Model Criteria for Groundwater Monitoring – SB 4

Janice Zinky, P.G.
State Water Resources Control Board

Water Boards

Presentation Overview

- Background
- Interim Groundwater Monitoring
- Development of Model Criteria
- Project Timeline

Background

- DOGGR Draft Regulations released Jan 2013
- Public concern about water quality
- Senate Bill 4 (SB 4 Pavley, statutes of 2013)
  - Oil and Gas Well Stimulation – including hydraulic fracturing and acid well stimulation

Water Boards

Initial SB 4 Activity

- DOGGR Emergency Interim Regulations
  - Includes current groundwater monitoring requirements
  - Active until July 1, 2015
- Memorandum of Agreement (MOA) on roles and responsibilities for SB4
  - Becomes effective July 1, 2015

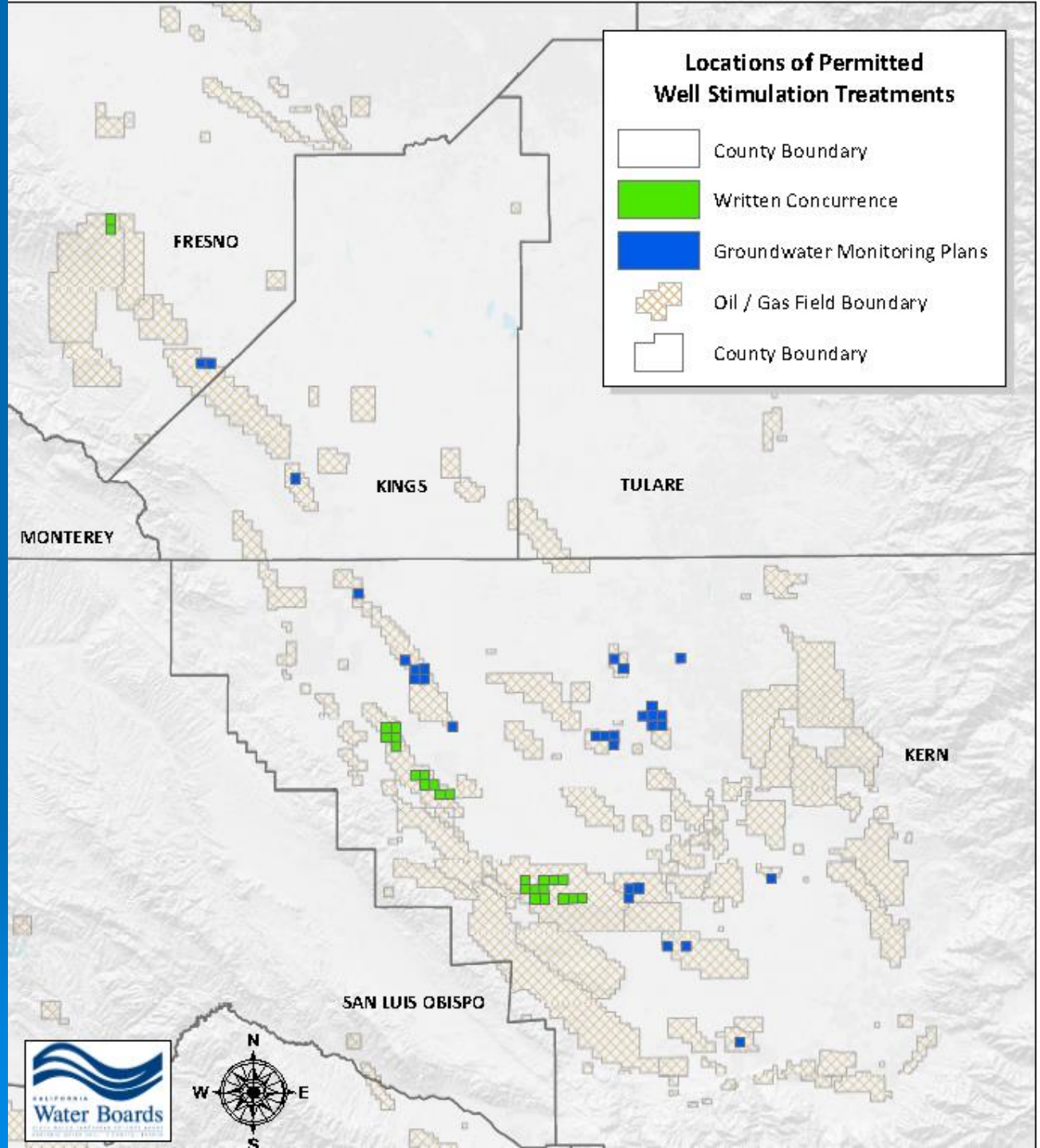
Water Boards

Interim Groundwater Monitoring

- As of April 2015:
  - 28 Groundwater Monitoring Plans Reviewed
    - ✓ 20 processed
  - 31 Requests for Written Concurrence Reviewed
    - ✓ 20 agreed to
  - 1044 Well Stimulation Permits processed in 2014

