Central Coast Water Quality Preservation, Inc.

Ag Order 4.0 & Third Party Monitoring Updates

CENTRAL COAST WATER QUALITY PRESERVATION, INC.

Salinas, CA

November 15, 2023

OUTLINE

- Ag Order 4.0 – New/changing requirements
- Surface Water monitoring updates – Nitrate and sediment
- Aquatic/Sediment Toxicity & Toxicants – Status & Trends
- Surface Water Follow-Up – Work Plan due 3/1/24

- Well Sampling updates – Nitrate and 123-Trichloropropane
- Groundwater Quality Trend Monitoring Work Plans

Key Changes in Ag Order 4.0

- TNA reporting begins for all growers (2023 crops, due 3/1/24)
- INMP reporting phases in for some growers (2023 crops, due 3/1/24)
- High-N TNA/INMP reports require follow-up & will carry consequences
- Well Monitoring for trend purposes shifts to “networks”
    - Pending Work Plan approval by Water Board
    - Reduces formal irrigation well sampling; Domestic well sampling continues
- Surface Water Follow-Up

Things that haven't changed

- All growers must enroll through and keep current their eNOI accounts on GeoTracker (Water Board and Pres, Inc. requirement)
- Requirements that apply at the Operation or Ranch level (e.g. well sampling, TNA, Annual Compliance Form, etc) must be met
- Every ranch needs a Farm Plan, and the management practices in that plan must be implemented to protect/improve water quality

Increased Accountability

- Notices of Violation for TNA non-filers and failure to sample wells
- Formal enforcement (fines ~$40,000-$50,000) for operations that do not respond to NOV's or take corrective actions
- Individual State Water Board Fee invoices (for growers who do not maintain Third Party membership) can no longer be appealed
- Operations that do not show good-faith effort to comply with specific requirements lose Third Party eligibility

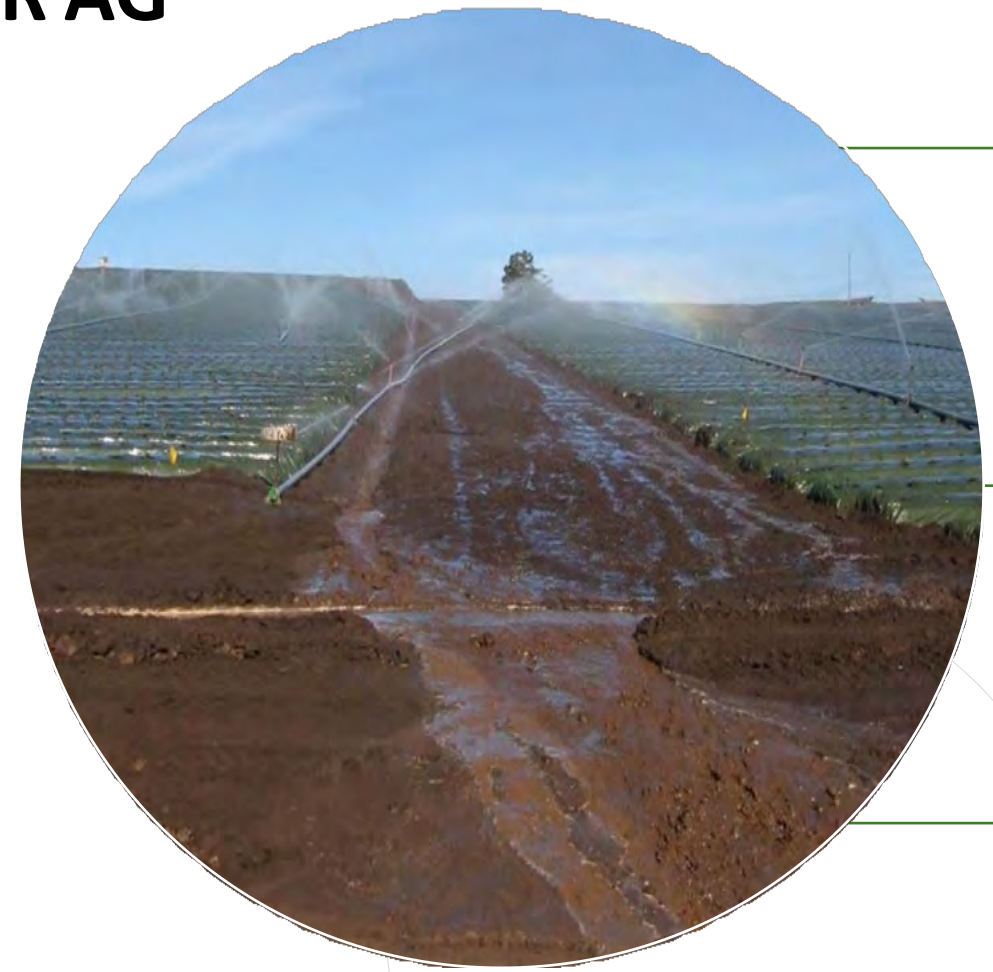
State Water Board Remand of Ag Order 4.0

- September 20, 2023 – State Board Order to Region 3 Water Board
- Several aspects of Ag Order 4.0 must be revised within 1 year
- A new State Expert Panel on Nitrogen (esp. A-R) should be convened
- Ag Order 4.0 Limits on N-applied and N-discharge (A-R) cannot be enforced, and cannot be used to remove growers from Third Party
- Ag Order 4.0 Limits on N-applied and N-discharge (A-R) CAN still be used to require education

CMP MONITORING DESIGN

- 50 original sites, increased to 55 in 2012
- Monthly monitoring (all sites, every year) for:
  - Nutrients
  - Basic chem (pH, conductivity, D.O.)
  - Turbidity
  - Stream Flow
- Quarterly monitoring (all sites, every year) for:
  - Toxicity to Algae in Water
  - Toxicity to Invertebrates (*C. dubia* & *Chironomus*) in water
  - 3rd Invertebrate (*Hyalella*) assessed 1-2x annually in sediment
- Periodic monitoring (all sites, 4x in study years) for:
  - Insecticides (e.g. Pyrethroids, Neonicotinoids), Herbicides, Metals

DIRECT SURFACE WATER CONCERNS FOR AG



Eroded soils

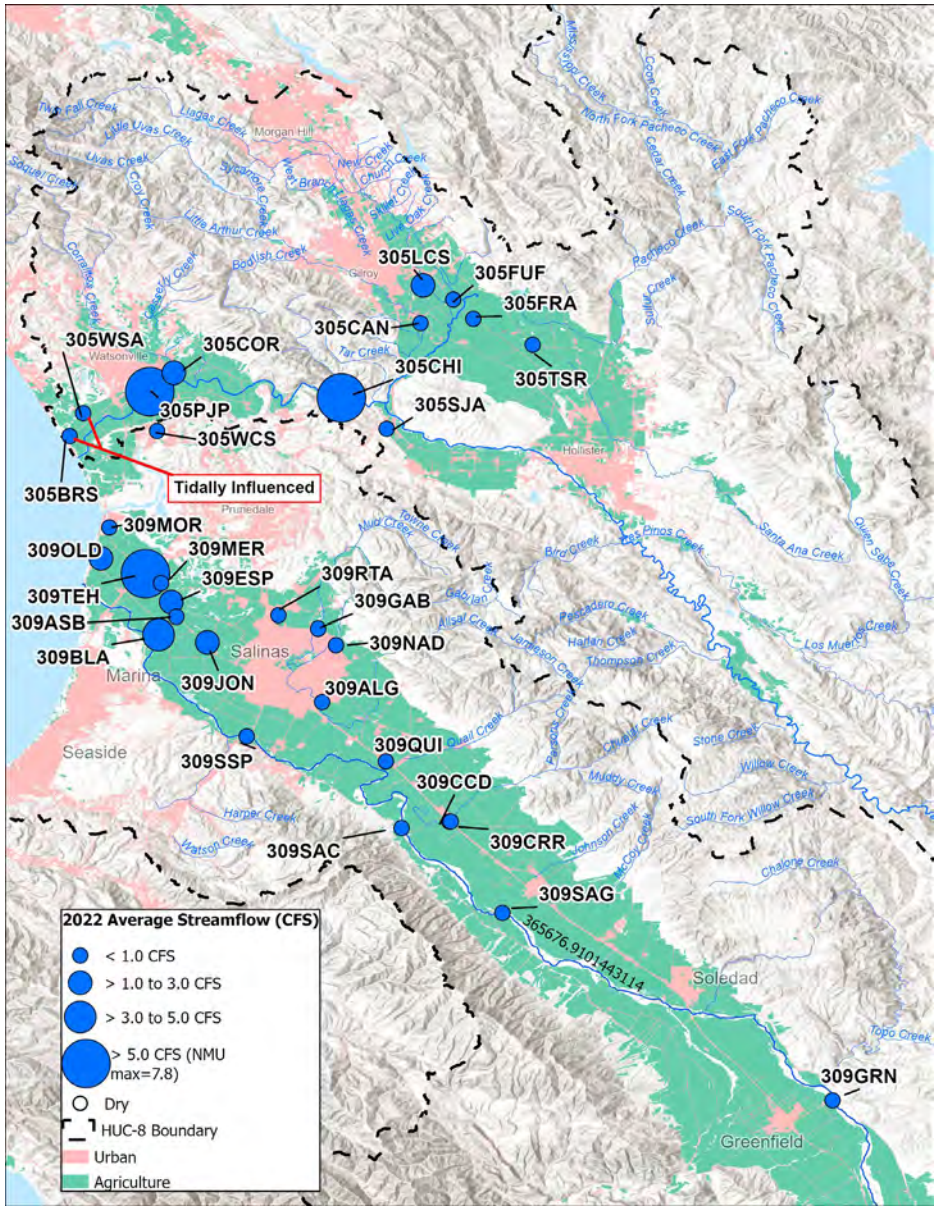
(Turbidity)

Fertilizers & soil amendments

(Nitrate, Phosphate)

Pest control products

(OP's, Pyrethroids, Neonics, Herbicides)



