

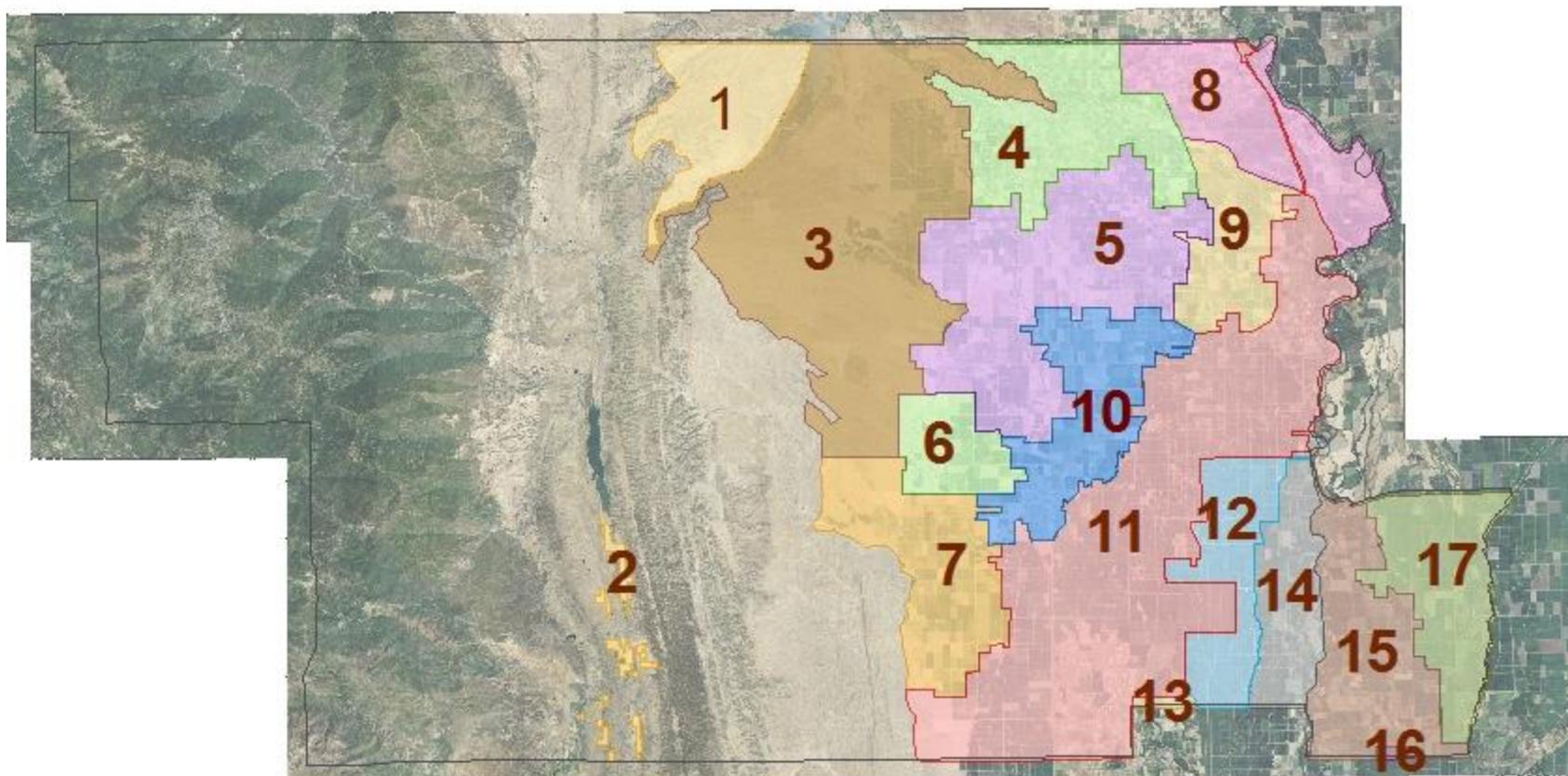
BMO REVISIONS UPDATE

Glenn County Water Advisory Committee /
Technical Advisory Committee Joint Meeting
October 23, 2014

