

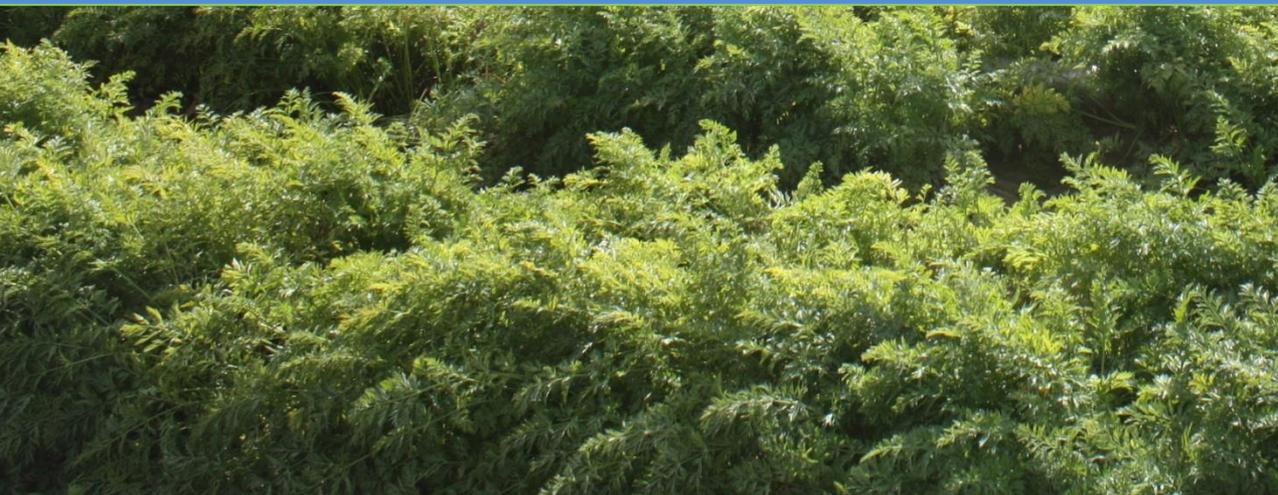
Central Coast Groundwater Coalition



Progress Report: January 30, 2014

Central Coast Regional Water Quality Control Board

Parry Klassen



Presentation Overview

- CCGC membership update
- Nitrate exceedance notification status
- Northern Regional sampling: results and data analysis
- Southern Counties sampling



CCGC Membership Totals

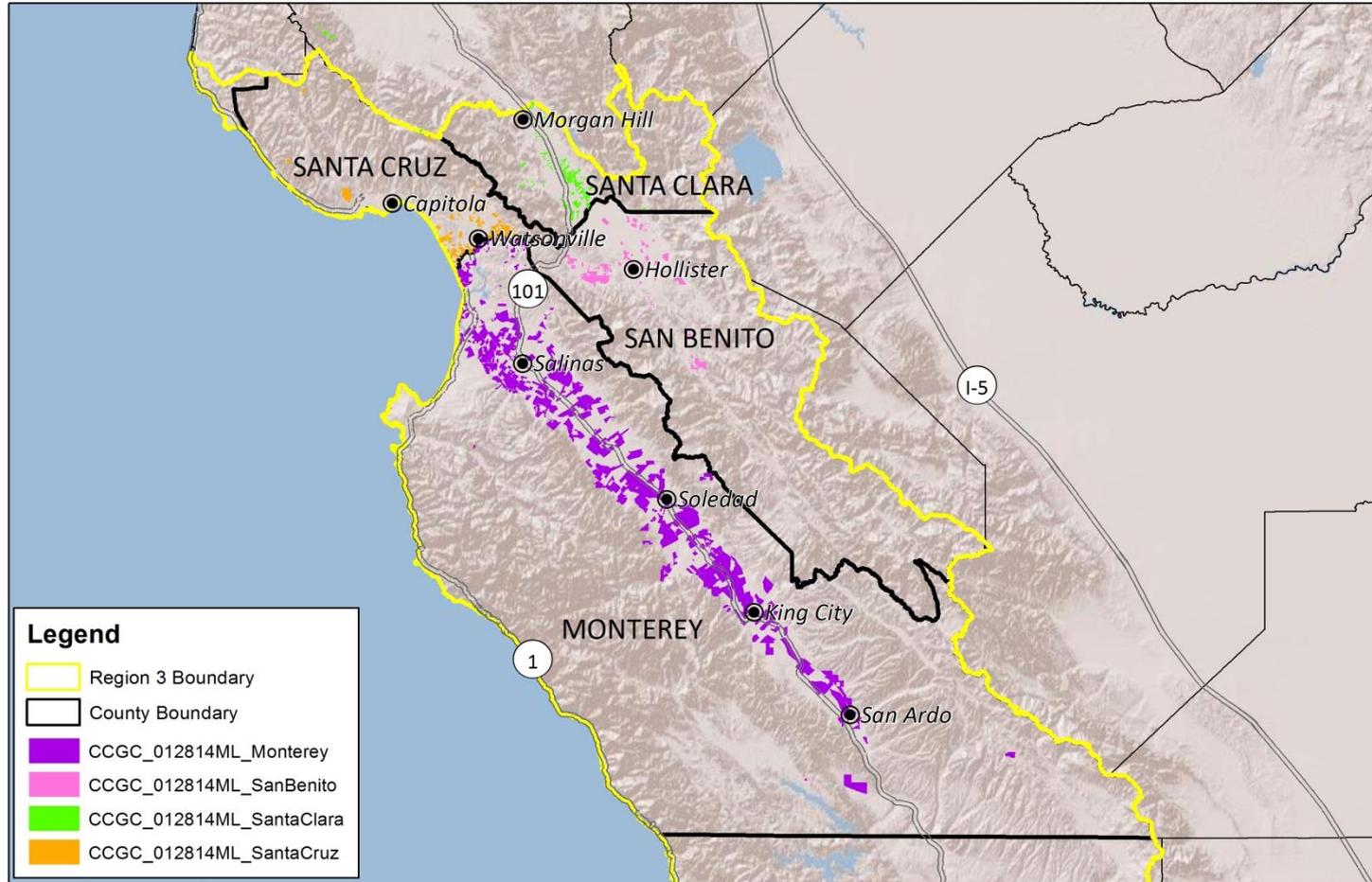
Central Coast Groundwater Coalition Membership Data

January 29, 2014

	Memberships	Parcels	Acreage
Monterey	142	1,218	104,911
San Benito	43	222	7,762
Santa Clara	81	280	7,426
Santa Cruz	81	450	12,063
NORTH NET TOTALS	316	2,170	132,163
San Luis Obispo	120	367	15,013
Santa Barbara	147	782	46,805
Ventura	4	16	537
SOUTH NET TOTALS	249	1,165	62,355
GRAND TOTAL NET	563	3,416	201,904

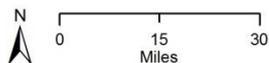
**Member 1180 has both North and South Property but is counted as North because of majority of acreage. This is balanced out by Member 1575 with North South property counted as South by majority of acreage.*

Member Parcel Locations – Northern Counties



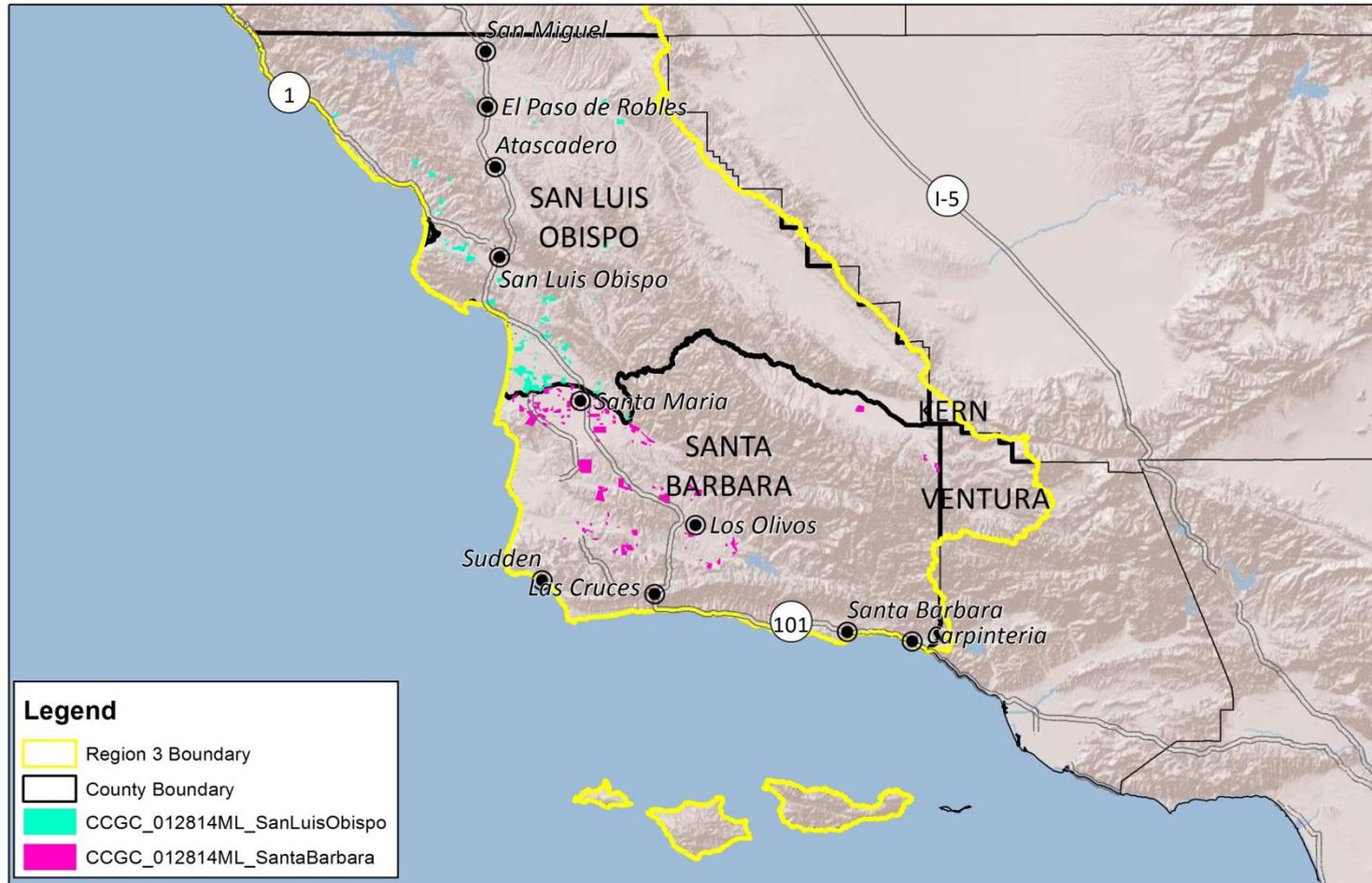
Source of Layers:
Hydrology - NHD hydrodata, 1:24,000-scale, <http://nhd.usgs.gov/>
Roads, highways, railroads, county boundary, city outlines - California Spatial Information Library.
Lands Use - Farmland Mapping & Monitoring Program
Basemap, Shaded Relief - ESRI
Datum - NAD 1983