- Majority of well stimulation and groundwater monitoring takes place in Kern County

Water Boards


Locations of Permitted
Well Stimulation Treatments
County Boundary
Written Concurrence
Groundwater Monitoring Plans
Oil / Gas Field Boundary
County Boundary
FRESNO
KINGS
TULARE
MONTEREY
KERN
SAN LUIS OBISPO
N
W
E
S
Water Boards

Interim Groundwater Monitoring (cont.)

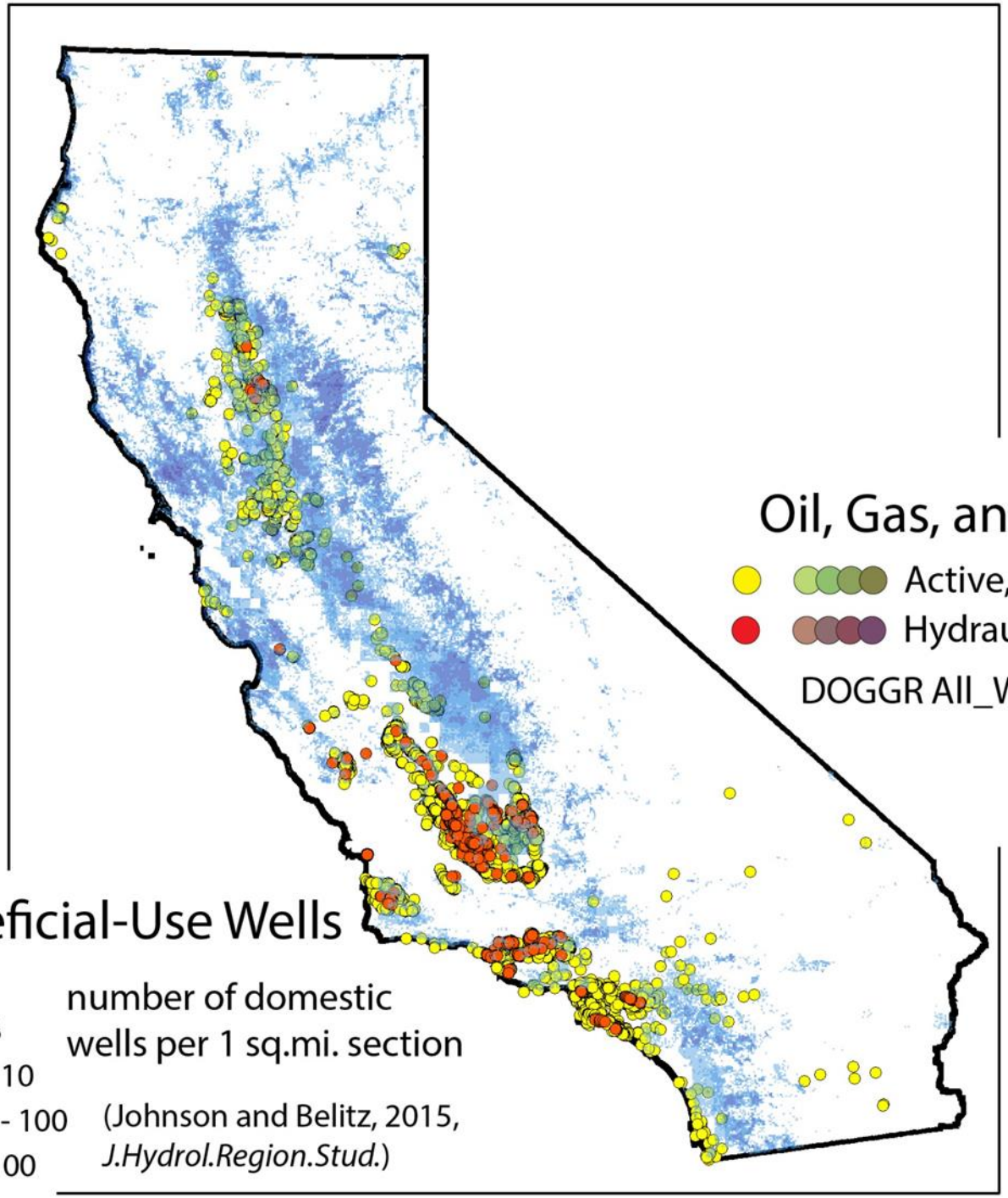
- Neighbor Requested Sampling:
  - Property owners within 1,500 feet can request their water to be sampled
  - Designated samplers (third party) perform sampling
  - As of March 2015, one property owner has requested water to be sampled