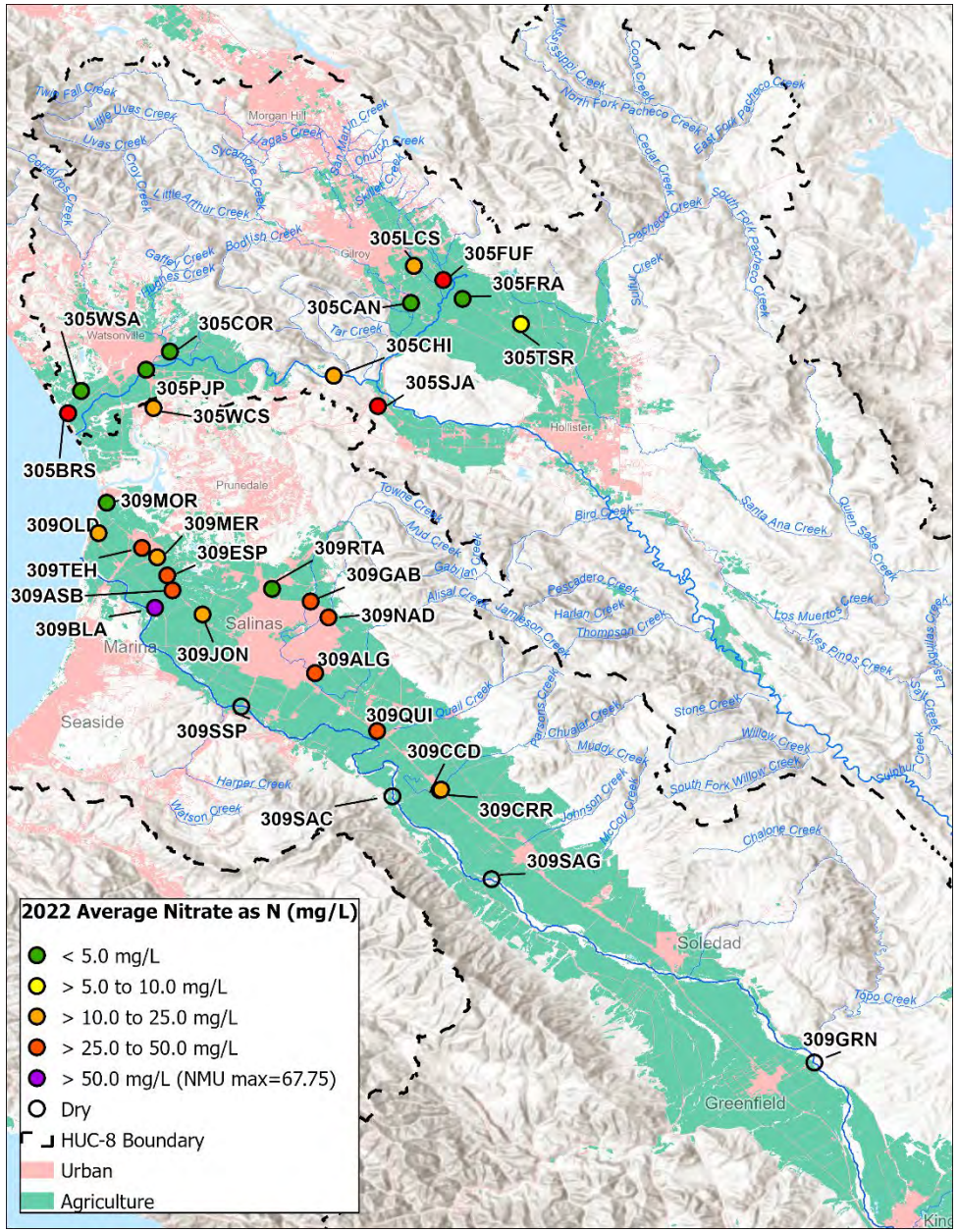
Stream Flow

Pajaro & Salinas

TRENDS

Pajaro HU Trends	Count
Increasing	3
Decreasing	4
No Trend	5

Salinas HU Trends	Count
Increasing	1
Decreasing	5
No Trend	13



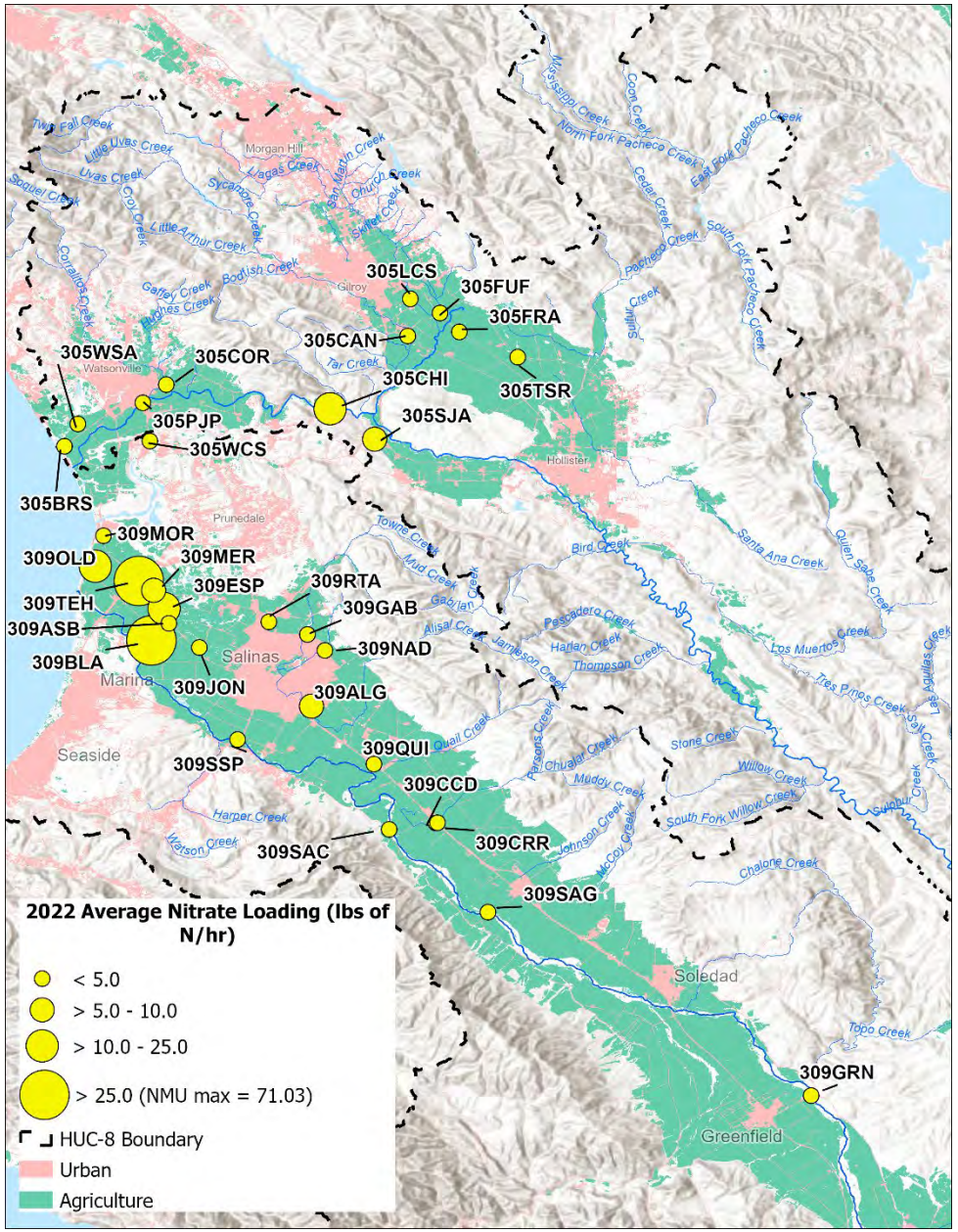
Nitrate (as N)