Date Prepared: 01/28/14



CCGC Member Location in Northern Central Coast Counties

Member Parcel Locations – Southern Counties



Source of Layers:
 Hydrology - NHD hydrodata, 1:24,000-scale, <http://nhd.usgs.gov/>
 Roads, highways, railroads, county boundary, city outlines - California Spatial Information Library
 Lands Use - Farmland Mapping & Monitoring Program
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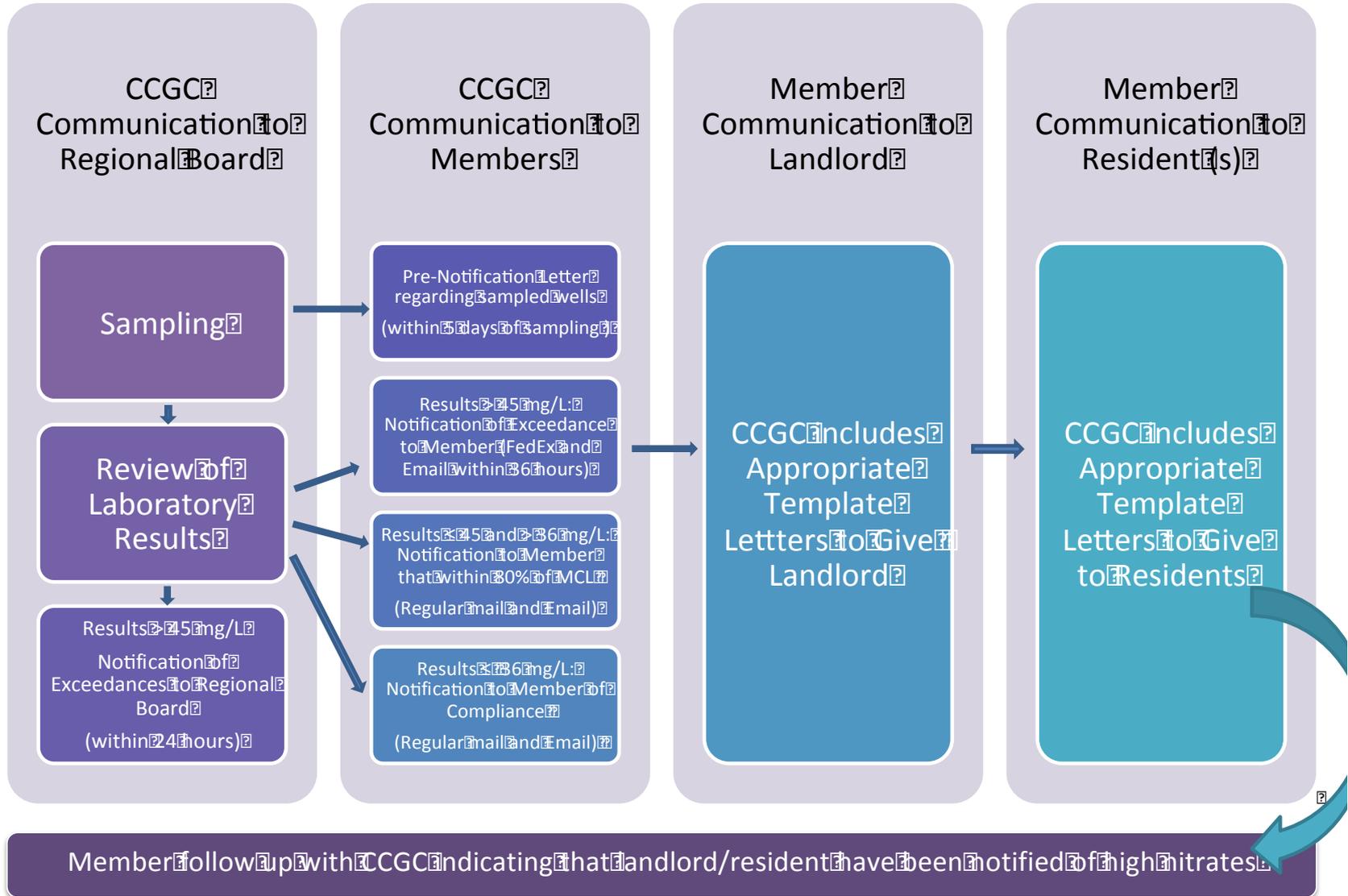


**CCGC Member Location in Southern
 Central Coast Counties**

Activities October through January

- 10/21 – 10/25: Round 1: Sampled 75 wells in Salinas Valley
- 11/26 : Contacted Rd 1 members with exceedances
- 11/19 - 1/31: Sampling wells in SLO, SB counties
- 11/25 – 1/31: Contacted growers in Pajaro Valley & vicinity
 - Sampling scheduled for February
- October, November, January: Submitted well sampling lists to Regional Water Board
- 11/15; 1/3: Submitted updated member lists
- 11/21, 1/23: Met with Regional Water Board staff
- 1/27: Contacted Round 2 members with exceedances

SOP Notification Flowchart



Round 1:
 Replacement Water
 Response Summary



Summary of Member Responses

	Members	Wells
Total Number of Exceedances	17	33
Number of Responses	16	32
Responses Pending	1	1

Summary of Member Actions

Action Taken	Number of Wells
Bottled Water Provided	23
Not Used for Drinking	4
RO Unit Installed	2
Filtration System Added	3
Not responded	1
Grand Total	33

Round 2: Individual Monitoring Results

San Luis Obispo/Santa Barbara Counties

	Domestic	Irrigation
Greater Than MCL	4	7
Less Than MCL		12
Within 80% of MCL	0	
Less Than 80% of MCL	7	
Total Count	11	19

Exceedance notifications mailed January 27

Steve Deverel

HydroFocus, Inc.

Northern Regional sampling, results and data analysis

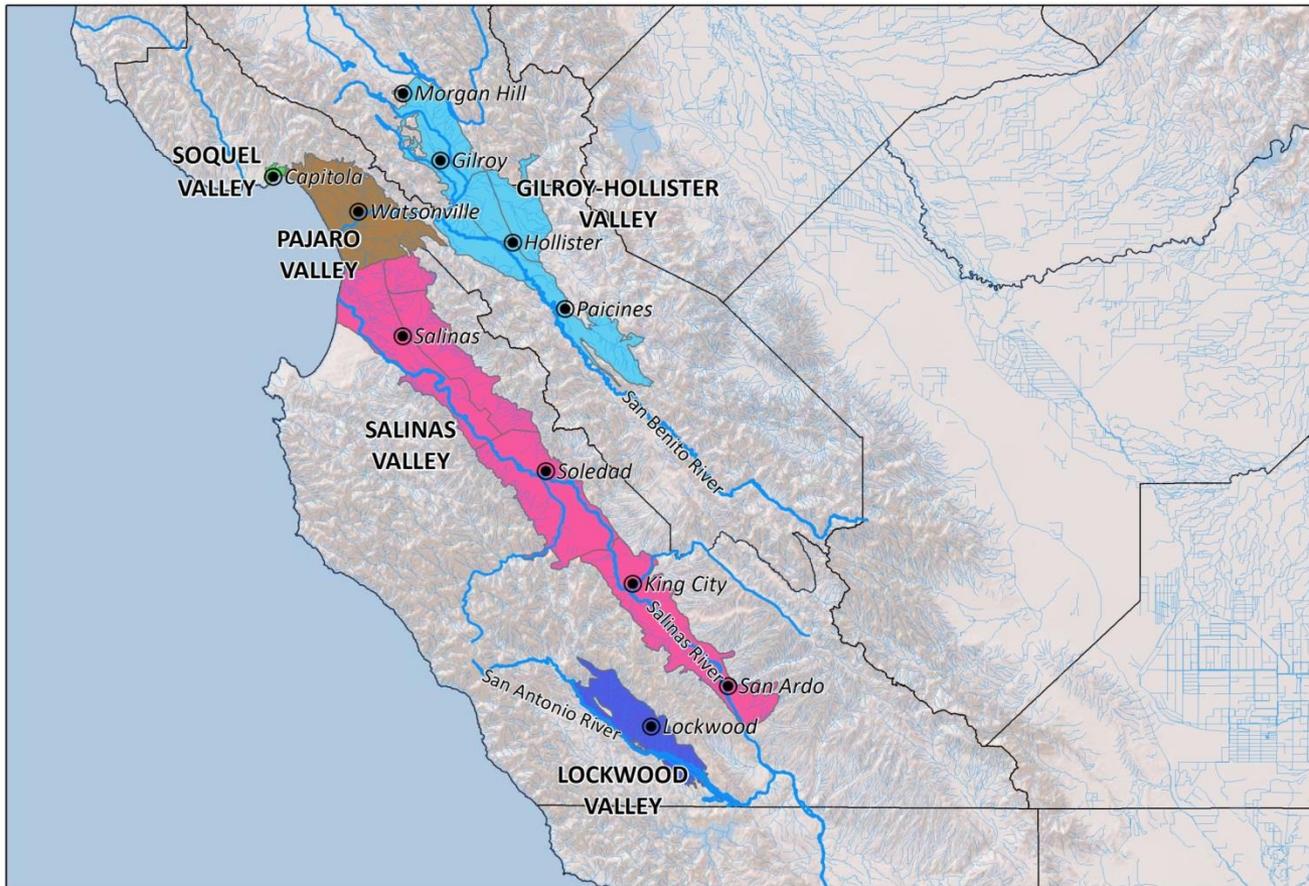
Southern Counties sampling

Program Objectives

- Characterize domestic supply groundwater quality
 - Spatial variability
 - Factors affecting concentrations



