☐ NO

6(b). If yes to 6(a)., please use the table below to provide the name of landfill, years accepted, and estimated volumes for the past 5 years.

Landfill Name	Years Accepted	Estimated Volumes per year (gallons per 365-day period)
1.	_____ *to* _____	_____ gallons/year
2.	_____ *to* _____	_____ gallons/year
3.	_____ *to* _____	_____ gallons/year
4.	_____ *to* _____	_____ gallons/year

Years when leachate was accepted at the facility

16

Thank you

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diana@sfei.org

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