Water Boards

Other Related Oil and Gas Activities

- Review of oil and gas wastewater disposal:
  - Aquifer exemption submittals
  - Underground Injection Control (UIC) wells – identify those potentially impacting water supply wells
  - Proposed UIC well projects
  - Produced water ponds (sumps)

Water Boards


Oil, Gas, and UIC Wells
Active, idle, and new
Hydraulically fractured
DOGGR All_Wells_11-19-14
Beneficial-Use Wells
0
< 3
3 - 10
10 - 100
> 100
number of domestic
wells per 1 sq.mi. section
(Johnson and Belitz, 2015,
J.Hydrol.Region.Stud.)

Development of Model Criteria for Groundwater Monitoring

Development of Model Criteria

- Water Boards to oversee groundwater monitoring
  - Develop “model criteria” for groundwater monitoring July 2015
  - Implement regional groundwater monitoring January 2016
- The model criteria are to:
  - Protect all waters designated for beneficial uses
  - Prioritize monitoring that is or has the potential to be a source of drinking water

Water Boards

Development of Model Criteria

- Lawrence Livermore National Laboratory (LLNL) to provide recommendations
- Model criteria is being developed in consultation with:
  - DOGGR
  - Technical Experts
  - Public Stakeholders
- U.S. Geological Survey collecting and analyzing data to develop model criteria

Water Boards

Development of Model Criteria

- Components:
  - Groundwater monitoring near stimulated wells (Operators)
  - Regional-scale monitoring (State Water Board)

- Model Criteria to include:
  - Monitoring methods
  - Chemicals to analyze
  - Frequency/duration
  - Areas to monitor

Water Boards

Project Timeline

- August 2014 - Public stakeholder kickoff meetings
- December 11, 2014 – LLNL hosted meeting with technical experts and stakeholders on model criteria design
- April 8, 2015 - Board informational item for status of model criteria development
- April 29, 2015 - Begins 30-day public comment period for draft model criteria

Water Boards

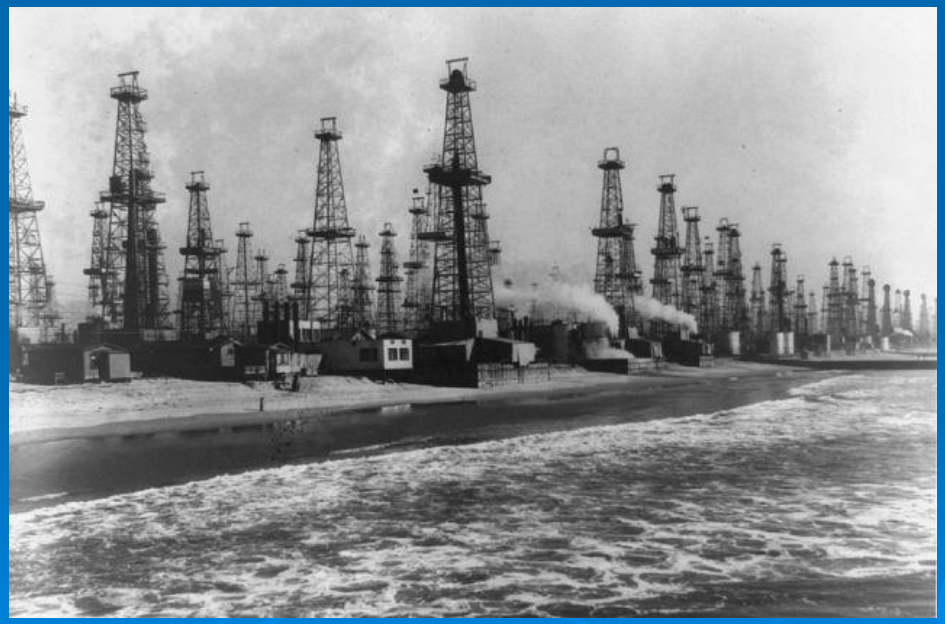
Project Timeline (cont.)