Northern Region Sampling and Data Analysis



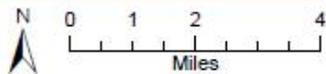
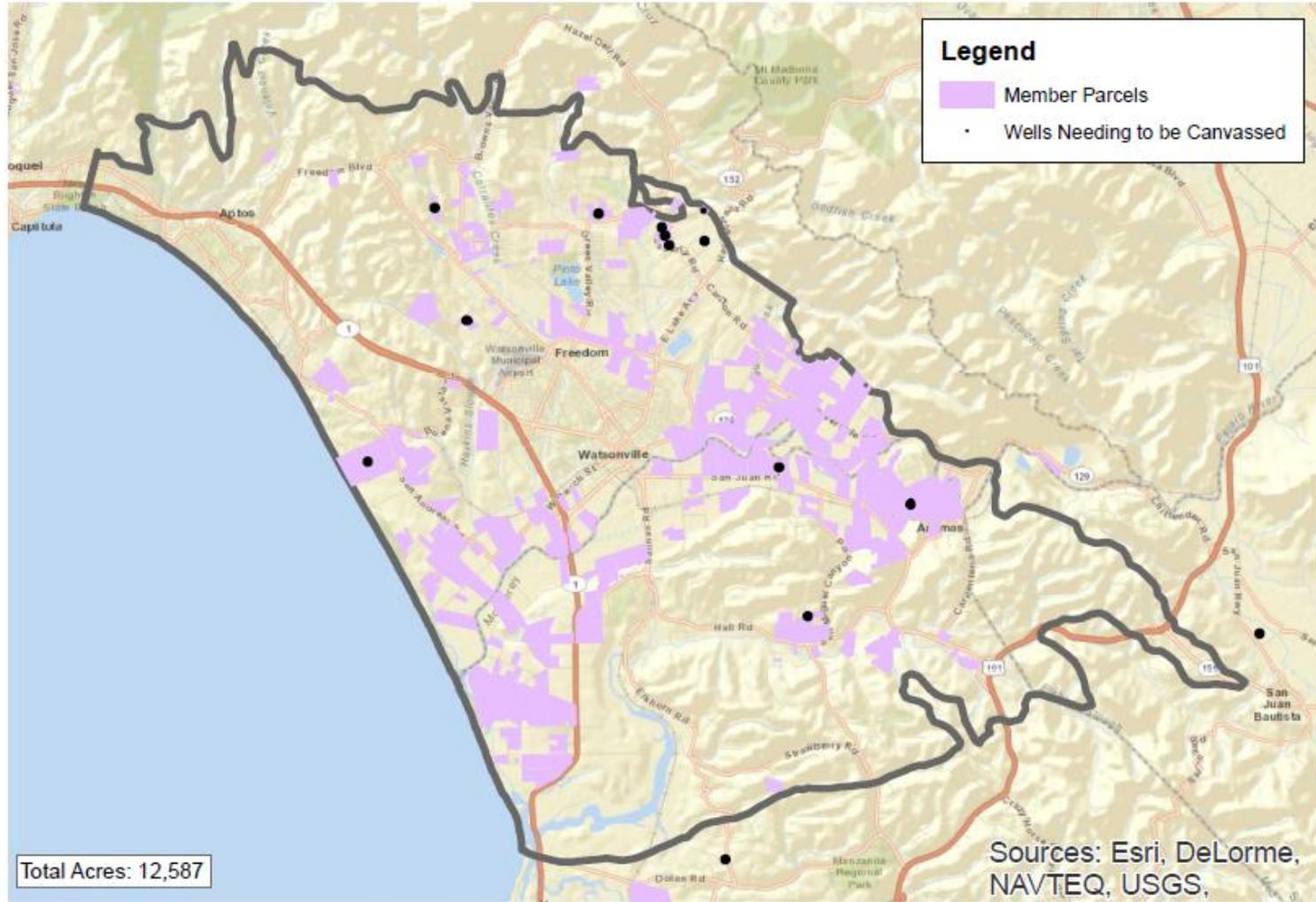
Date Prepared: 01/20/13

Central Coast Ground Water Basins

Sampling and Related Activities

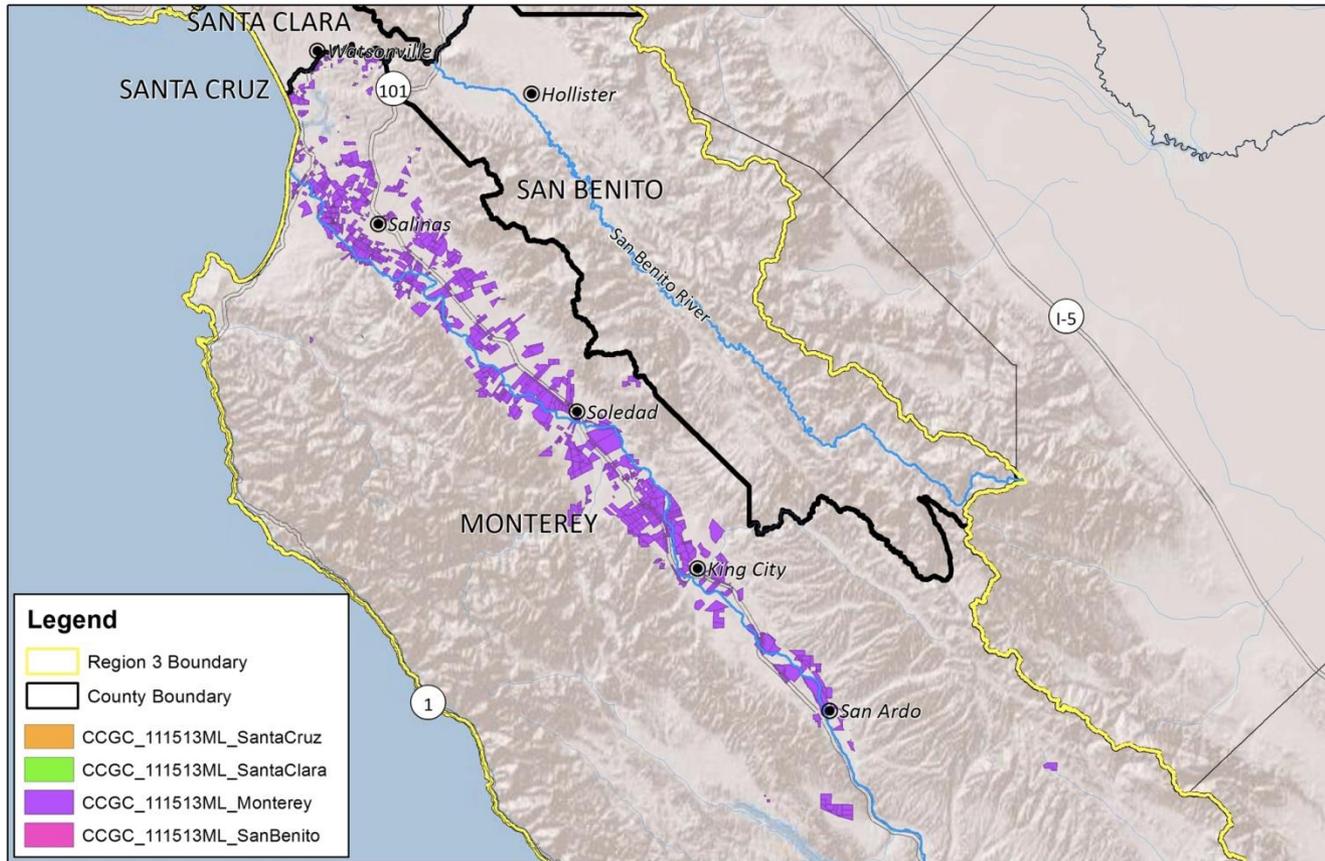
- Sampled 76 wells in Salinas Valley during 10/21 – 10/25
- Pajaro Valley
 - 58 growers contacted
 - Approximately 26 domestic wells available for sampling
 - Canvassing occurring 1/30 – 1/31
 - List of wells to be provided on February 3
 - Sampling planned for February

Pajaro parcels



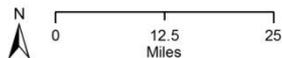
Location of Member Parcels Identified by CCGC
Pajaro Valley

Salinas Valley



Source of Layers:
Hydrology - NHD hydrodata, 1:24,000-scale, <http://nhd.usgs.gov/>
Roads, highways, railroads, county boundary, city outlines - California Spatial Information Library
Lands Use - Farmland Mapping & Monitoring Program
Basemap, Shaded Relief - ESRI
Datum - NAD 1983