Pajaro & Salinas

TRENDS

Pajaro HU Trends	Count
Increasing	3
Decreasing	3
No Trend	6

Salinas HU Trends	Count
Increasing	5
Decreasing	1
No Trend	13



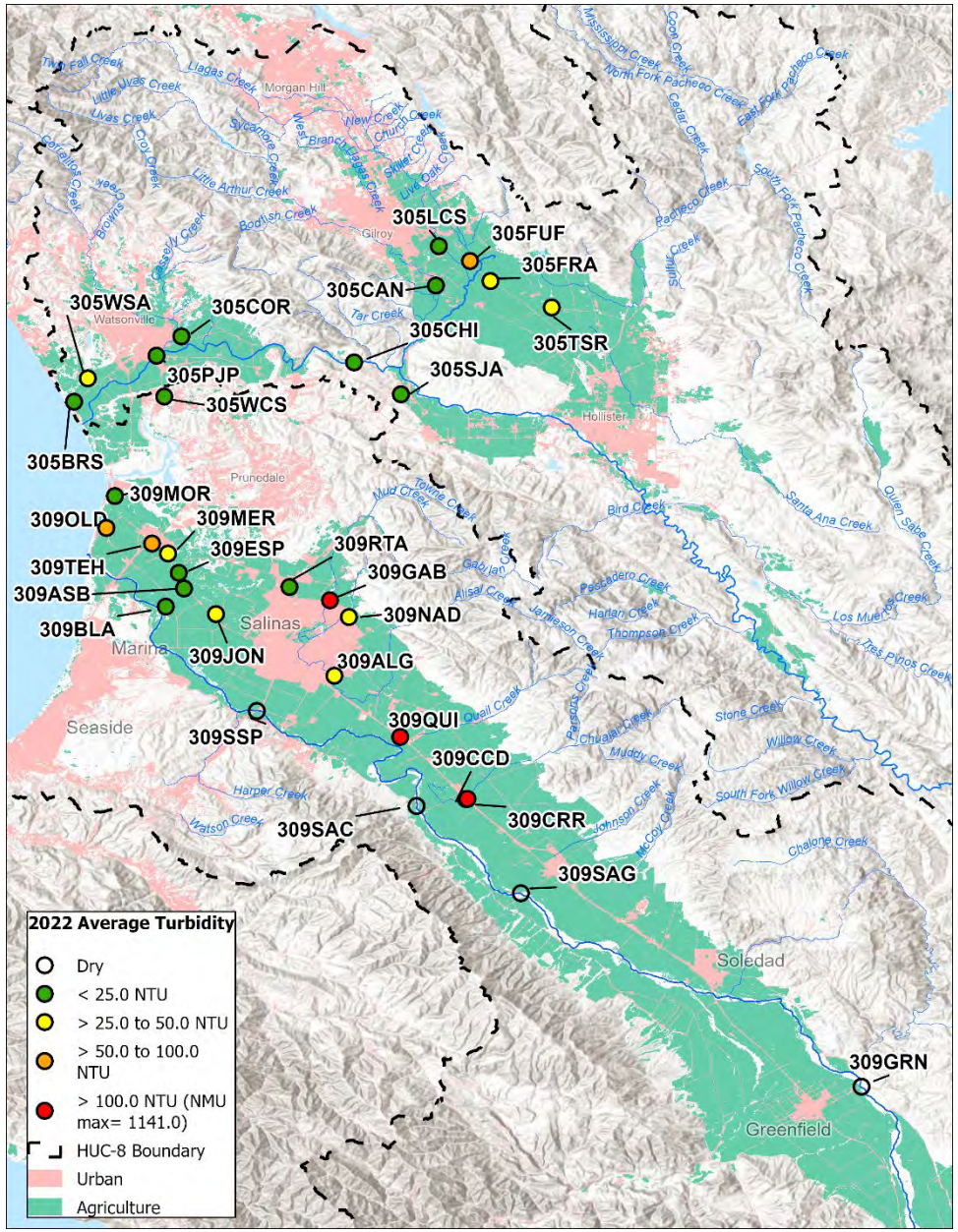
Nitrate Loading

Pajaro & Salinas

TRENDS

Pajaro HU Trends	Count
Increasing	4
Decreasing	2
No Trend	6

Salinas HU Trends	Count
Increasing	1
Decreasing	5
No Trend	13



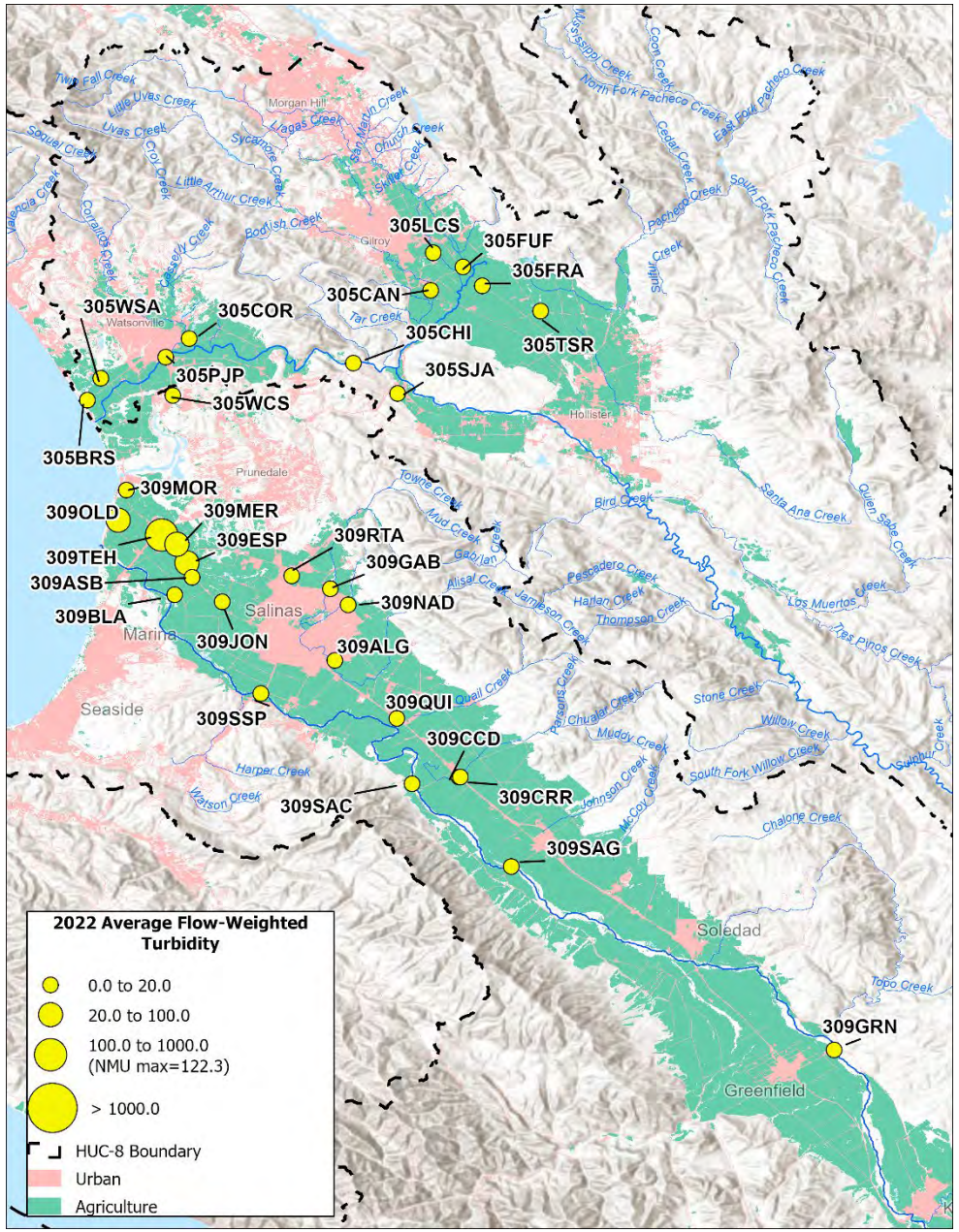
Turbidity

Pajaro & Salinas

TRENDS

Pajaro HU Trends	Count
Increasing	4
Decreasing	3
No Trend	5

Salinas HU Trends	Count
Increasing	1
Decreasing	14
No Trend	4



Sediment "Loading"
(i.e., Flow Weighted Turbidity)
Pajaro & Salinas

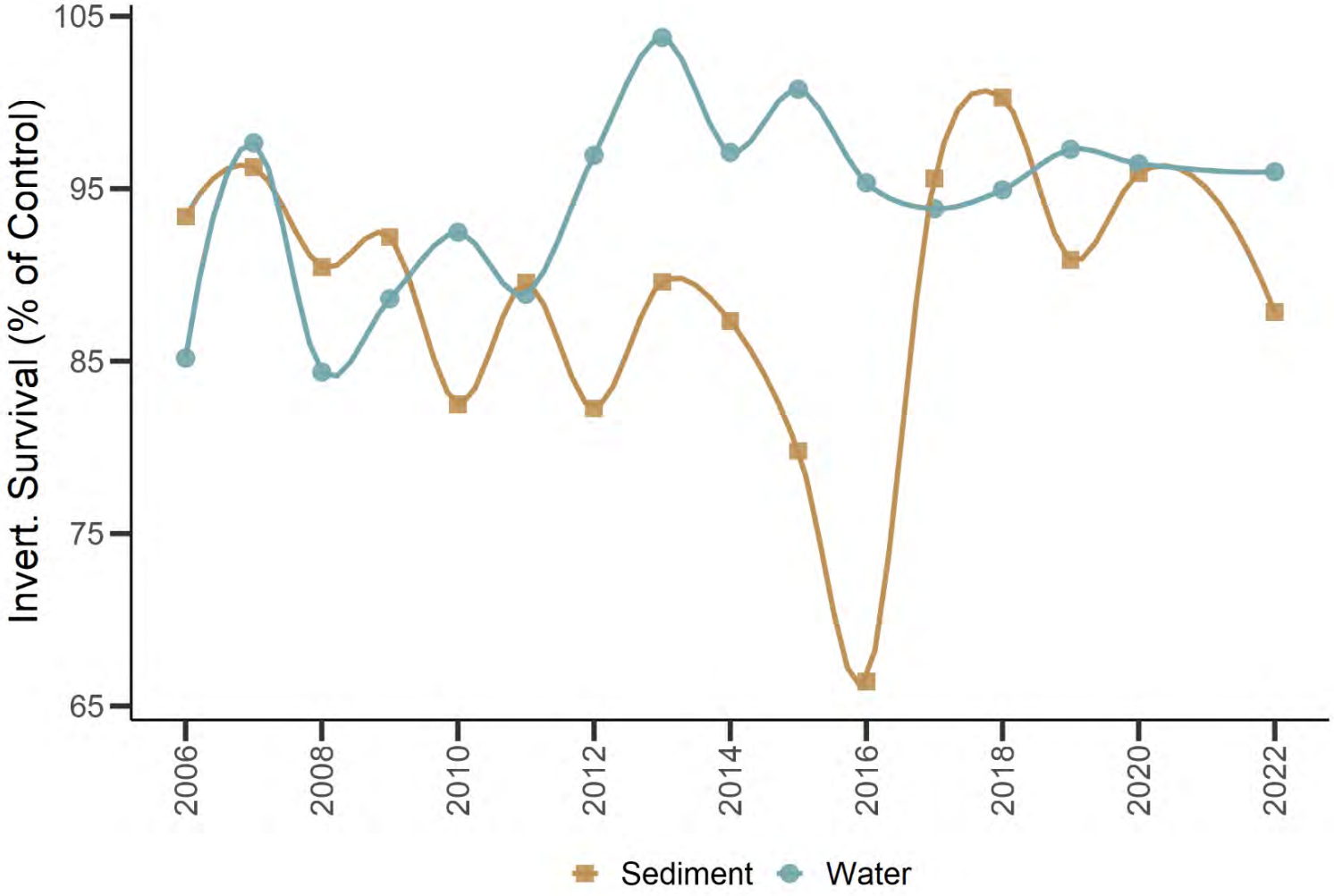
TRENDS

Pajaro HU Trends	Count
Increasing	2
Decreasing	2
No Trend	8

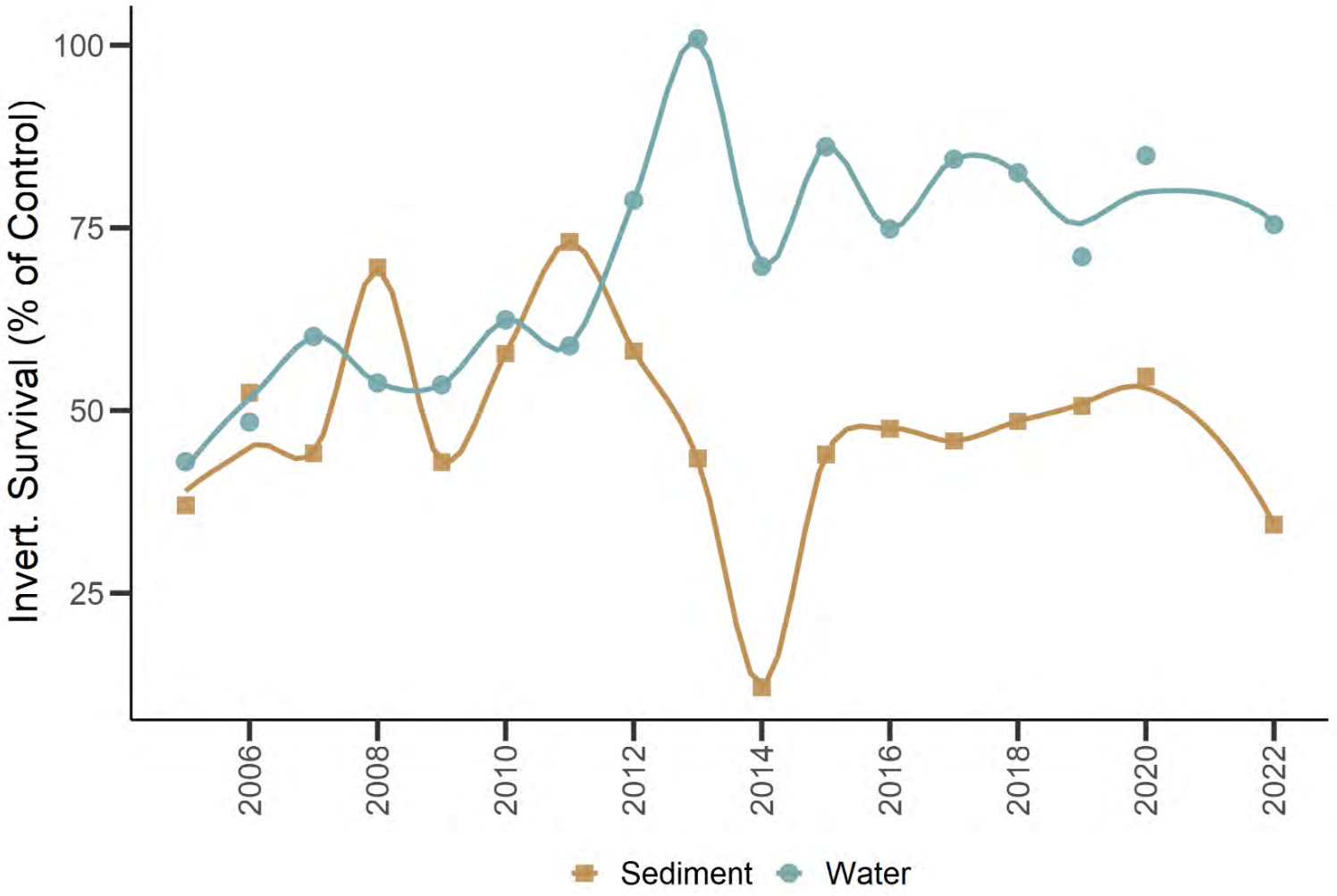
Salinas HU Trends	Count
Increasing	0
Decreasing	7
No Trend	12

Invertebrate Survival Rates in Toxicity Tests

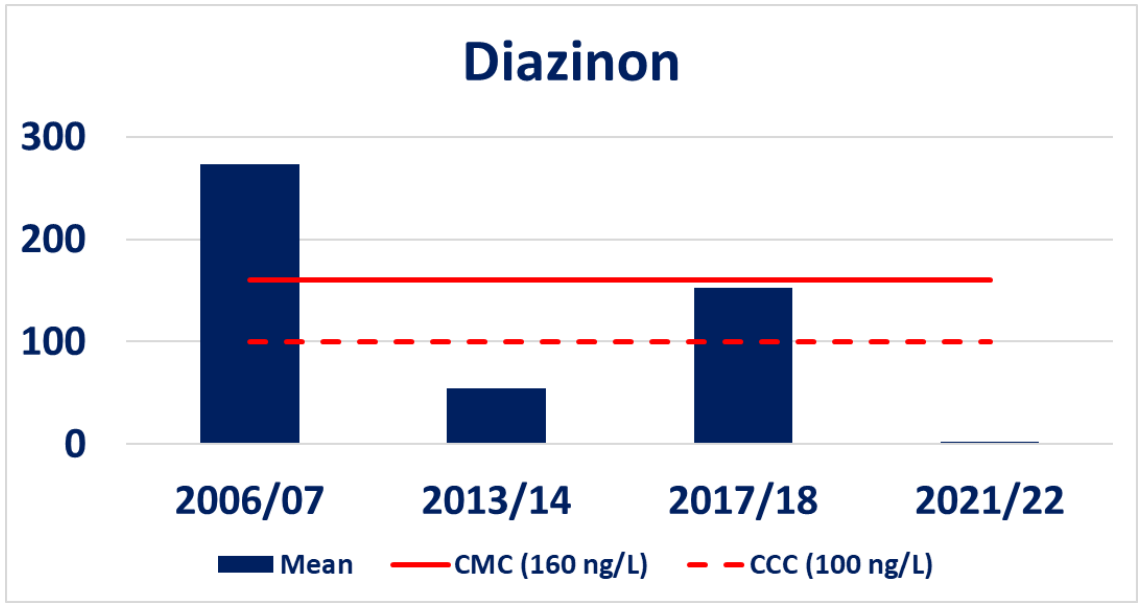
Pajaro Hydrologic Unit

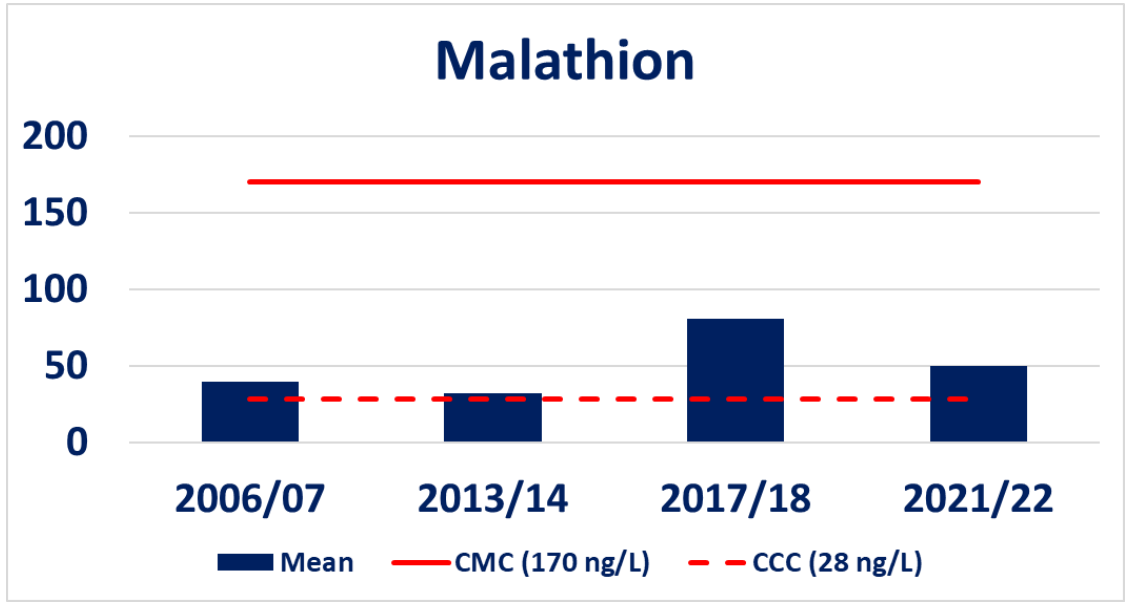


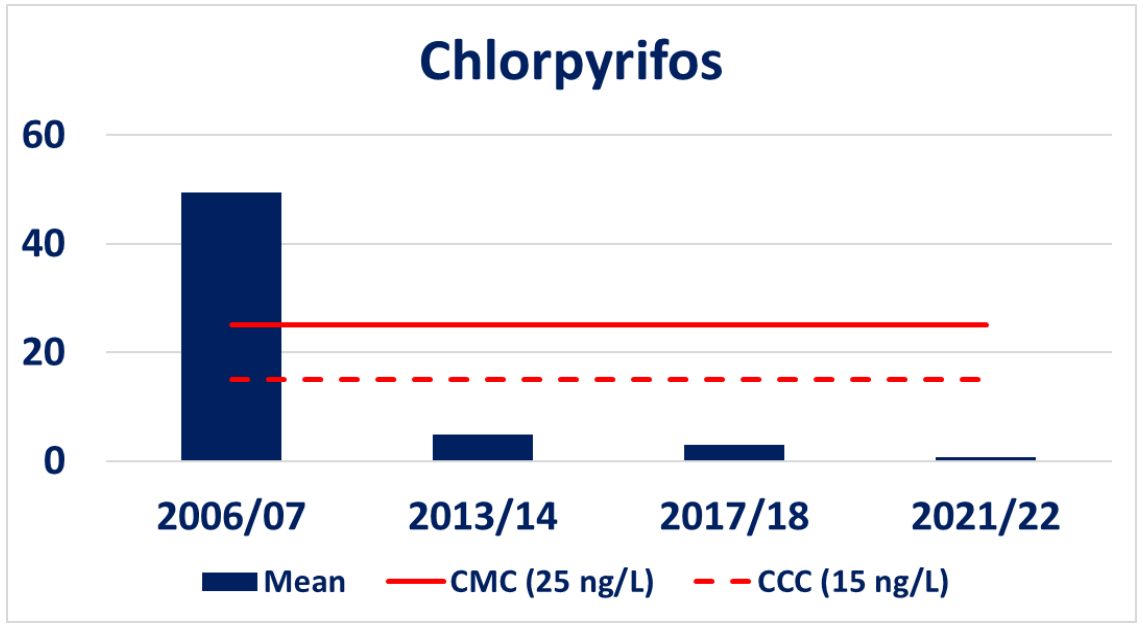
Invertebrate Survival Rates in Toxicity Tests
Salinas Hydrologic Unit