- May 20, 2015 - State Water Board Workshop
- June 19, 2015 -10 day public comment period for final model criteria
- July 7, 2015 - Water Boards to develop final model criteria
- January 1, 2016 - State Water Board to implement regional groundwater monitoring

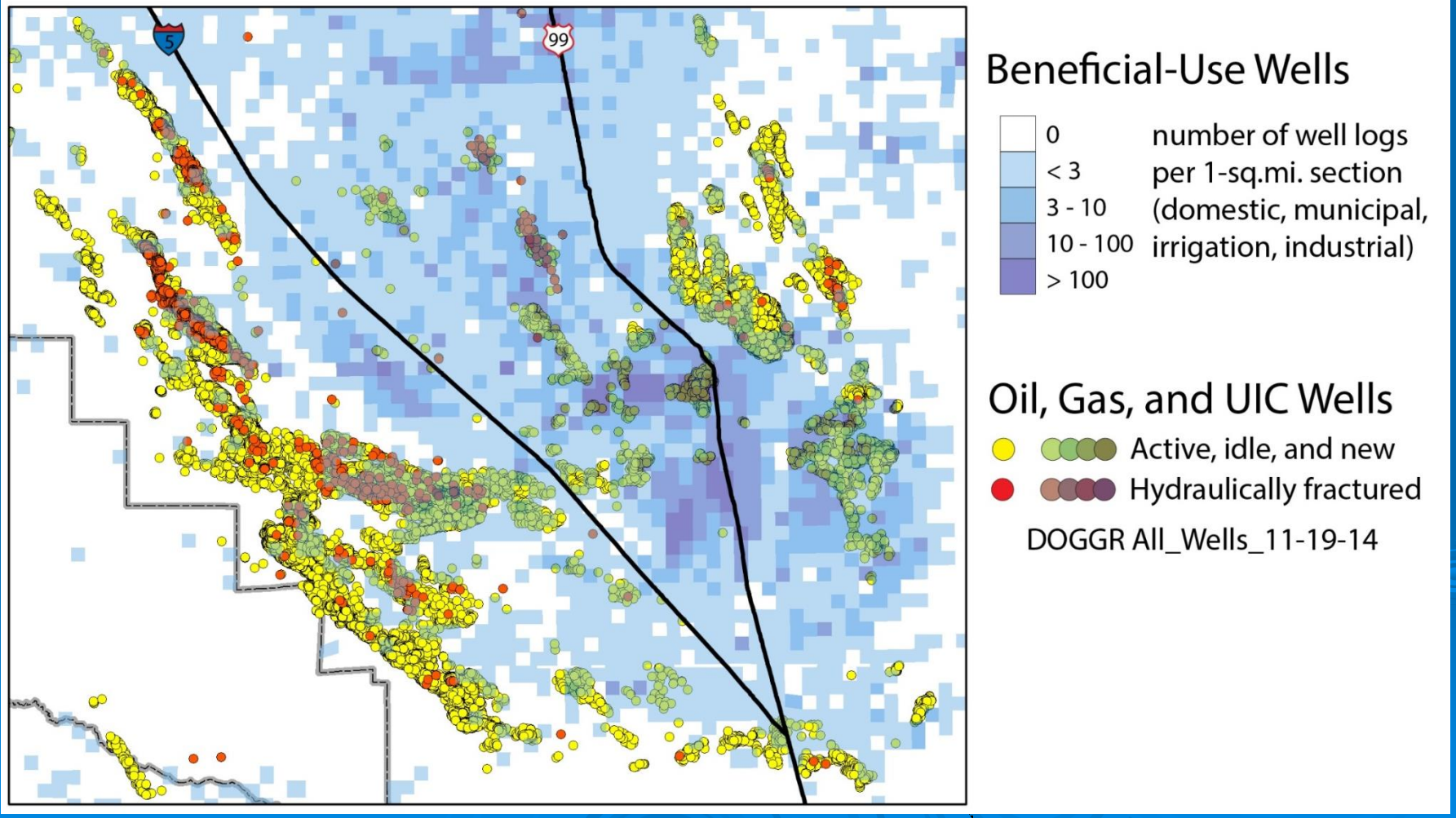
Water Boards

Additional Information

- State Water Board Web Site
  http://www.waterboards.ca.gov/water_issues/programs/groundwater/sb4.shtml
- DOGGR Web Site
  http://www.conservation.ca.gov/dog/Pages/WellStimulation.aspx#Item1



Janice Zinky 916-341-5897
janice.zinky@waterboards.ca.gov

End of Presentation

Kern County: Oil, gas, and UIC wells, and hydraulically fractured wells are located in areas with beneficial use water wells