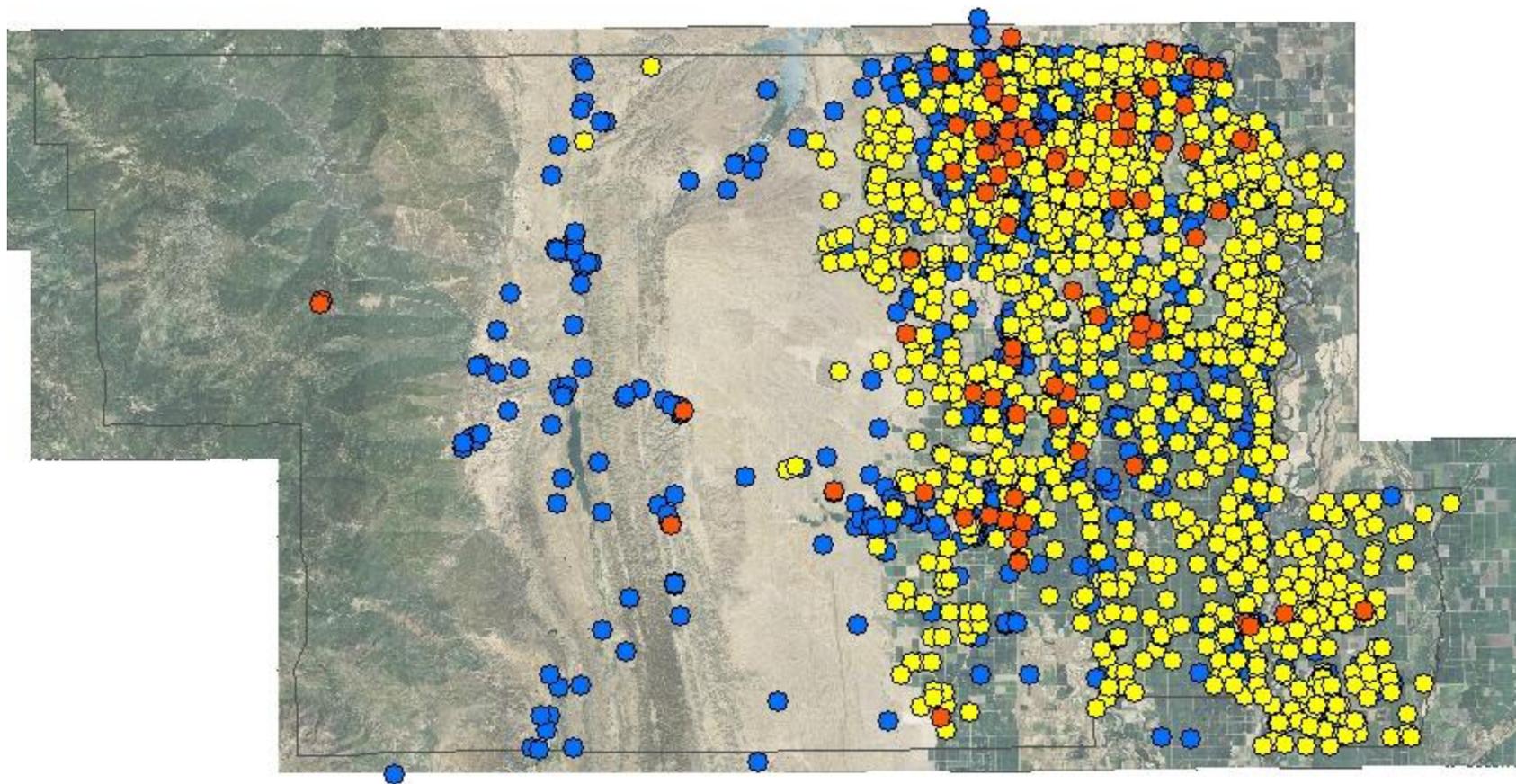
TAC meetings update

- TAC met:
 - April 23, 2014
 - June 3, 2014
 - July 15, 2014
 - August 26, 2014
- Most discussion revolved around BMO updates as directed by the WAC and the Action List approved by the WAC and Board of Supervisors in May 2014.
- Following are snapshots of TAC discussions and presentations