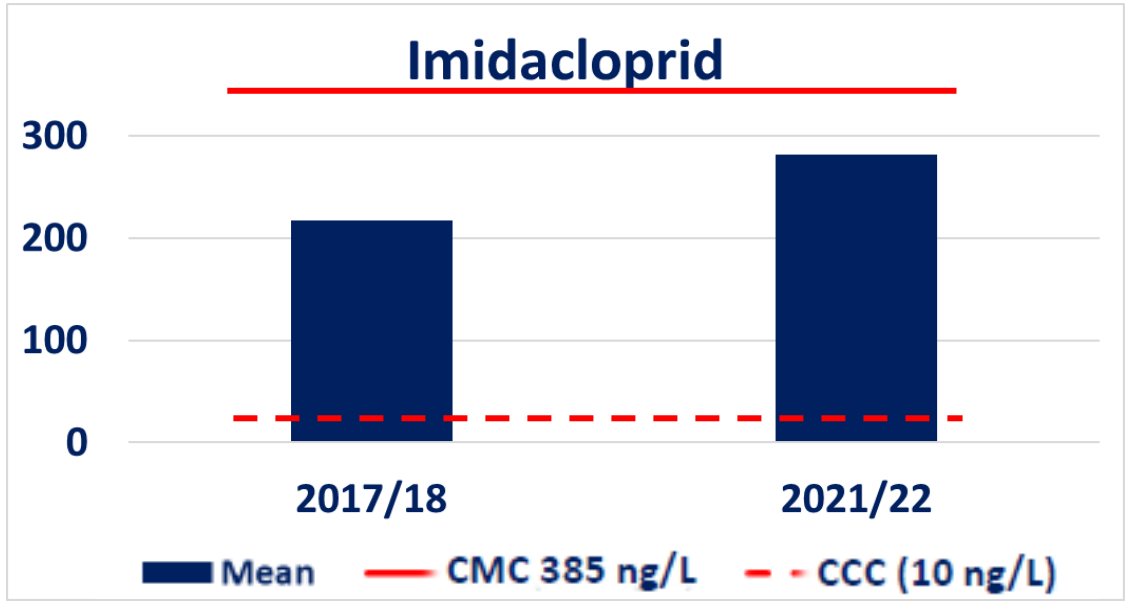


Pesticides in Water









Surface Water Follow-Up

- Required under Ag Order 4.0 – response to surface water exceedances detected by routine cooperative monitoring

- Work Plans for Individuals were due 3/1/23 (none we are aware of)

- Work Plans for Third Party due 3/1/24 (Salinas & Santa Maria); 2026 and 2028 for other areas

SW Follow-up Pilot Efforts

- Watershed meetings with growers from 7 of 19 High Priority areas
- Individual “ranch visits” held on a voluntary basis
- Management Strategies developed or in-development
  - 1 sub-watershed already in compliance for nutrients
  - 1 sub-watershed has (informally) accepted the management strategy; working towards Design Grants for collaborative treatment projects

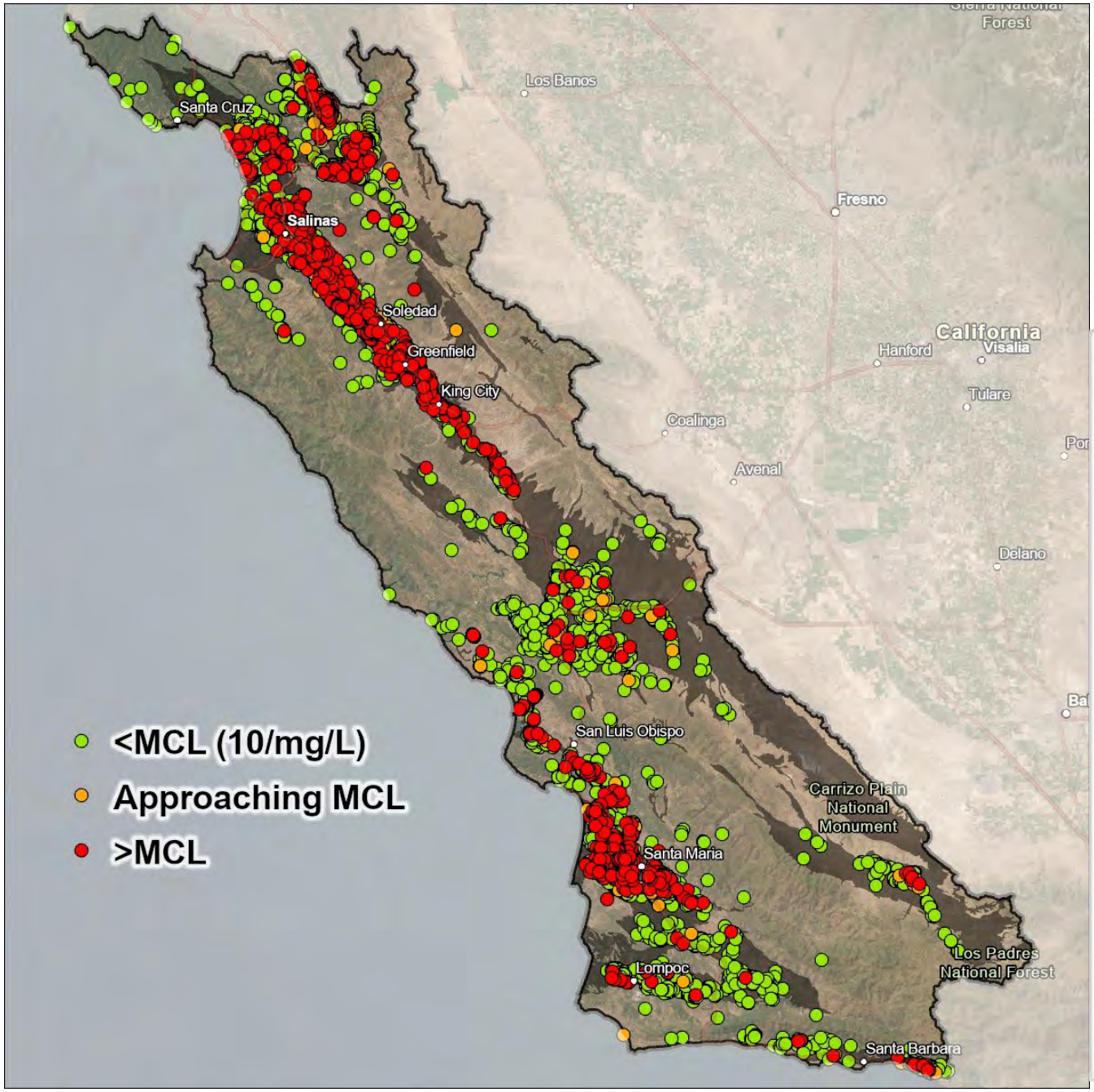
Management Strategies

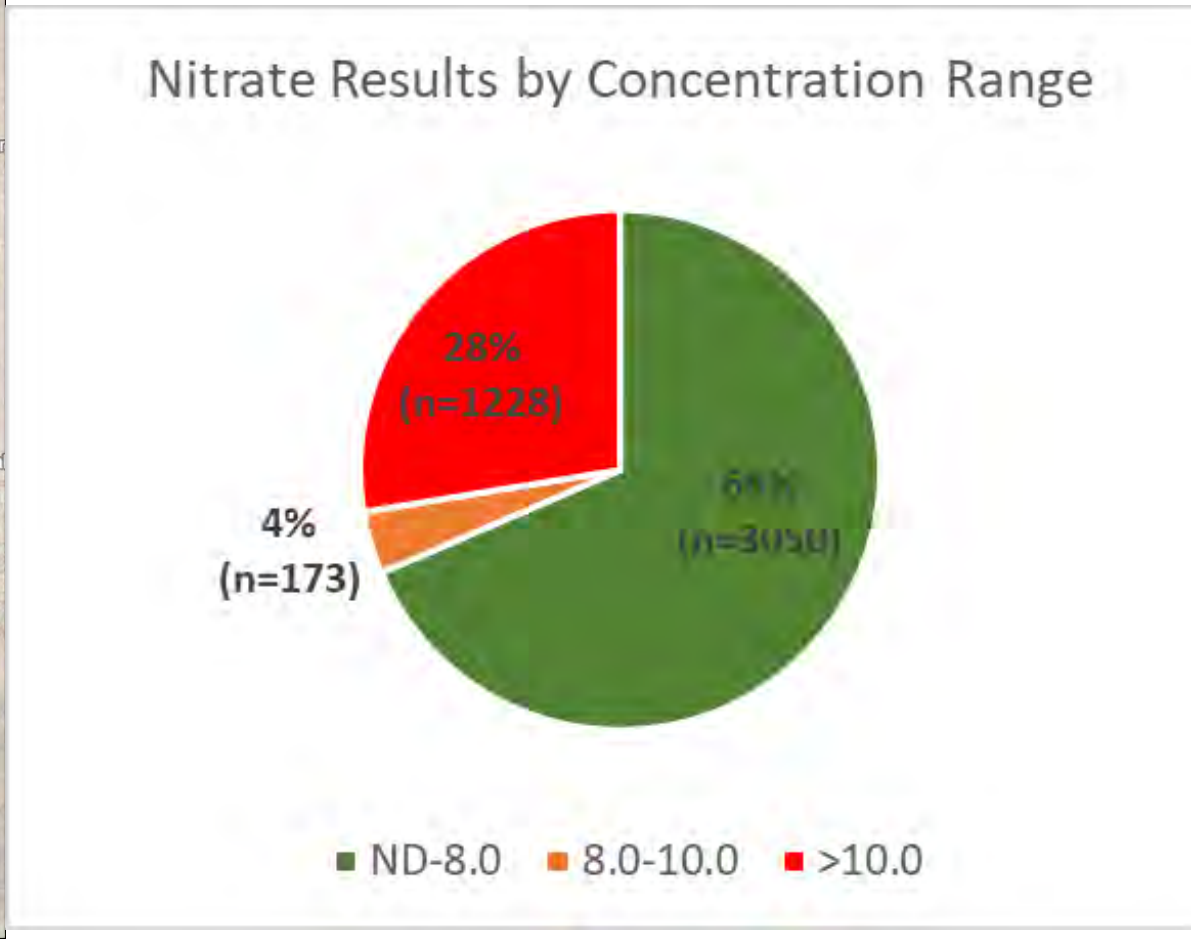
- Designed to achieve full compliance with Limits by 2032 (longer timeline may apply in some watersheds due to TMDL schedules)
- Also designed to achieve incremental progress – generally 25% per 2 or 2.5 years, unless otherwise specified
- Strategies encourage compliance at the ranch level where possible, and cooperative treatment projects at key downstream locations where ranch-level compliance is harder

Surface Water Follow-Up Requirements of Growers

- Everyone must demonstrate ranch-level improvements (unless ranch is already meeting numeric limits) (Third Party internal program)
- Every ranch that is not meeting Limits must also contribute to collaborative treatment projects, or perform Individual Follow-Up (i.e. direct engagement with Water Board, publicly reported)
- Growers selecting Individual Follow-Up can maintain Third Party membership, unless they fail to complete all Individual requirements (then all Third Party eligibility is revoked)