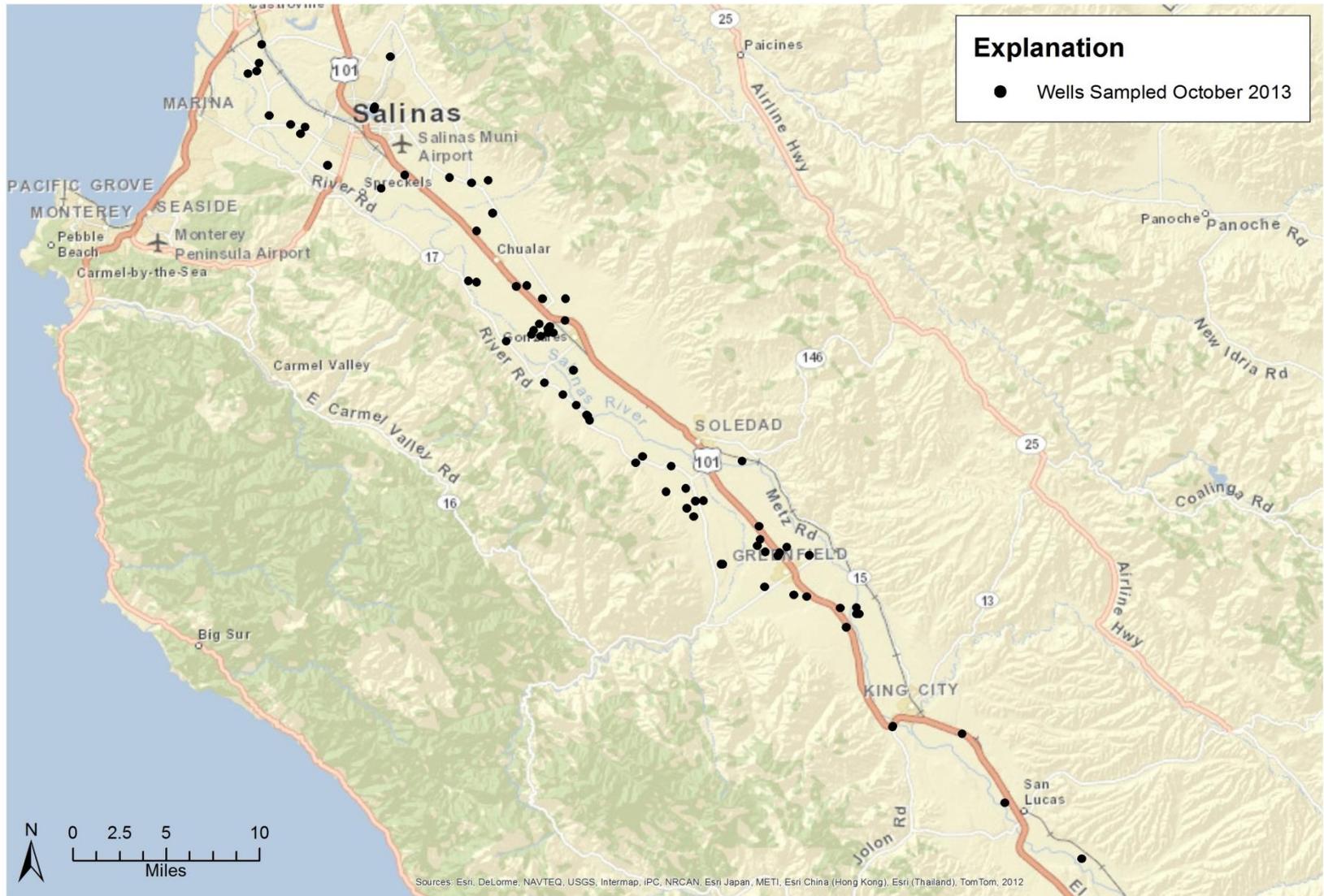
Date Prepared: 101/15/13



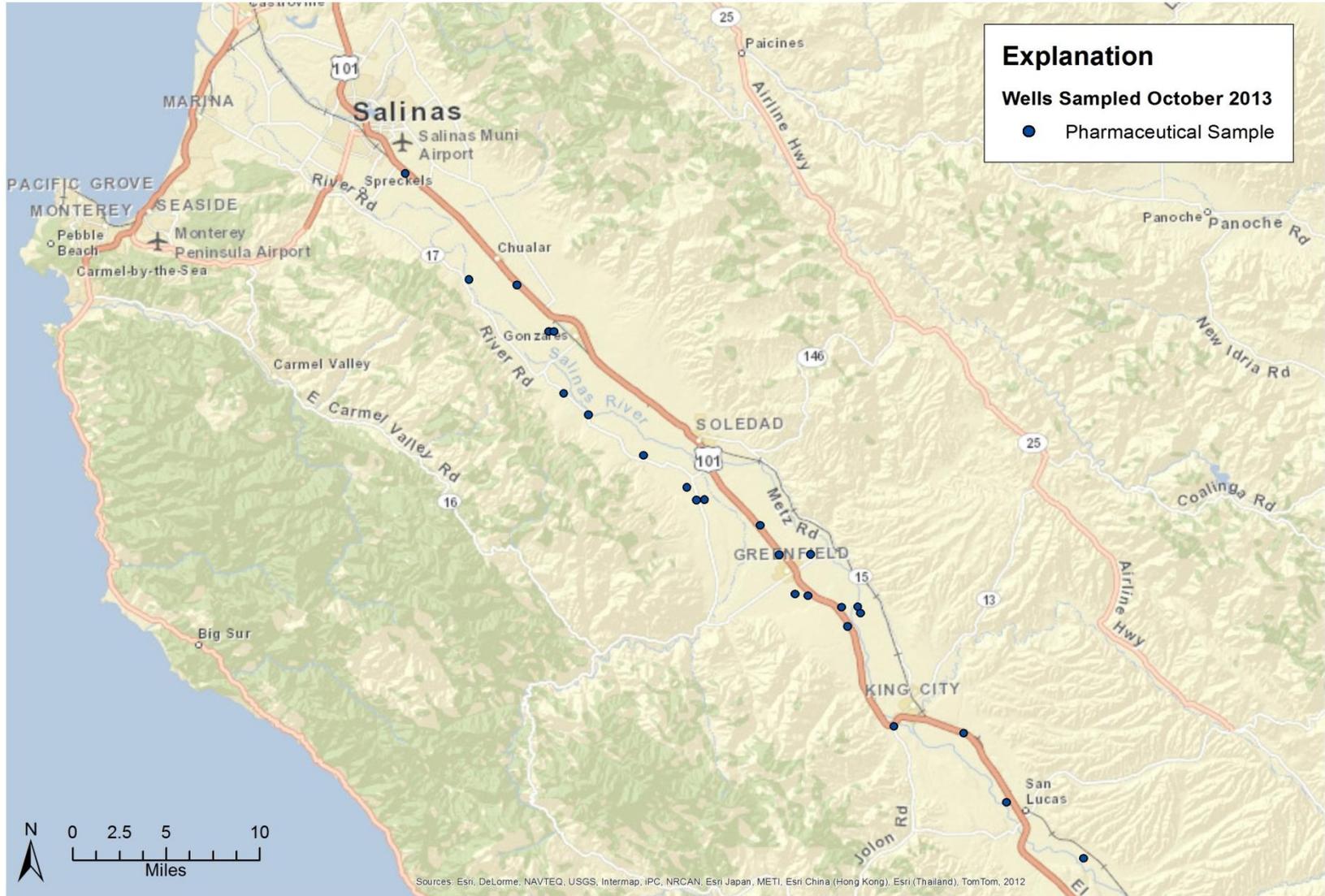
**CCGC Member Location in Northern
Central Coast Counties - Monterey**

Sampled Wells – All Sites

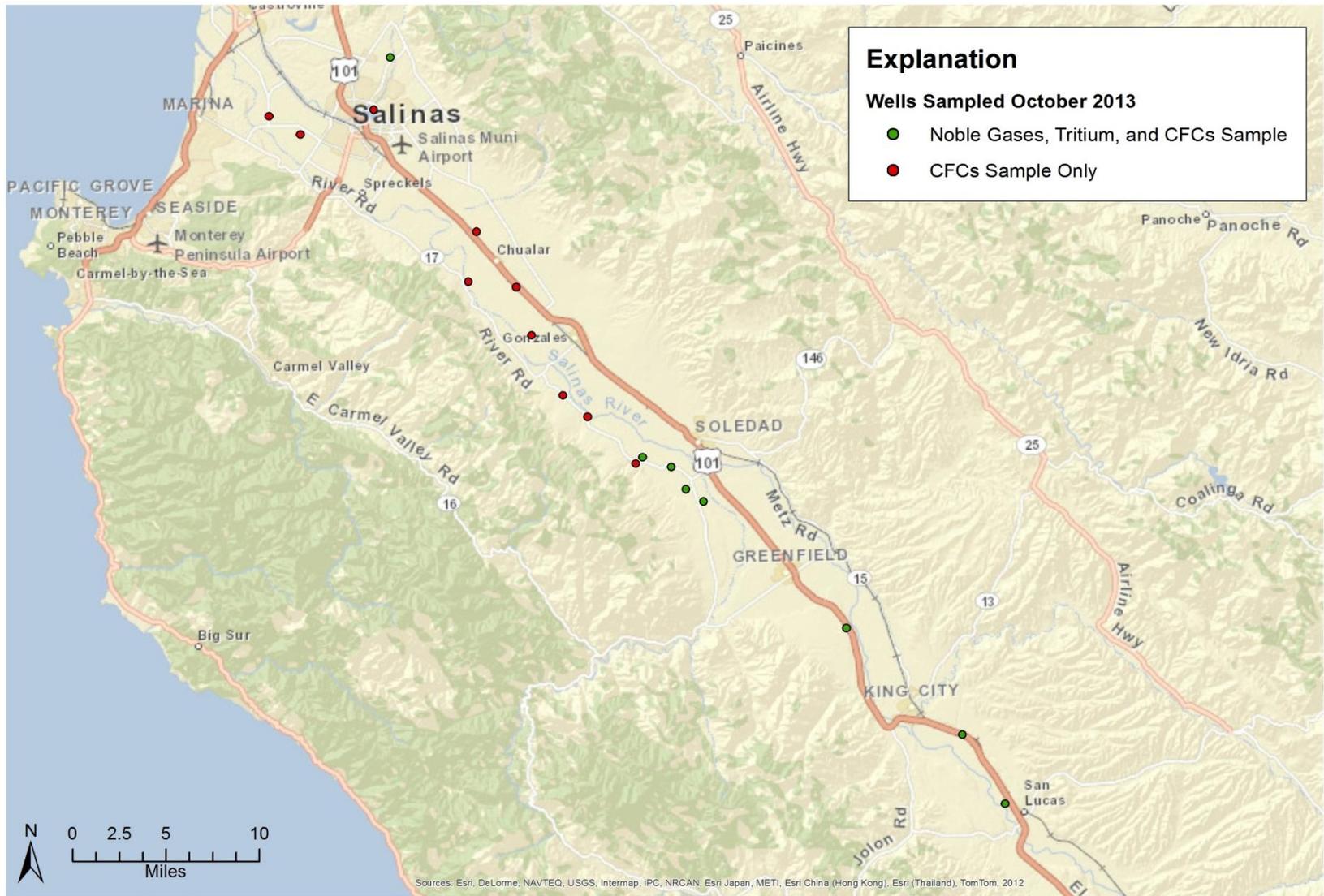
(MRP constituents, nitrate isotopes, water isotopes)



