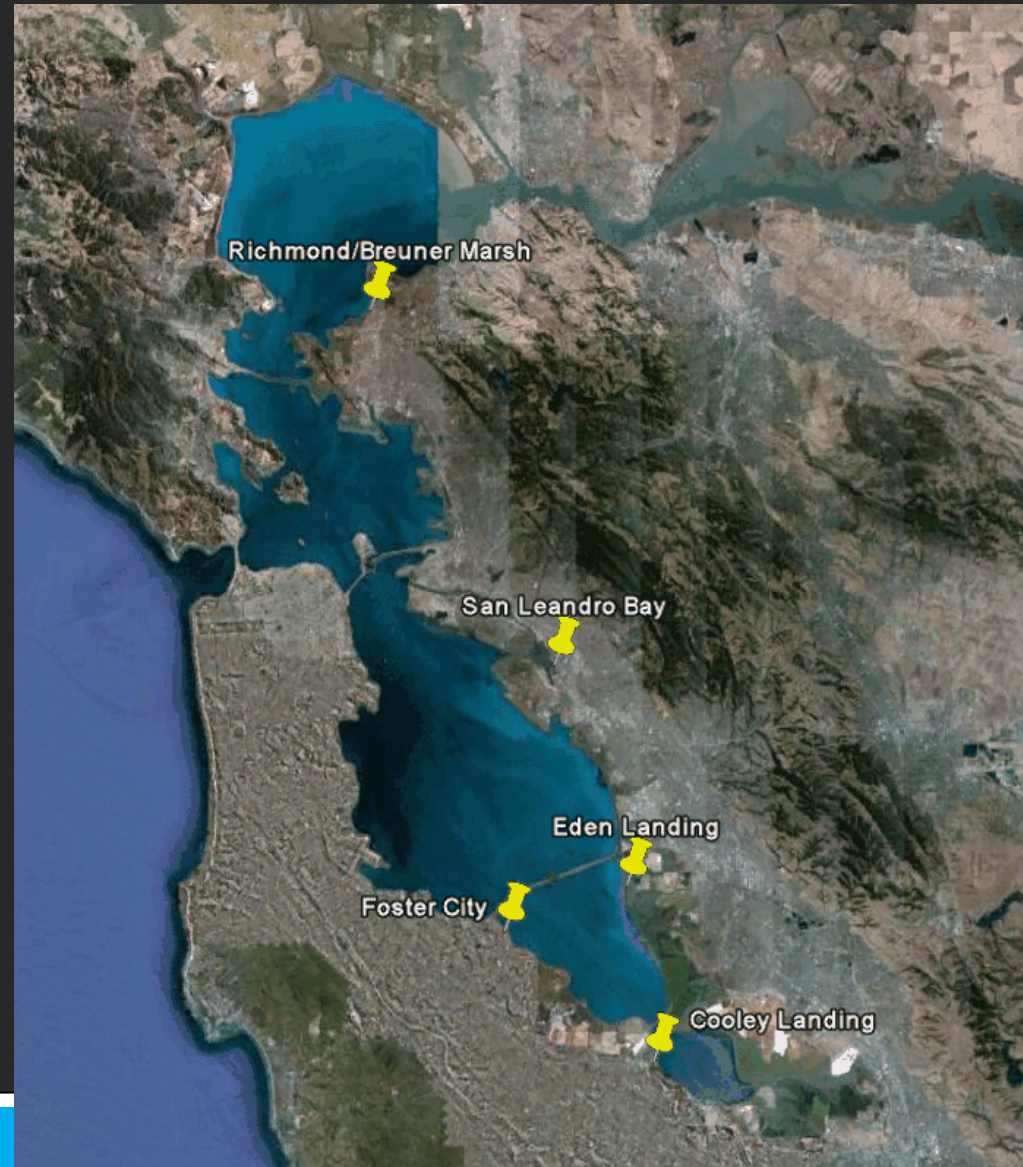


AXYS/SFEI Probono Study--CEC Reconnaissance

- 5 sites
- Sediment, water, mussels at each site
- 121 PPCPs, 13 PFCs, nonylphenol, NPEO1, NPEO2, octylphenol



Methods

- All recovery corrected methods by LC MS/M or derivatized GC/MS SIM
- Expanded EPA 1694 plus modifications for tissue (LC MS/MS)
- 3 in-house PFC methods by matrix (LC MS/MS)
- NP water and sediments derivatized GC/MS SIM
- NP tissue steam distilled LC MS/MS
- PPCP and NP tissue were new applications of existing methods

Current Status

- All samples collected by Jan.20, 2010
- All preliminary method development complete
- All analysis performed and in review @ AXYS prior to final release and discussion with SFEI and partners

General Comments on Analytical performance

PFC Analysis

- no performance issues as expected

PPCP Analysis

- Of 121 compounds analyzed, 23 routinely seen (water 14 compounds, tissue 10 compounds).
- Further 15 compounds detected site / matrix specific
- Detects generally in the 1-50 ng/L or ng/g range
- Fewer and different PPCPs in sediments
- Some compounds negatively affected by seawater
- Reviewing vs. blank and QC limits

NP Analysis

- Wide variations in water / sediment detections by site
- Tissue results consistent in detects

PFC Occurrence Comments

- Wide variation in PFC aqueous results
 - Low ng/L results in most cases
 - Cooley Landing shows significant detects for C4-12 carboxylic acids
- Less variation in PFC sediment results
 - PFOS and PFOA consistently detected < 5 ng/g
- Mussel results
 - Consistent results (0.5 to 5 ng/g) for PFOS and PFOA except high at Eden Landing (PFOS 75 ng/g)
 - Other PFCs not consistently detected

Nonylphenol (NP) Tissue Results Significant

(ng/g, after primary QC review, * requires review vs. blank)

	Richmond	San Leandro Bay	Foster City	Eden Landing	Cooley Landing
NP	70	51	81	33	75
NPEO1	19*	42	18*	10*	31
NPEO2	76	181	23*	5*	62
OP	ND	ND	ND	ND	ND

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PPCP Comments

- QC performance generally good in all matrices
- Seawater raises detection limits somewhat for targets
 - Sulfa compounds and metformin most affected
- Many sporadically detected compounds near DL. Current focus of review.
- Consistently detected in water at all sites
 - Caffeine, Carbamazepine, Clarithromycin, Erythromycin-H₂O, Sulfamethoxazole, Trimethoprim, Gemfibrozil, Benzococaine, DEET, Meprobamate, Metoprolol, Valsartan, Triclocarban
- Consistently detected in mussel at all sites
 - Carbamazepine, Dehydronifedipine, Diphenhydramine, sulfamethizole, DEET, Sertraline, Ibuprofen, Amphetamine

Next Steps

- Final AXYS data expected in first week of April
- Comments on program design and analytical limits/modifications for SFEI and others (SCCWRP/ NOAA) expected first week of April
- Next steps for NOAA CA Pilot to be defined
- RMP QA review on-going
- Manuscript by end of year