Nitrate
2023 Well Sampling



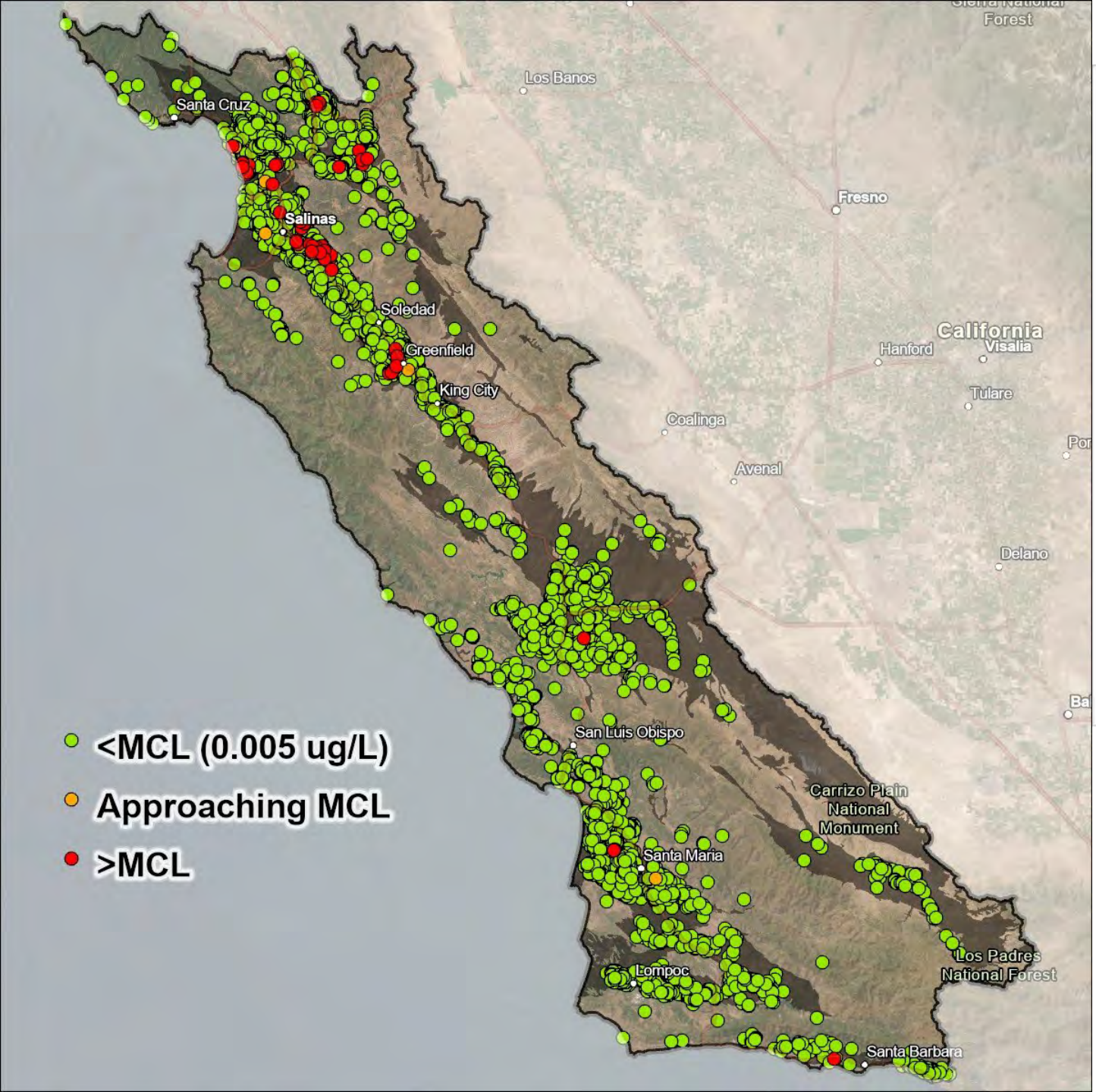


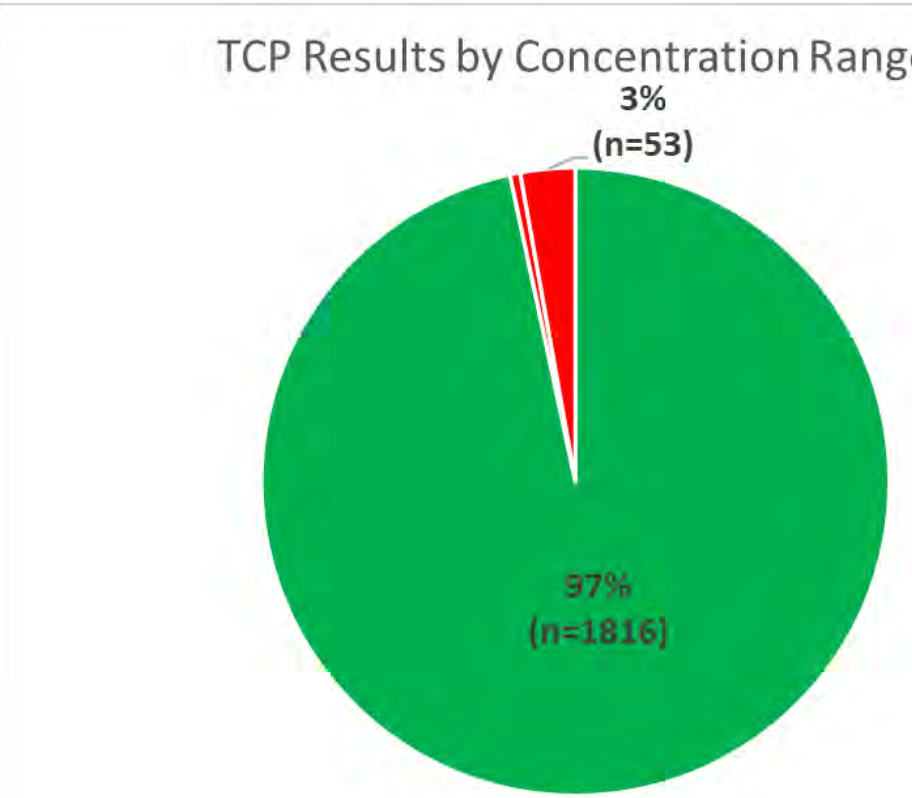
Nitrate

2023 Well Sampling

ALL WELLS

County	Count	% > MCL	Min	Max	Mean	25th %	Median	75th %
Monterey	1443	38%	ND	188	15.36	0.8	5.2	20.85
San Benito	282	26%	ND	75.2	8.42	0.6	3.4	10.58
San Luis Obispo	1266	16%	ND	557	6.69	0.06	1.8	5.7
San Mateo	1	0%	ND	ND	ND	ND	ND	ND
Santa Barbara	852	26%	ND	122	8.90	0.17	2.37	11
Santa Clara	255	37%	ND	57.3	11.68	3.15	6.8	15.95
Santa Cruz	324	26%	ND	72.5	8.97	ND	0.95	10.55
Ventura	16	0%	ND	9.5	2.15	0.16	0.98	2.45
Totals	**4439**	**28%**	ND	**557**	**10.48**	**0.38**	**2.9**	**11.7**





123-Trichloropropane

2023 Well Sampling

123-Trichloropropane

2023 Well Sampling

DOMESTIC/DUAL PURPOSE WELLS

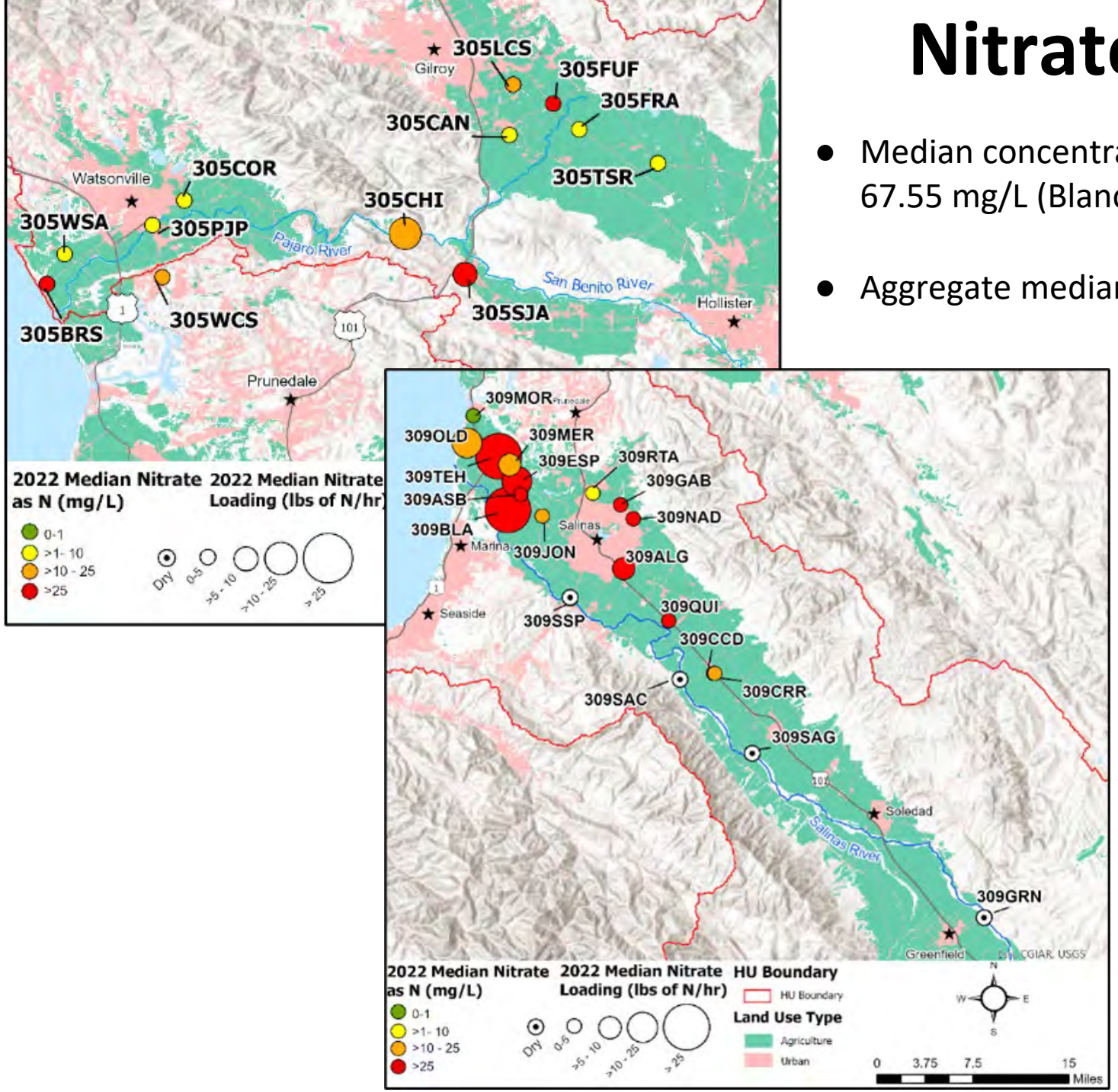
County	Count	% > MCL	Min	Max	Mean	25th %	Median	75th %
Monterey	566	7%	ND	0.4820	0.00354	ND	ND	ND
San Benito	128	4%	ND	0.5940	0.00541	ND	ND	ND
San Luis Obispo	693	0%	ND	0.0159	0.00006	ND	ND	ND
San Mateo	1	0%	ND	ND	ND	ND	ND	ND
Santa Barbara	238	0%	ND	0.2070	0.00090	ND	ND	ND
Santa Clara	121	3%	ND	0.0233	0.00039	ND	ND	ND
Santa Cruz	110	1%	ND	0.0541	0.00054	ND	ND	ND
Ventura	8	0%	ND	ND	ND	ND	ND	ND
Totals	**1865**	**3%**	**ND**	**0.594**	**0.00164**	**ND**	**ND**	**ND**