Sampled Wells - Pharmaceuticals

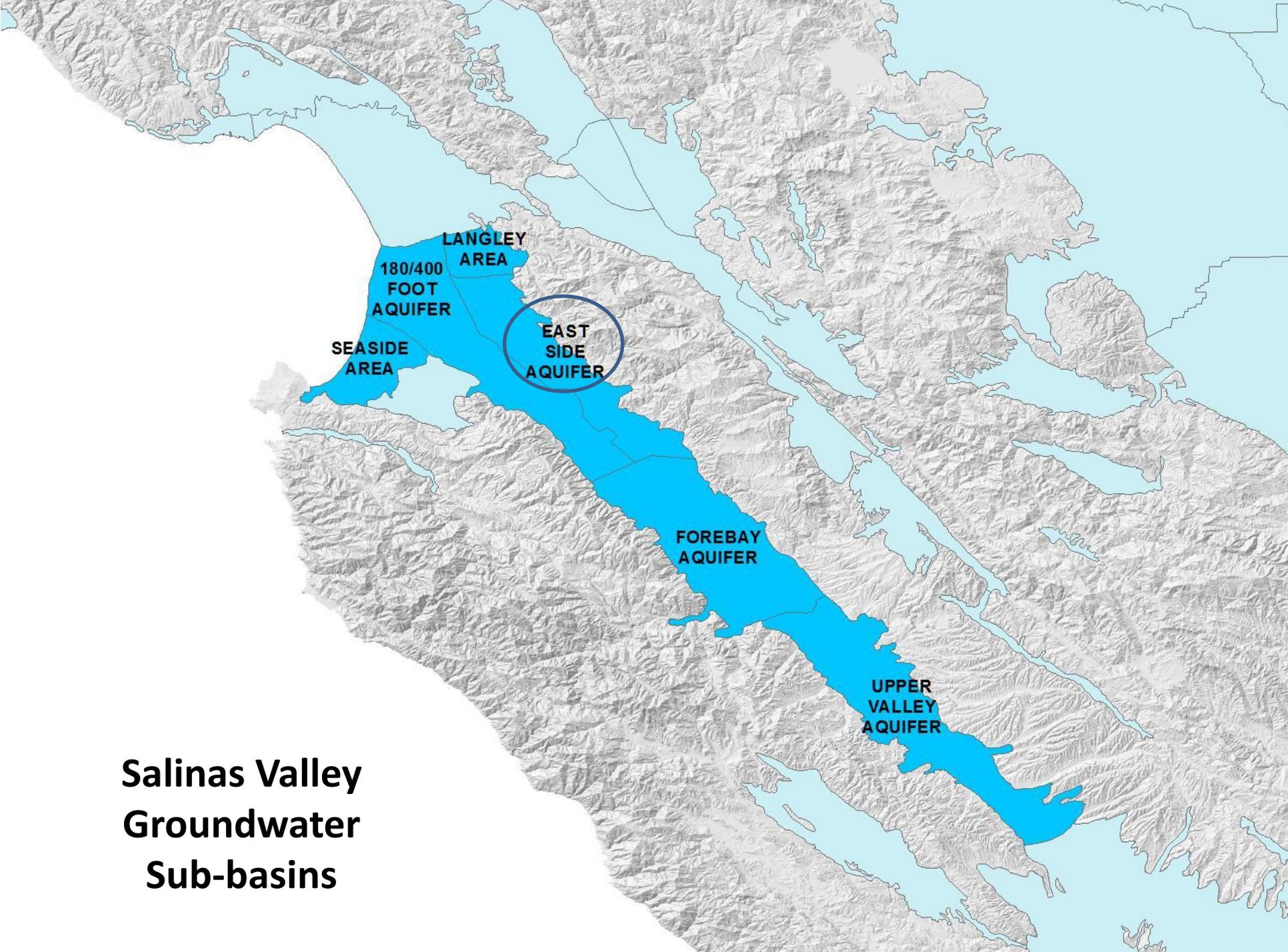


Sampled Wells – Noble Gases, Tritium, CFCs



Data Analysis in Salinas Valley

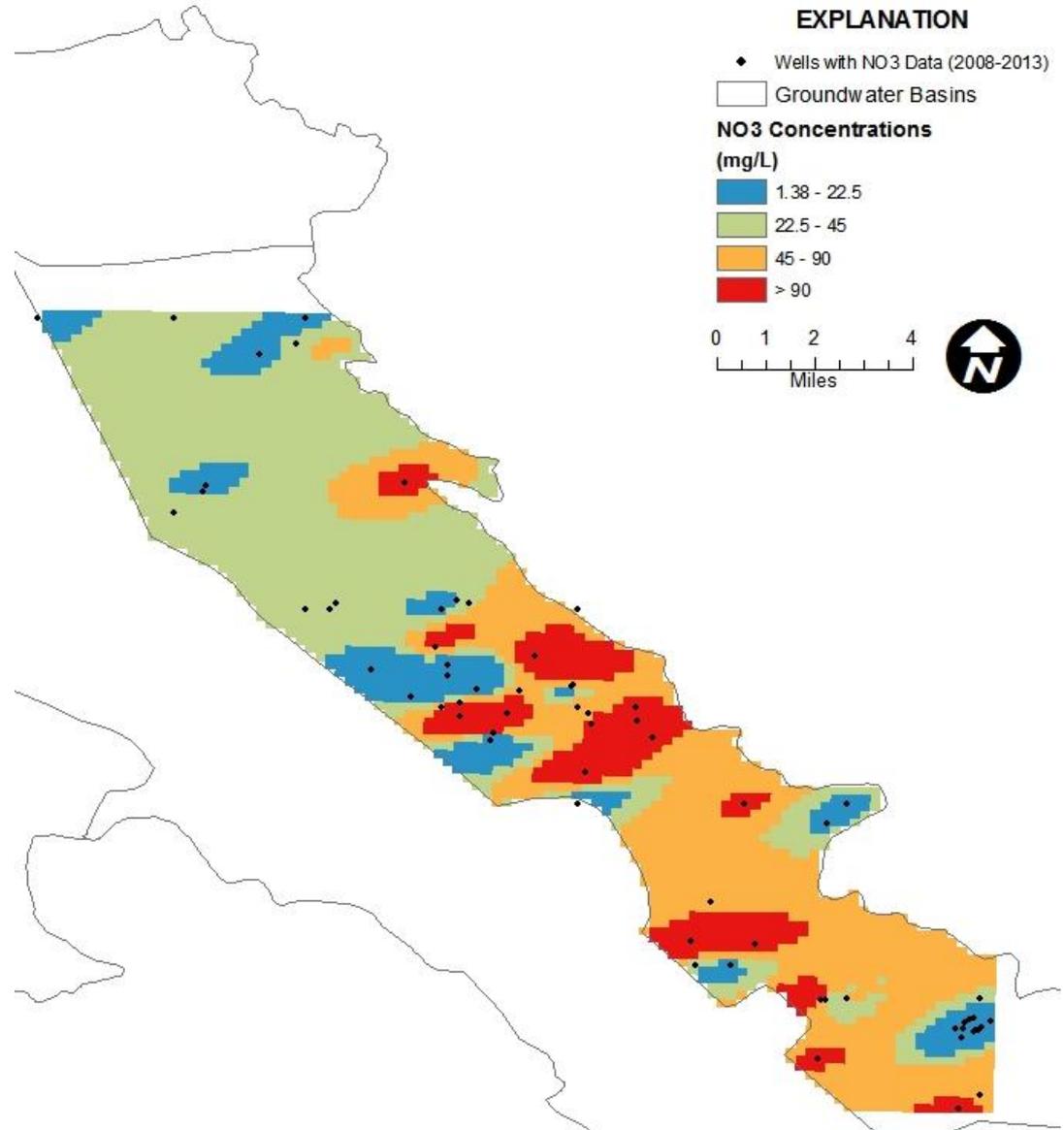
- Spatial analysis by sub-basin
- Ascertain need for additional sampling
- Evaluate distribution in light of other data (e.g. well depths, geology, land use, depth to groundwater, etc.)



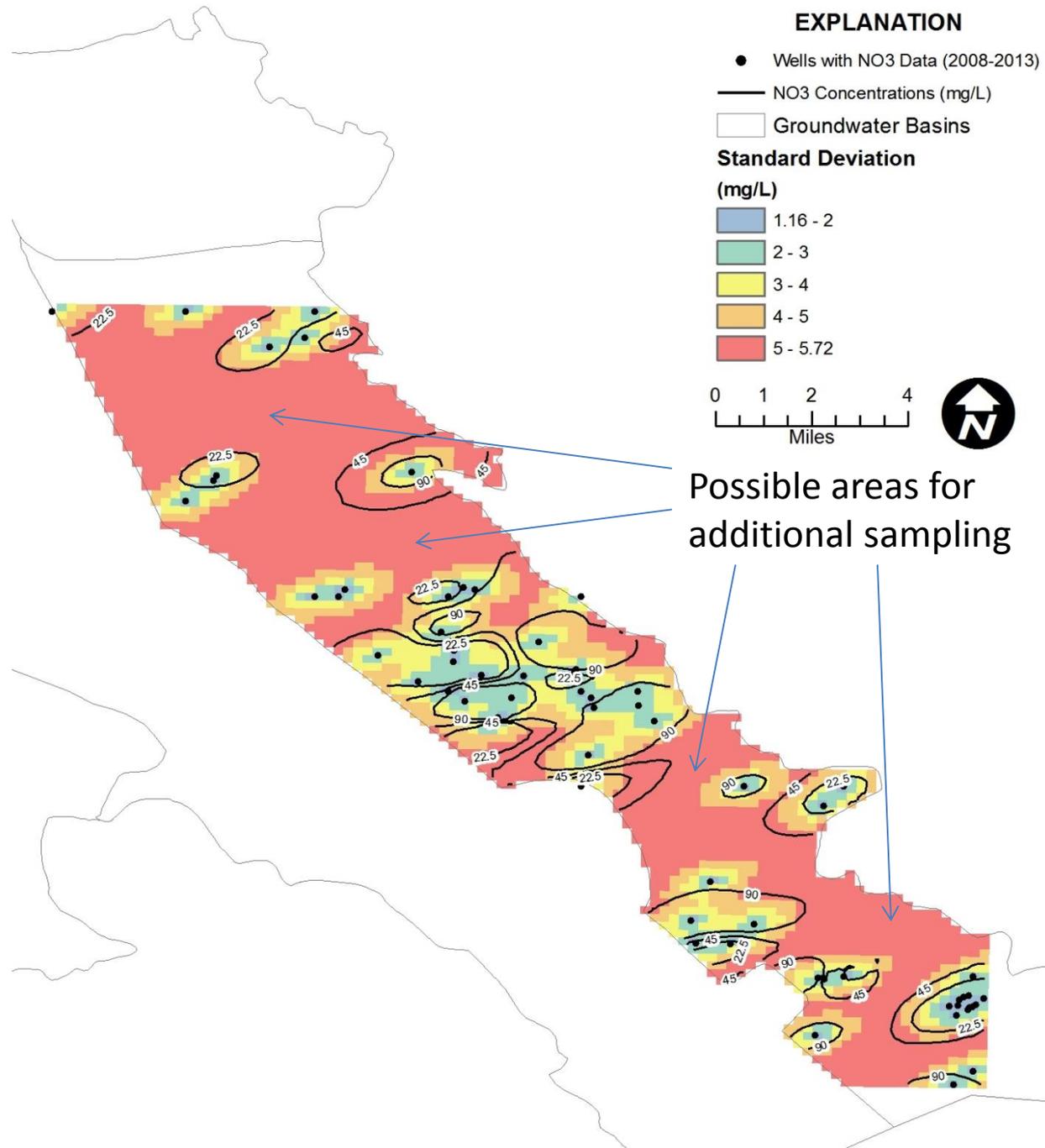
**Salinas Valley
Groundwater
Sub-basins**

East Side Sub-basin Nitrates

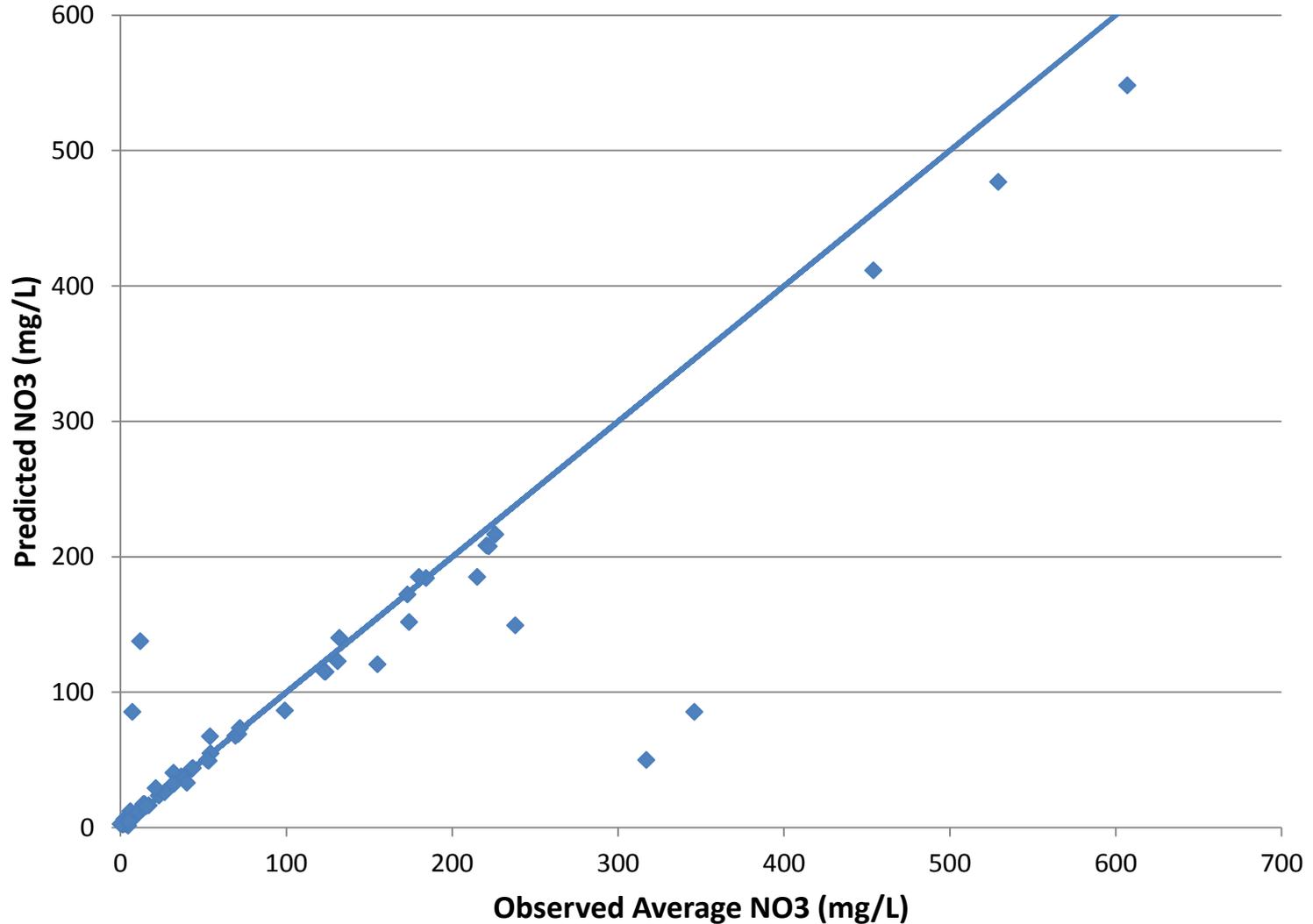
- 79 wells sampled (includes GAMA Geotracker, eNOI, USGS, CCGC)
- Used averages for wells with multiple samples
- Excluded wells in urban Salinas area