DOMESTIC WELLS

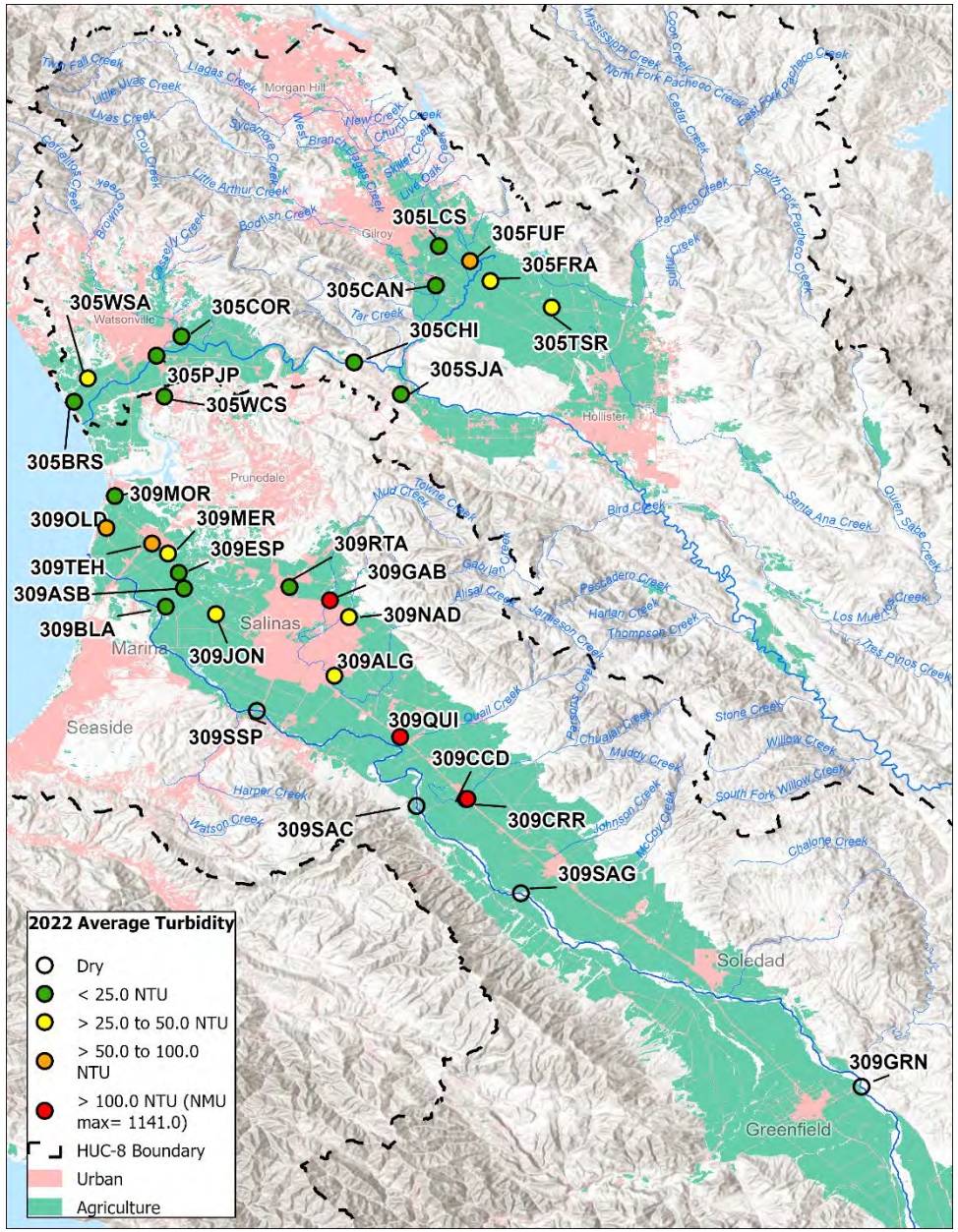
County	Count	% > MCL	Min	Max	Mean	25th %	Median	75th %
Monterey	566	7%	ND	0.4820	0.00354	ND	ND	ND
San Benito	128	4%	ND	0.5940	0.00541	ND	ND	ND
San Luis Obispo	692	0%	ND	0.0159	0.00006	ND	ND	ND
San Mateo	1	0%	ND	ND	ND	ND	ND	ND
Santa Barbara	237	0%	ND	0.2070	0.00091	ND	ND	ND
Santa Clara	120	3%	ND	0.0233	0.00039	ND	ND	ND
Santa Cruz	110	1%	ND	0.0541	0.00054	ND	ND	ND
Ventura	8	0%	ND	ND	ND	ND	ND	ND
Totals	**1862**	**3%**	**ND**	**0.5940**	**0.00164**	**ND**	**ND**	**ND**

Nitrate (as N) - Pajaro & Salinas

- Median concentrations ranged from 0.29 mg/L (Moro Cojo Slough) to 67.55 mg/L (Blanco Drain)
- Aggregate medians for both HUs were 11.4 mg/L and 25.6 mg/L



- 1 site in the *Pajaro* HU (Pajaro River at Main St.) had no exceedance of *dry* season TMDL limits. 7 sites exceeded the limit in 100% of samples.
- 3 of 10 sites in the *Pajaro* HU with a *wet* season TMDL (8.0 mg/L) showed no exceedance. Two sites exceeded the limit in 100% of samples.
- All 9 sites in the *Salinas* HU with a *dry* season TMDL exceeded the limits. 8 sites exceeded the limit in 100% of samples.
- All 11 sites in the *Salinas* HU with a *wet* season TMDL (8.0 mg/L) exceeded the limit. 7 sites exceeded the limit in 100% of samples.



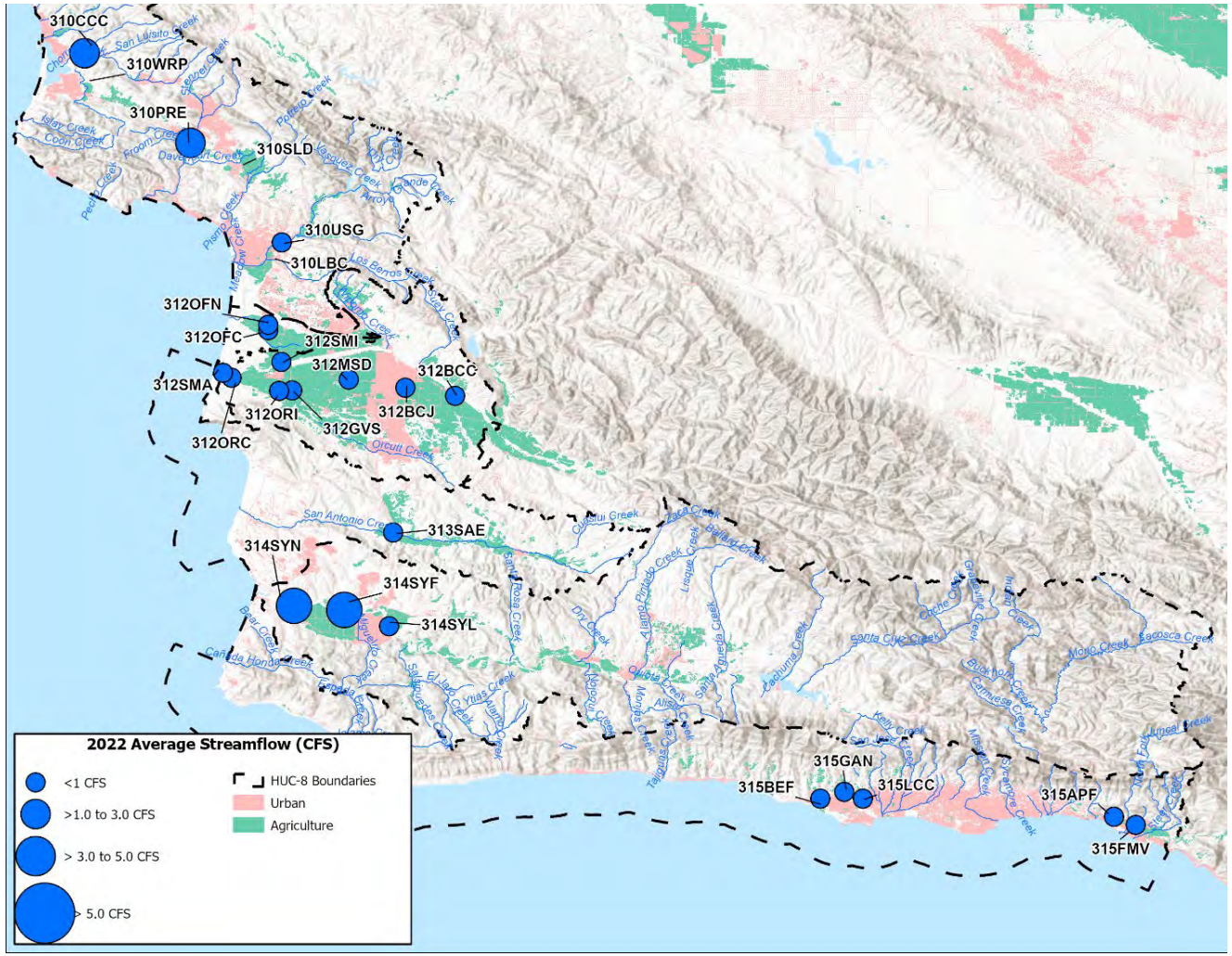
Turbidity
Pajaro & Salinas

STATUS

- Median concentrations ranged from 5 NTUs (Llagas Creek) to 1,141 NTUs (Chualar Creek, North Branch)
- Highest median concentration observed at Chualar Creek, North Branch
- Aggregate median concentrations for Pajaro and Salinas HUs was 16.5 NTUs and 31.0 NTUs, respectively
- 11 of 12 Pajaro sites exceeded the relevant non-TMDL Area Limit in at least one sample (25 NTU or 40 NTU)
- 14 of 15 Salinas sites exceeded the relevant non-TMDL Area Limits in at least one sample (25 NTU or 40 NTU)

Stream Flow

SLO & SB counties

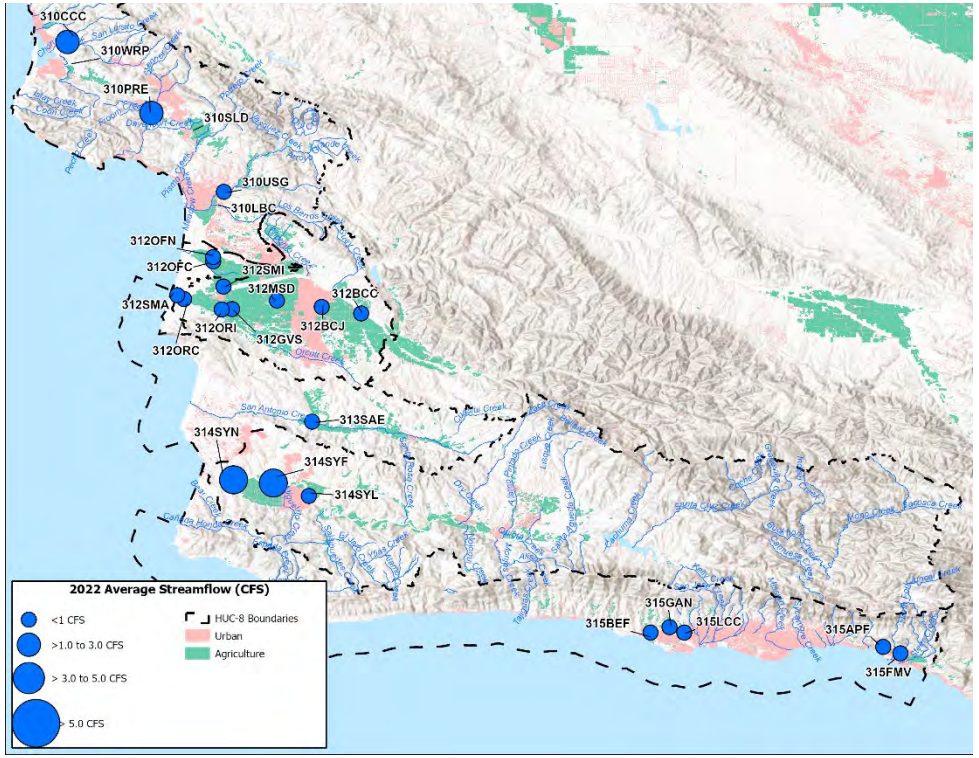


STATUS

- 3 sites were dry the entire year
- 5 sites with negative minimum flow due to tides or wind
- 23 sites with median flow < 2 CFS
- No sites with median flow >10
- Median flow ranged from Dry (multiple sites) to 2.94 CFS (Santa Ynez River at Floradale)