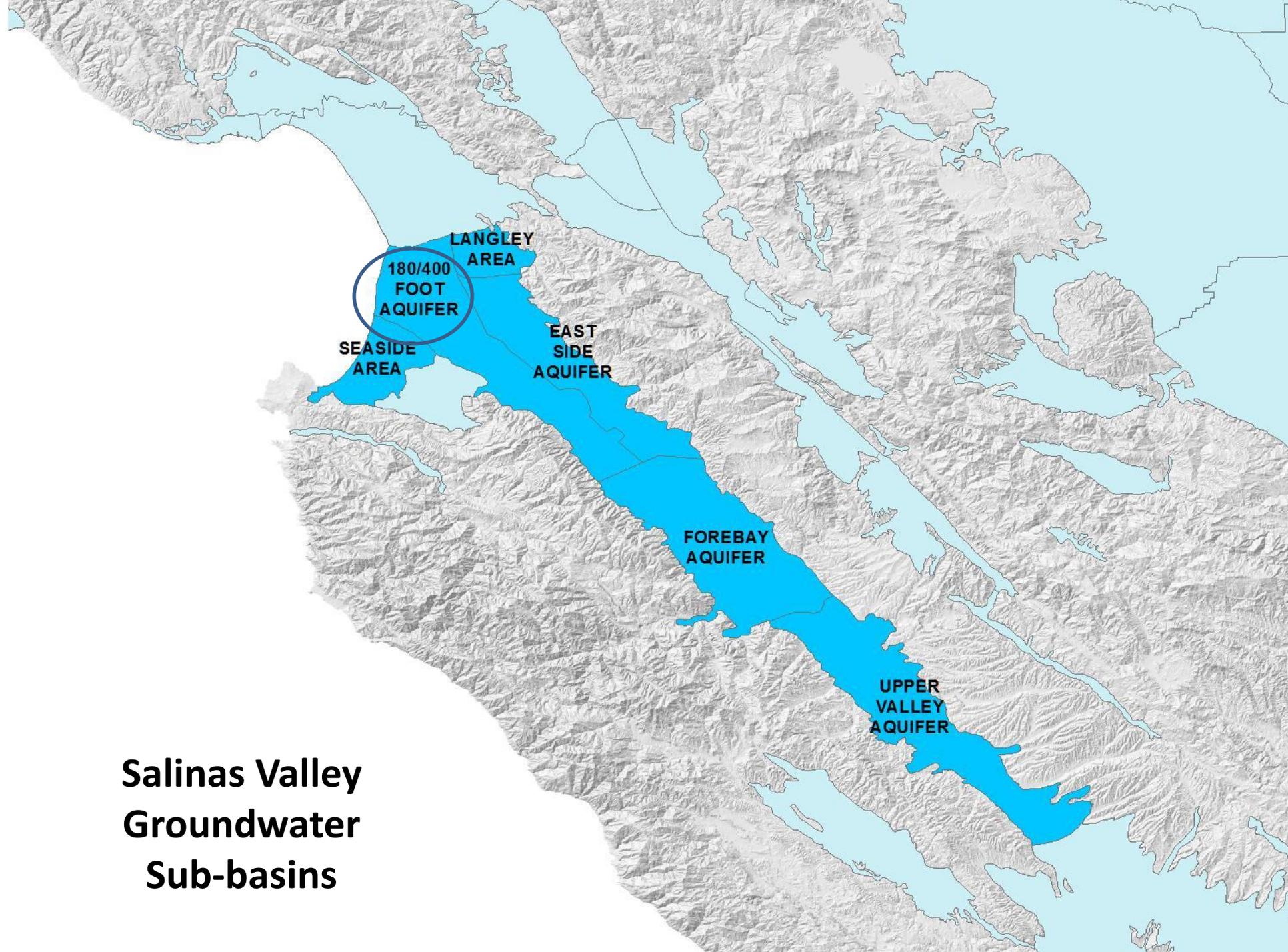


East Side Standard Deviation of Estimates



East Side Predicted vs. Observed

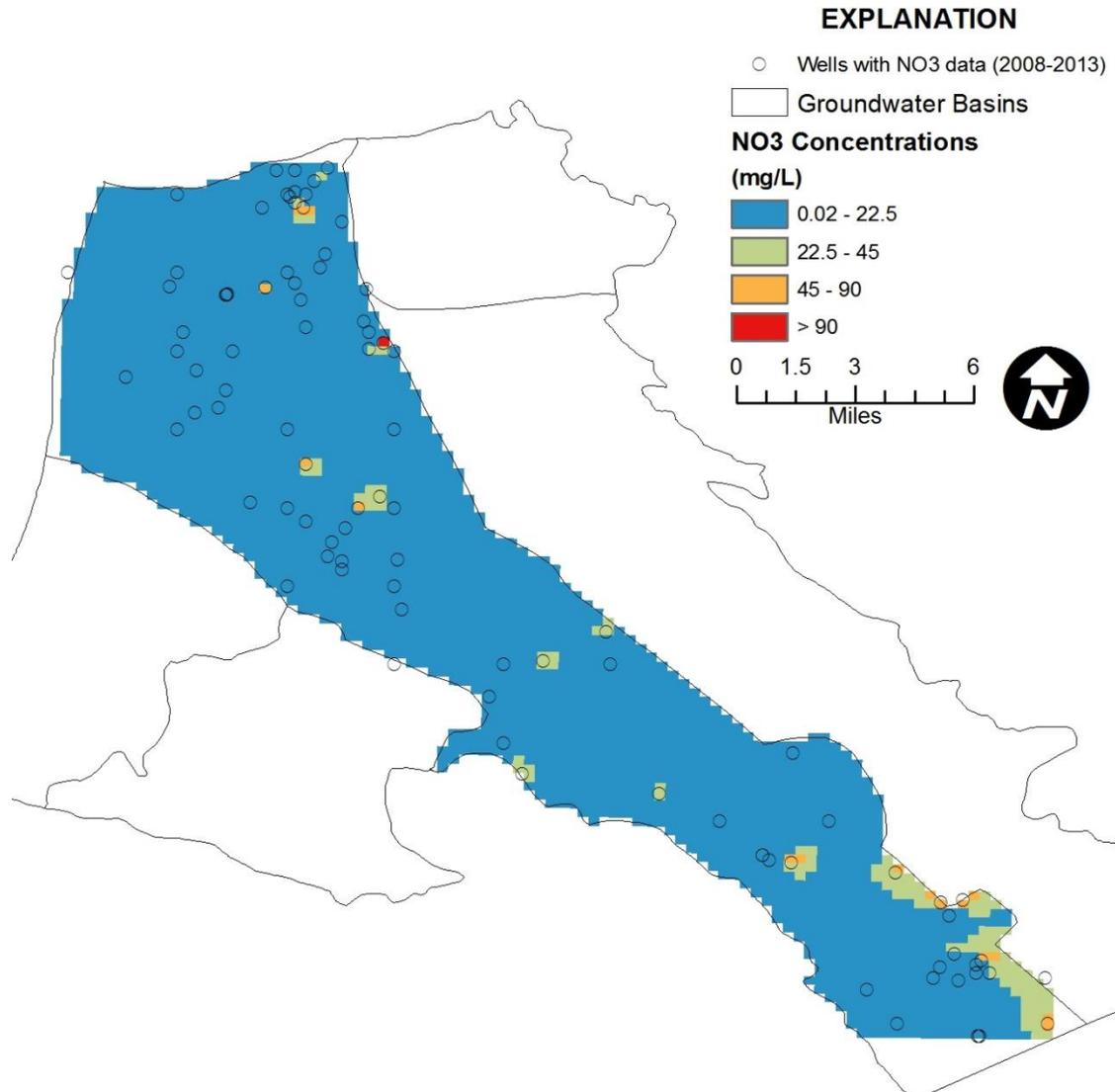




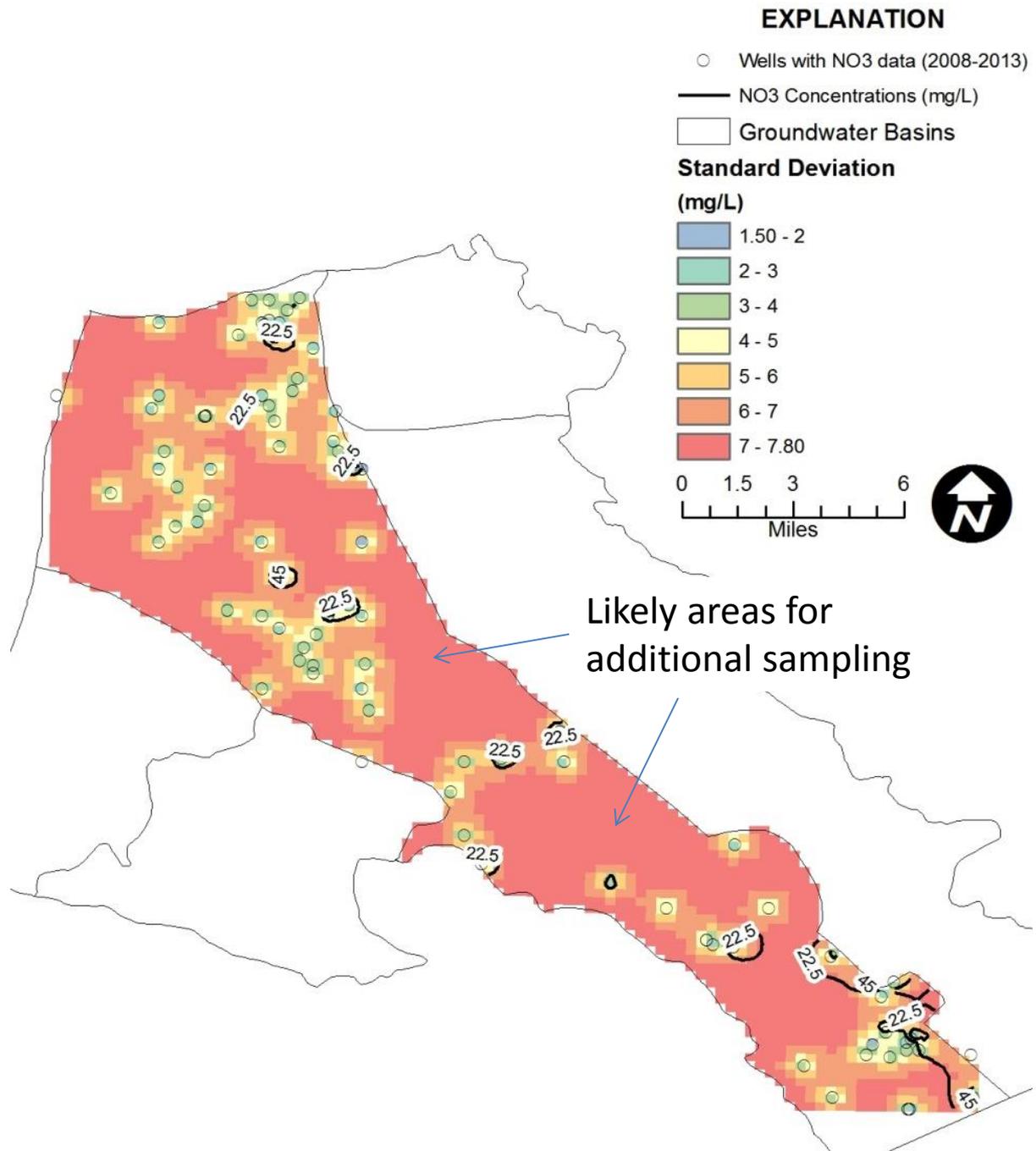
**Salinas Valley
Groundwater
Sub-basins**

180/400 ft Sub-basin Nitrates

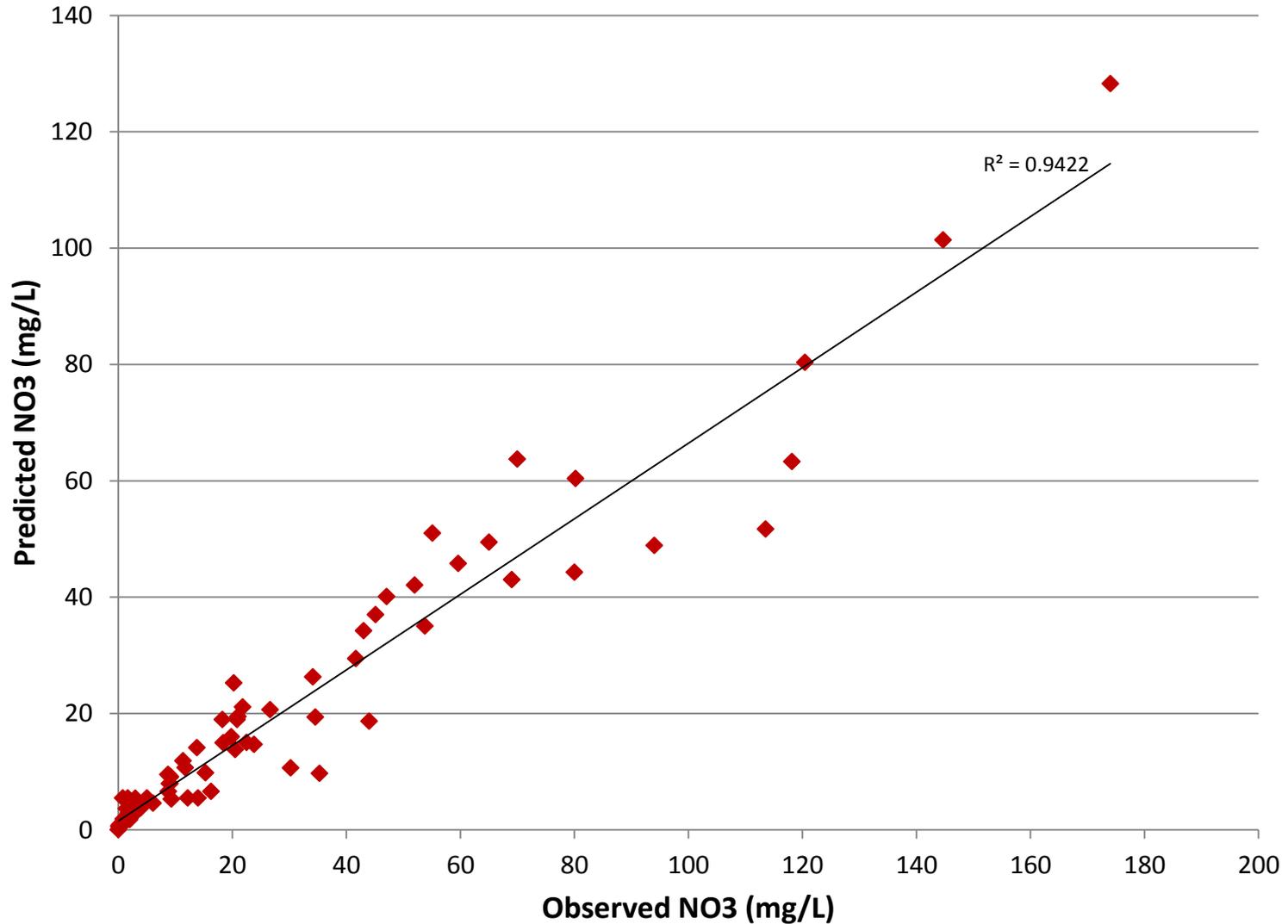
- 140 wells sampled (includes GAMA Geotracker, eNOI, USGS NWIS, CCGC)
- Used averages for wells with multiple samples
- Excluded wells in urban Salinas area



180/400 ft Standard Deviation of Estimates



180/400 ft Predicted vs. Observed

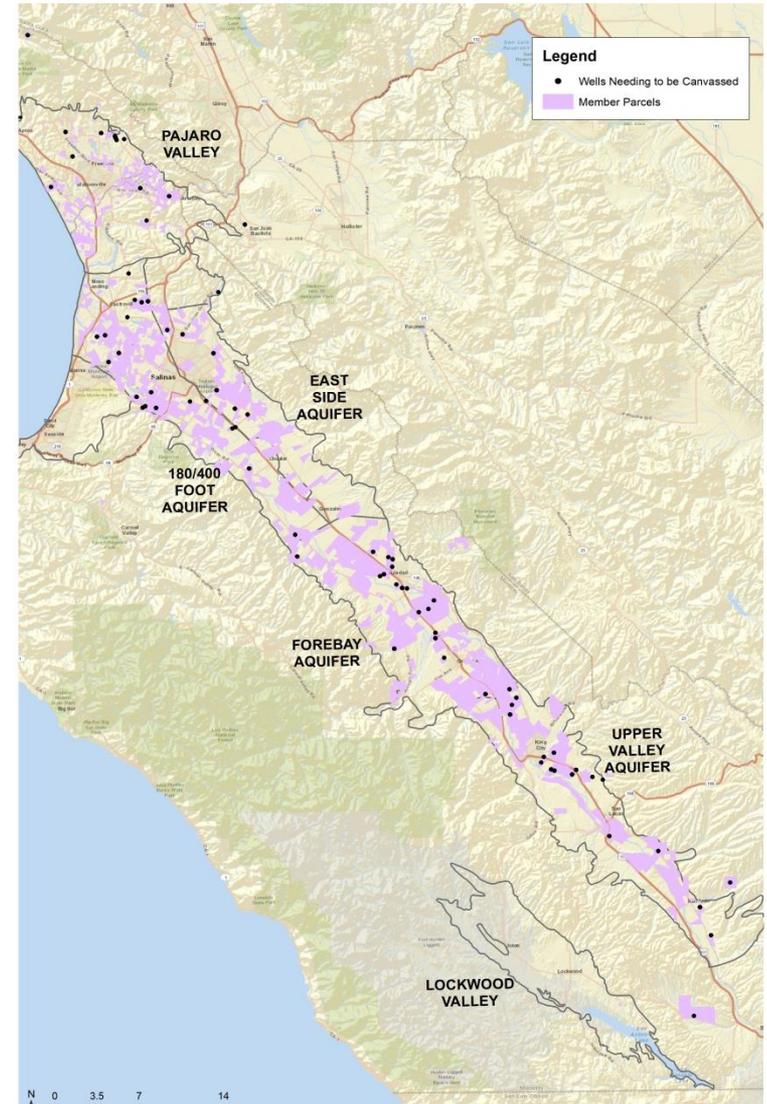


Next steps

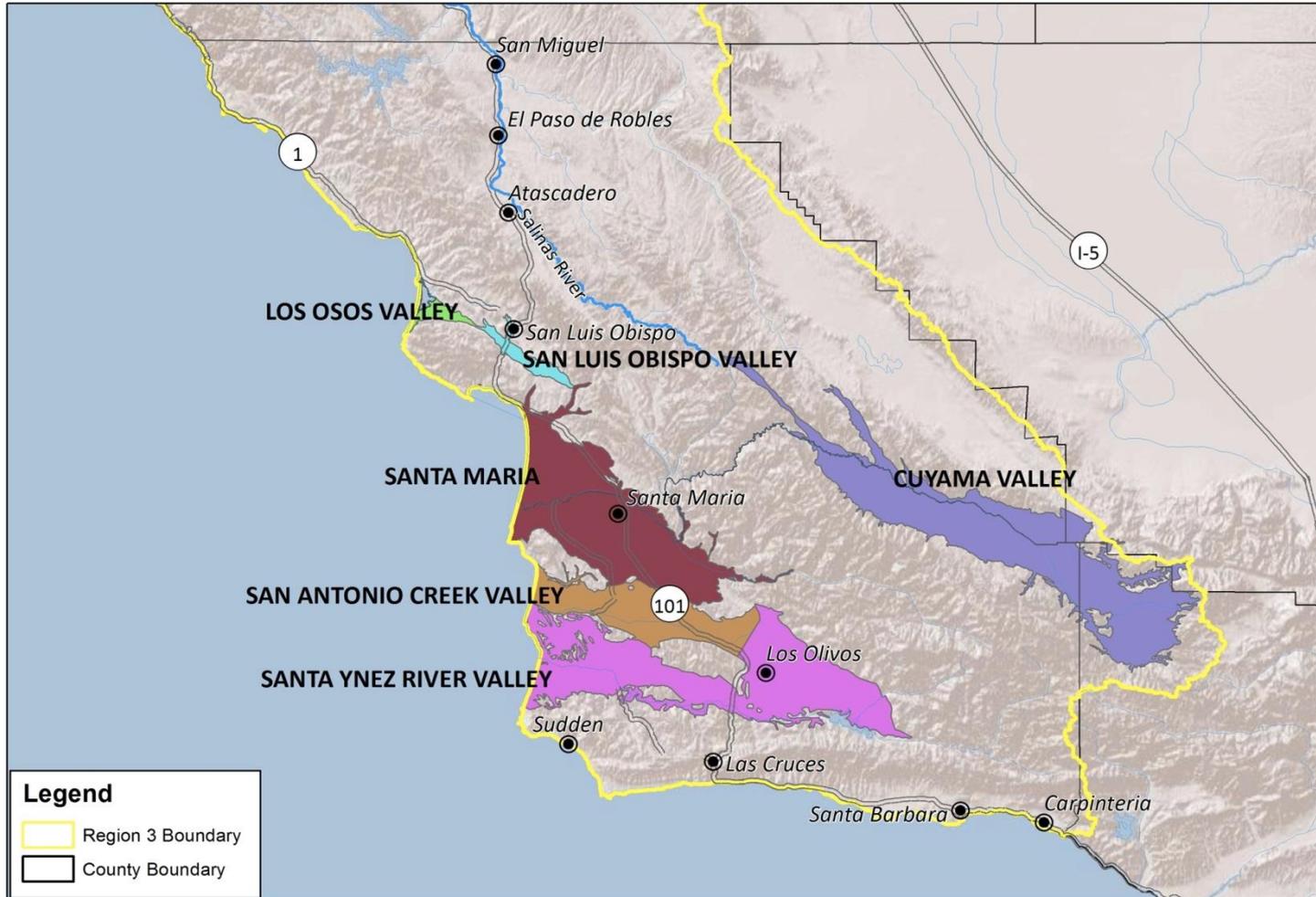
- Use similar approach for other sub-basins
- Compile lists for additional sampling
- Interpret distributions in light of other chemical data (major ions, age dating, nitrate isotopes) and geohydrology, soils, land use, etc.
- Technical memorandum due April 30.

Potential Additional Salinas Valley Sampling

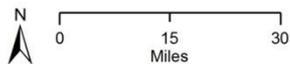
- Approximately 70 wells left to canvass and sample
- Additional 65 members may need follow-up



Southern Counties



Date Prepared: 10/29/13



Southern Central Coast Ground Water Basins

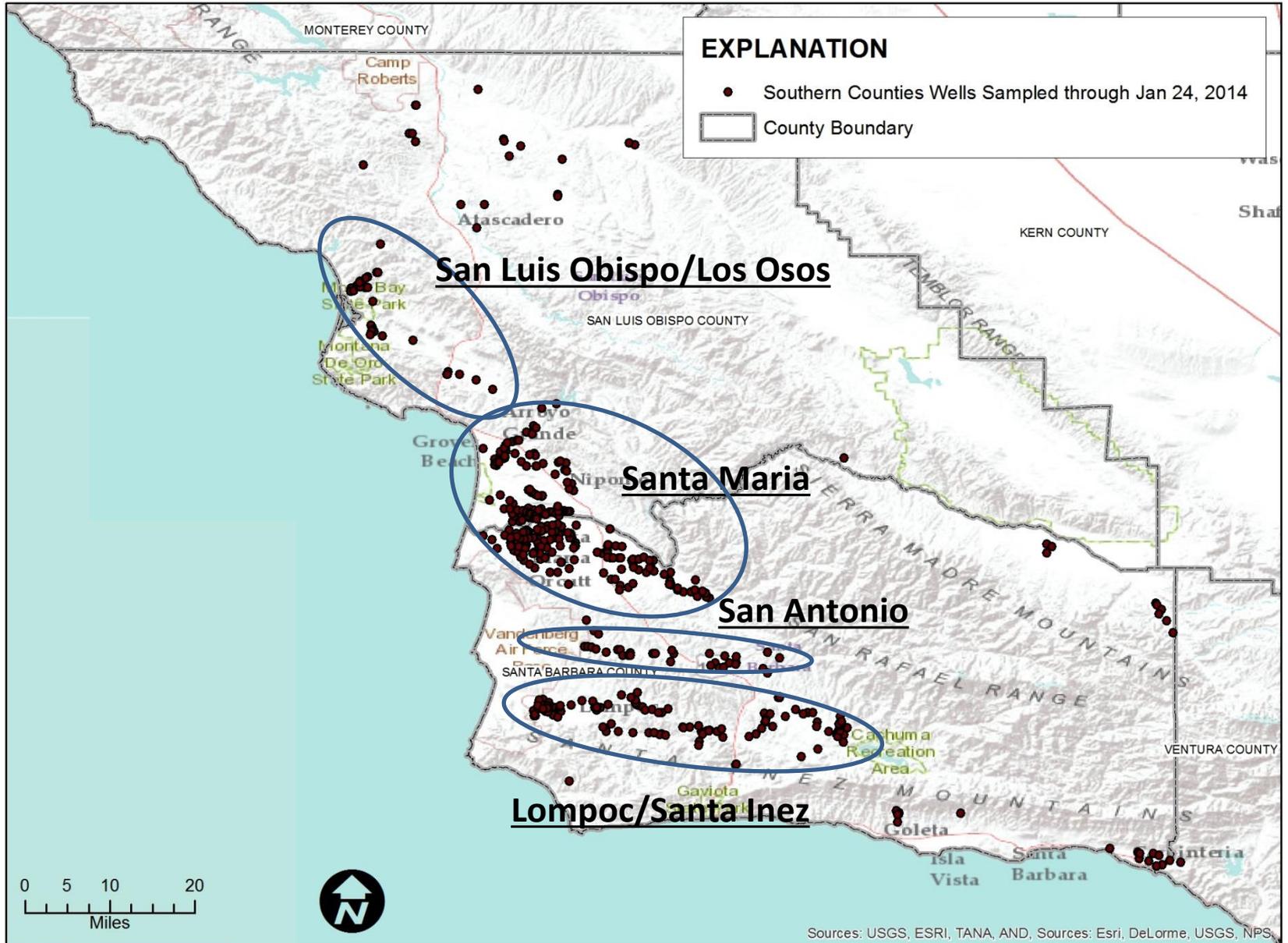
Southern Counties Individual Sampling

- Over 500 domestic and production wells sampled in December and January
- One crew working this week to finish sampling a total of approximately 530 wells

Sampled for

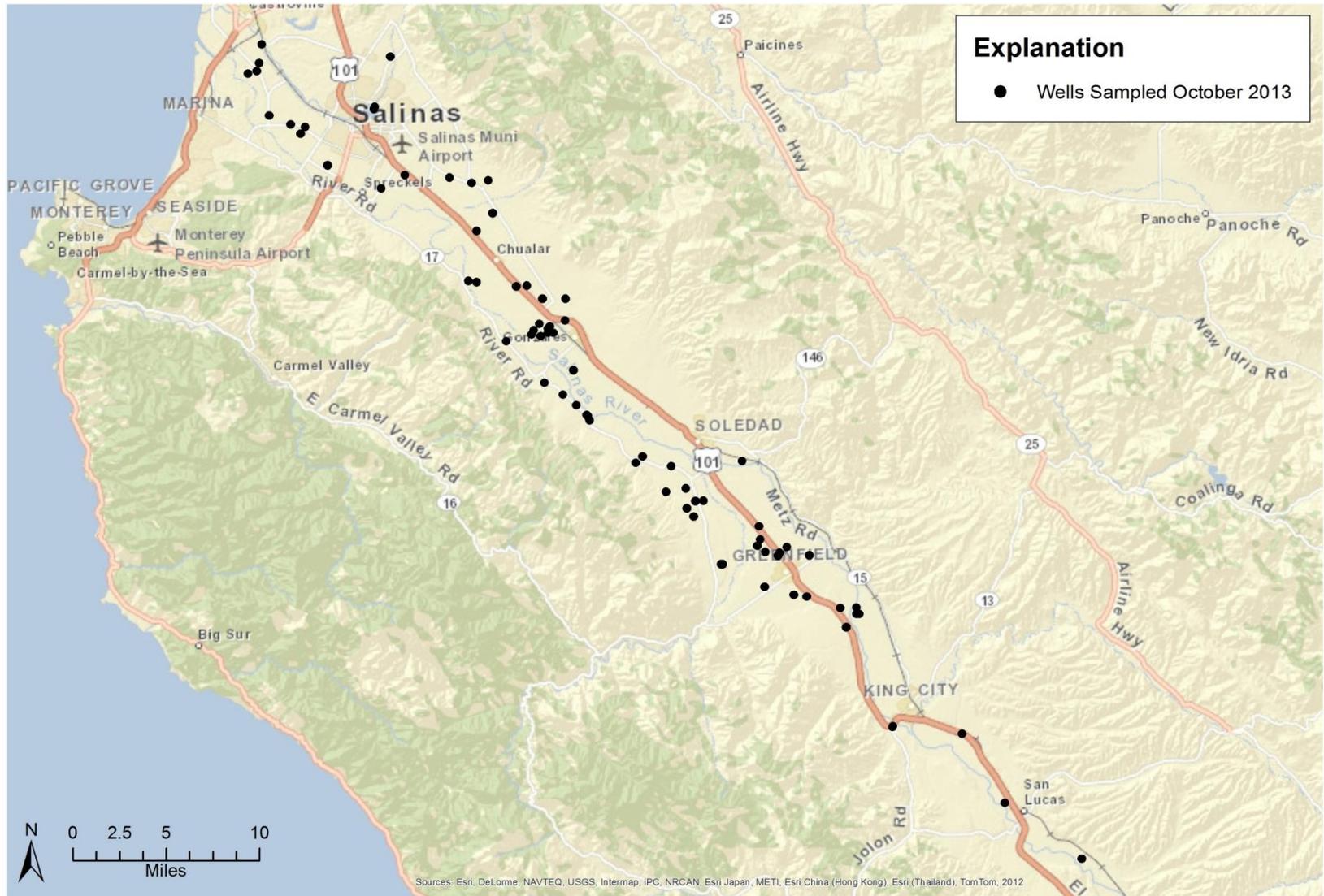
- Nitrate
- Major ions (calcium, magnesium, potassium, sodium, chloride, bicarbonate, sulfate)
- Field parameters (pH, electrical conductivity, dissolved oxygen, oxidation-reduction potential, temperature)

Wells Sampled in Southern Counties



Sampled Wells – All Sites

(MRP constituents, nitrate isotopes, water isotopes)



Questions for Us?

Parry Klassen

- Central Coast Groundwater Cooperative

Abby Taylor-Silva

- Grower-Shipper Association Central Coast

Steve Deverel

- HydroFocus Inc.