Stream Flow

SLO & SB counties



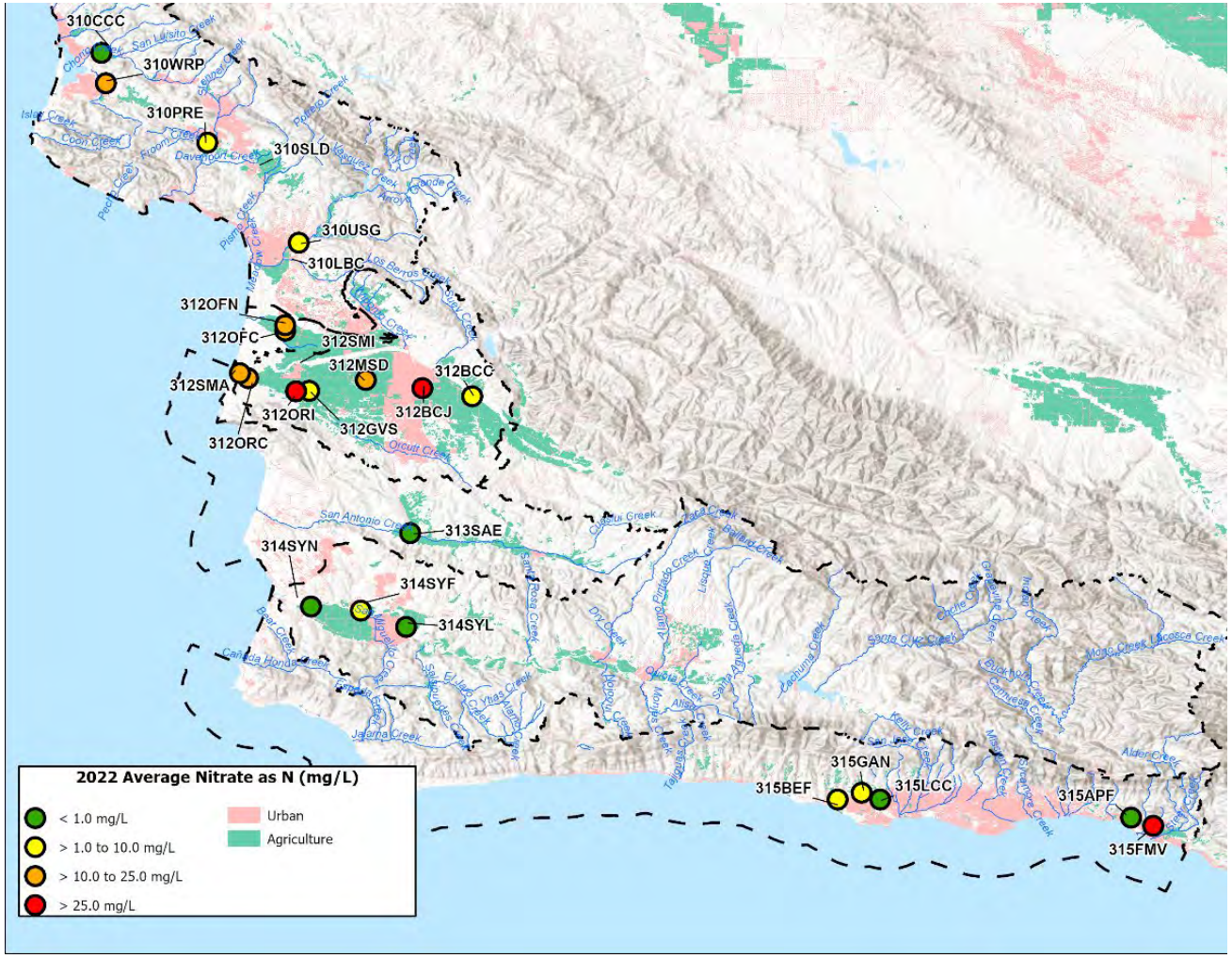
TRENDS

Santa Maria HU	Count
Increasing	0
Decreasing	10
No Trend	0

All Other SMU Sites	Count
Increasing	0
Decreasing	10
No Change	5

Nitrate (as N) - SLO & SB counties

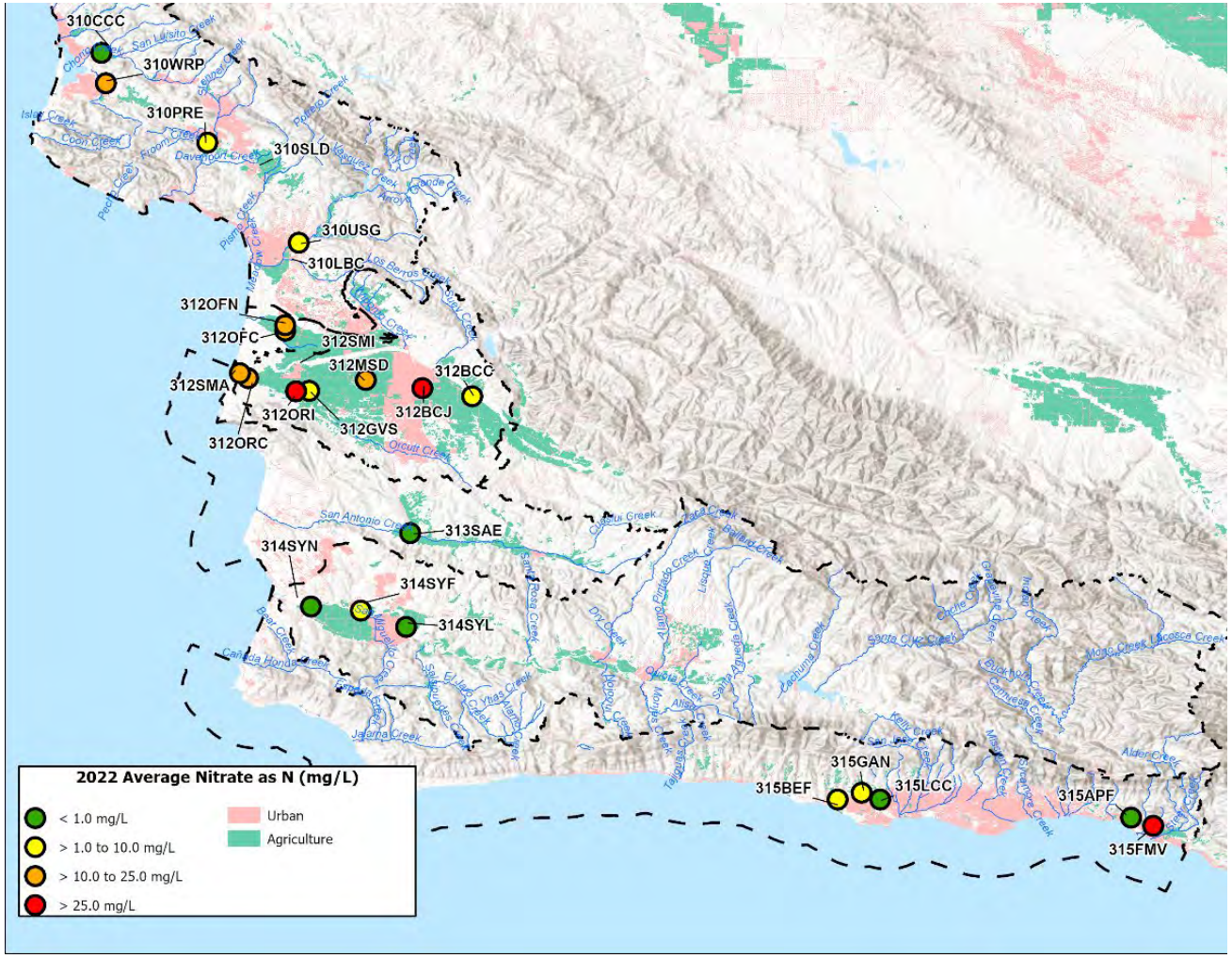
STATUS



- Medians ranged from 0.01 mg/L (Arroyo Paredon) to 56 mg/L (Orcutt Sol Creek at Hwy 1)
- Aggregate median highest in the Santa Maria HU, 23.9 mg/L
- 2 *Estero Bay* HU sites (Prefumo and Chorro Crk) met the 10 mg/L TMDL or non-TMDL area limit in all samples.
- Warden Creek exceeded the 10 mg/L TMDL limit area limit in 83% of samples.
- All *Santa Maria* HU sites with a *dry season* TMDL exceeded the limit (4.3 mg/L) in at least 60% of samples.
- 4 of 5 Santa Maria sites with a *wet* season TMDL exceeded limit (8 mg/L) 100% of the time.
- All sites in in Snta Ynez & San Antonio HUs met the 10 mg/L non-TMDL area limit.
- Franklin Creek (South Coast) exceeded the 10 mg/L TMDL limit in 92% of samples.

Nitrate (as N)

SLO & SB counties



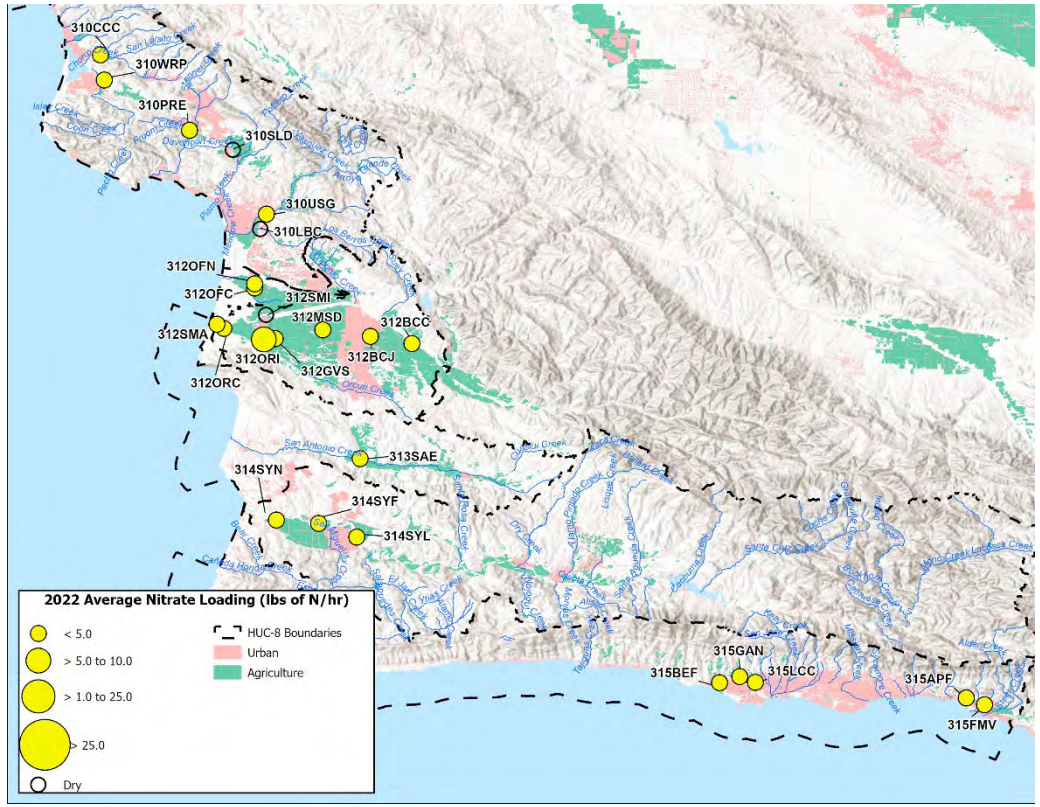
TRENDS

Santa Maria HU	Count
Increasing	1
Decreasing	3
No Trend	6

All Other SMU Sites	Count
Increasing	1
Decreasing	7
No Trend	7

Nitrate Loading

SLO & SB counties



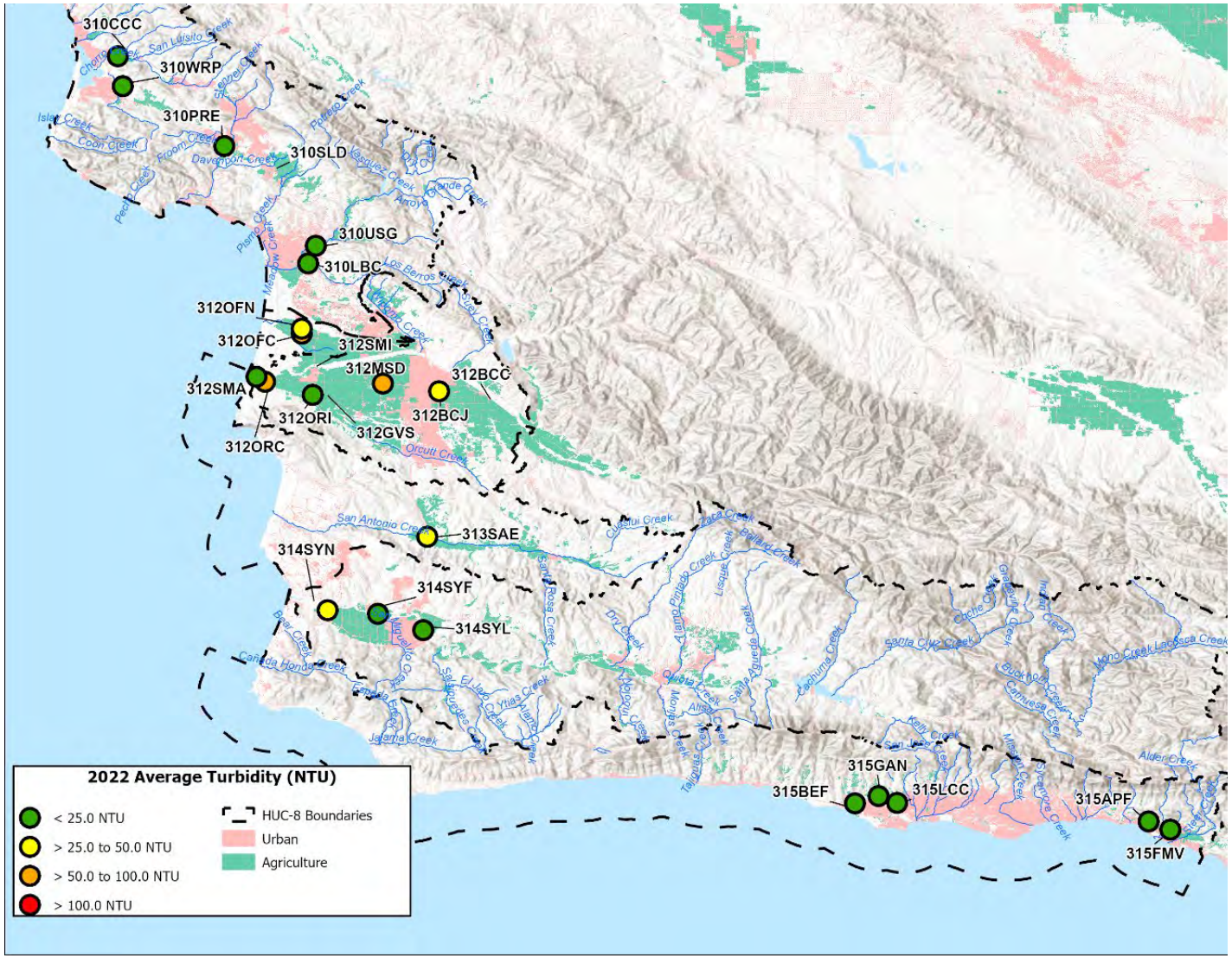
TRENDS

Santa Maria HU Trends	Count
Increasing	0
Decreasing	10
No Trend	0

All Other SMU HU Trends	Count
Increasing	0
Decreasing	10
No Trend	5

Turbidity

SLO & SB counties

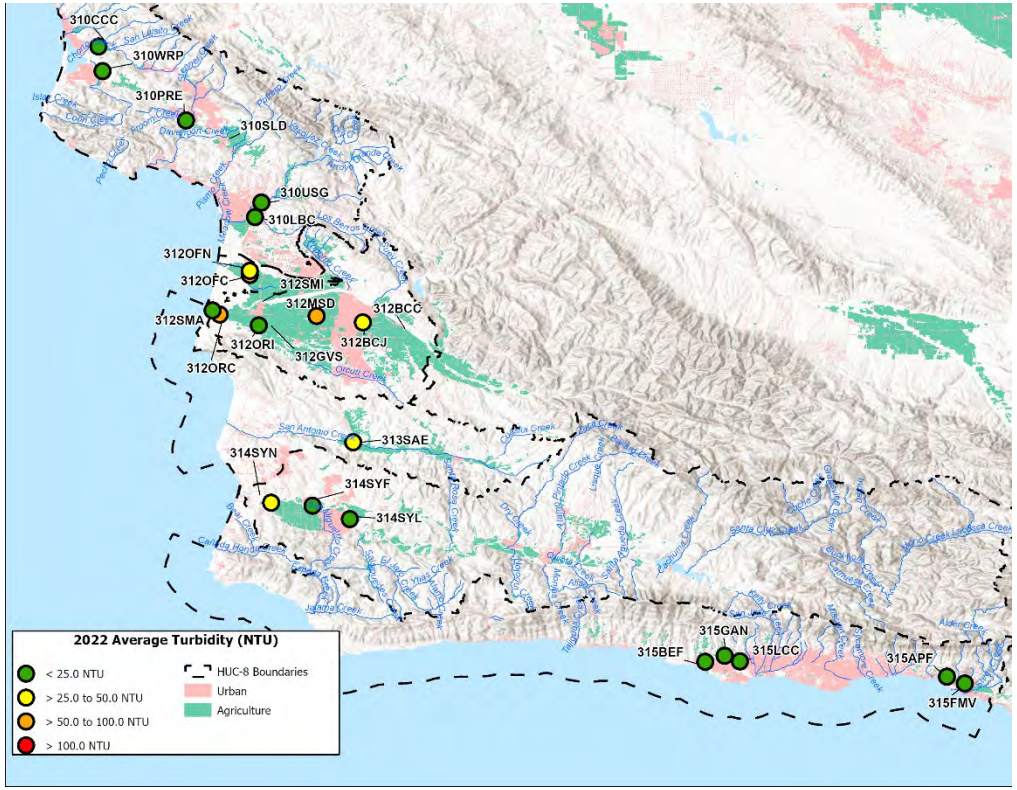


STATUS

- Median concentrations ranged from 4 NTUs (Arroyo Paredon) to >999 NTUs (Bradley Canyon and Green Valley Creek)
- Aggregate median concentration was highest for the Santa Maria HU, 37.3 NTU
- All 4 sites sampled in the *Estero Bay* HU with a non-TMDL area limit (25 NTU) exceeded the limit in at least one sample.
- All sites in the *Santa Maria* HU exceeded the non-TMDL area limit (25 NTU or 40 NTU). 7 sites exceeded the limit in 50% or more samples.
- 1 site (Santa Ynez River at Floradale Ave.) in the *San Antonio and Santa Ynez* HUs achieved the non-TMDL area limit (25 NTU) in all samples collected.
- 1 site (Arroyo Paredon) in the *South Coast* HU achieved the non-TMDL area limit (25 NTU) in all samples collected.

Turbidity

SLO & SB counties

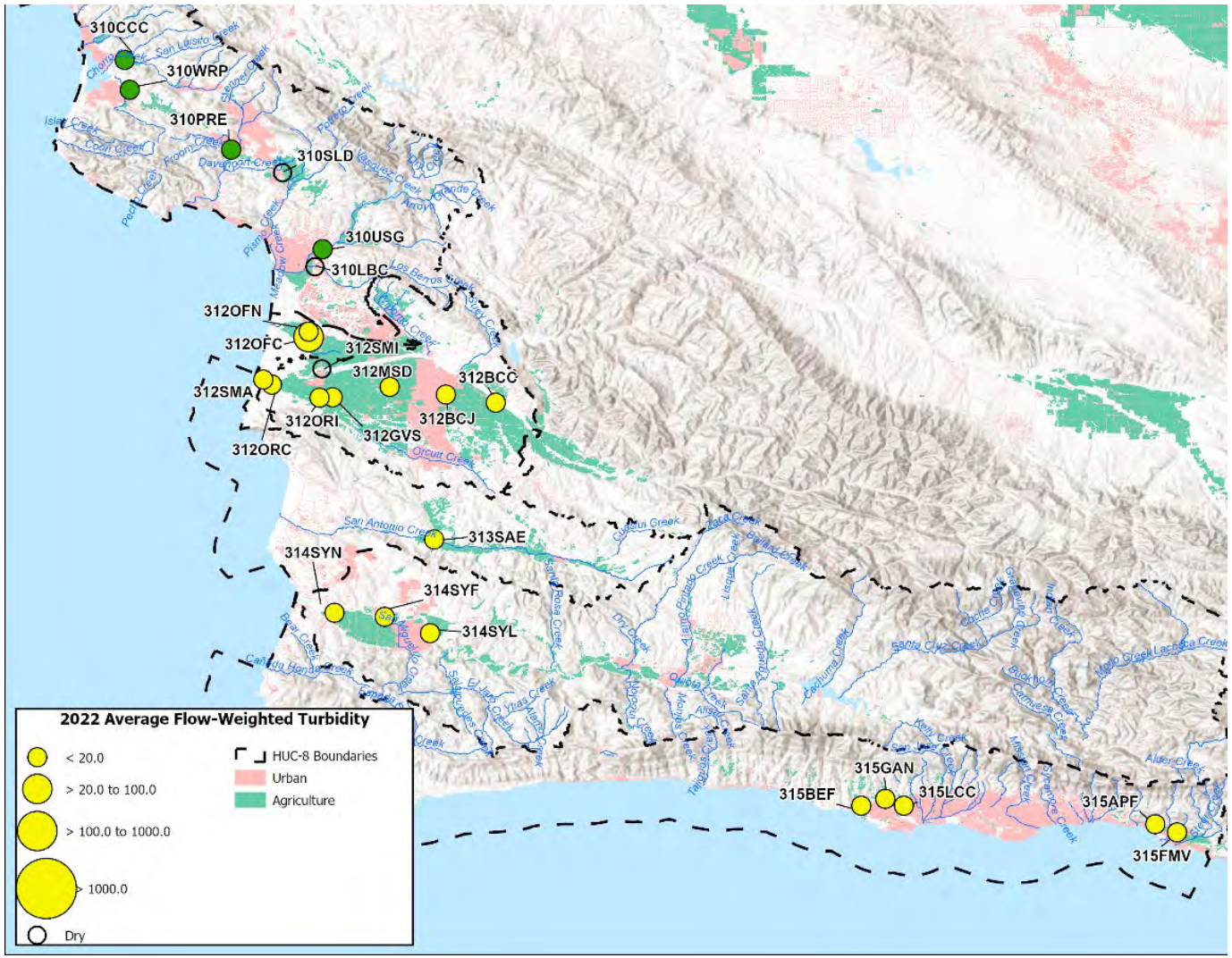


TRENDS

Santa Maria HU	Count
Increasing	0
Decreasing	4
No Trend	6

All Other SMU Sites	Count
Increasing	7
Decreasing	0
No Trend	8

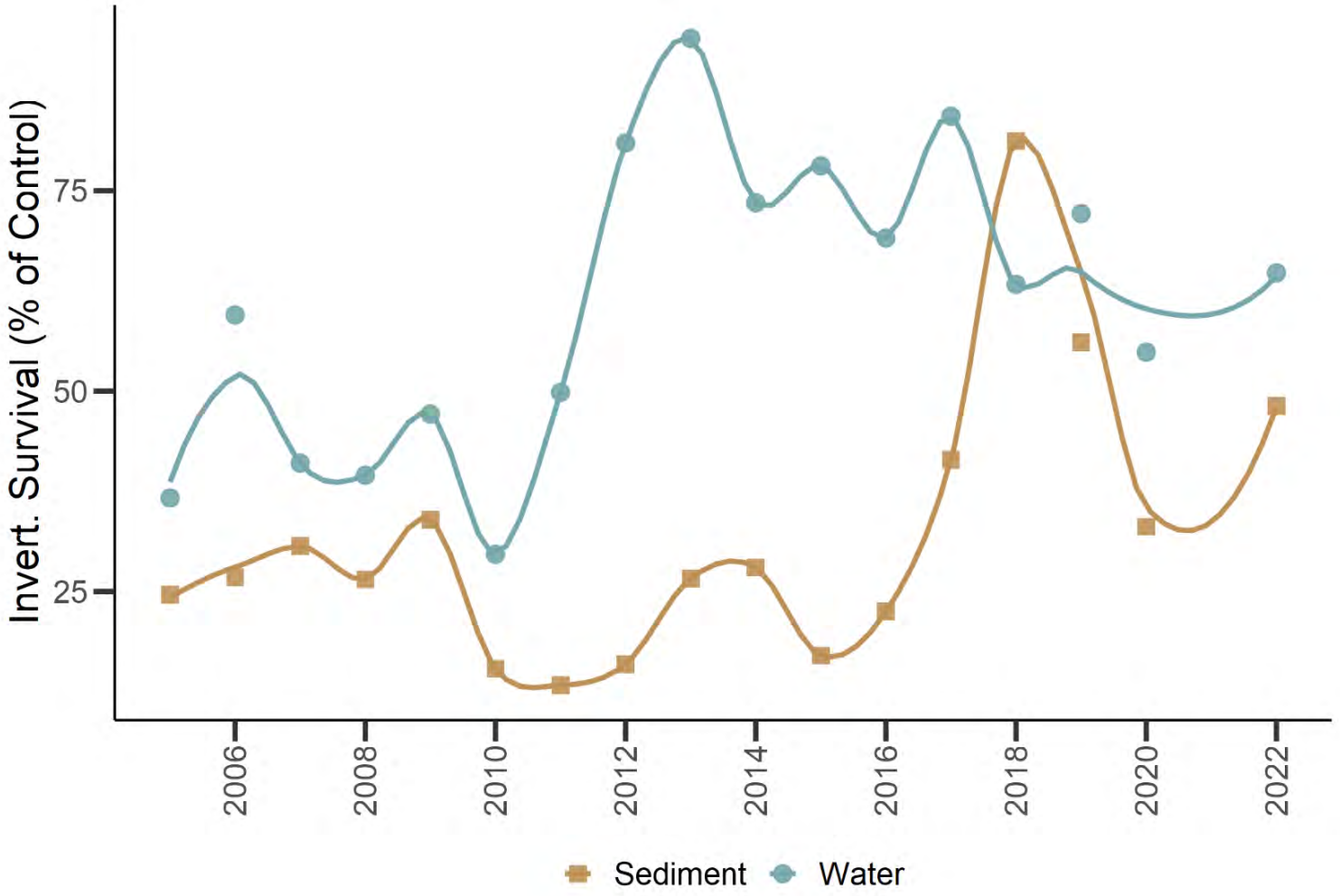
Sediment “Loading”
(i.e., Flow Weighted Turbidity)
SLO & SB counties



TRENDS

Santa Maria HU Trends	Count
Increasing	0
Decreasing	10
No Change	0

All Other SMU HU Trends	Count
Increasing	1
Decreasing	6
No Change	8

Invertebrate Survival Rates Toxicity Tests

Santa Maria Hydrologic Unit