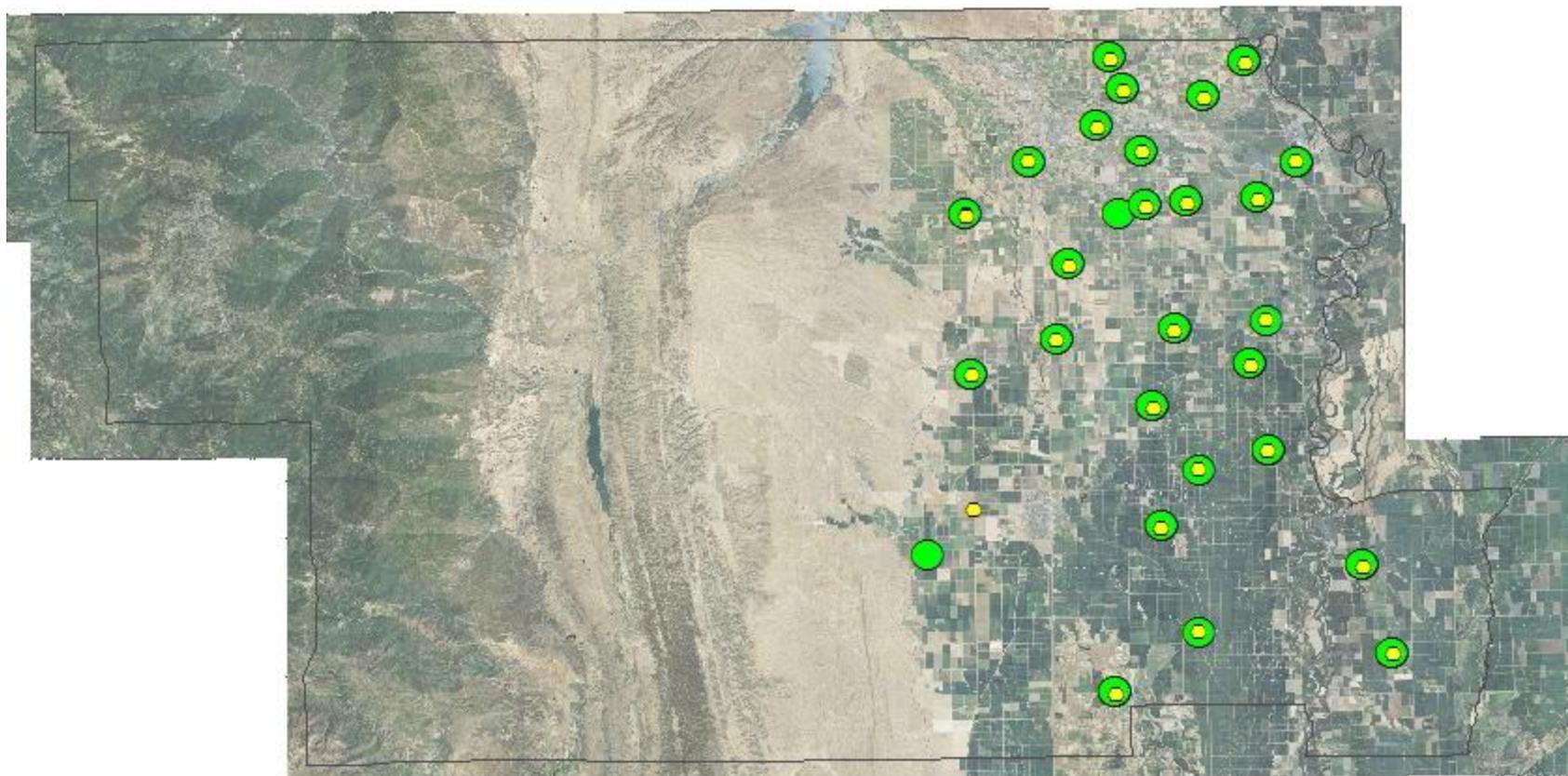
BMO BOUNDARY DISCUSSIONS



Current BMO Subareas



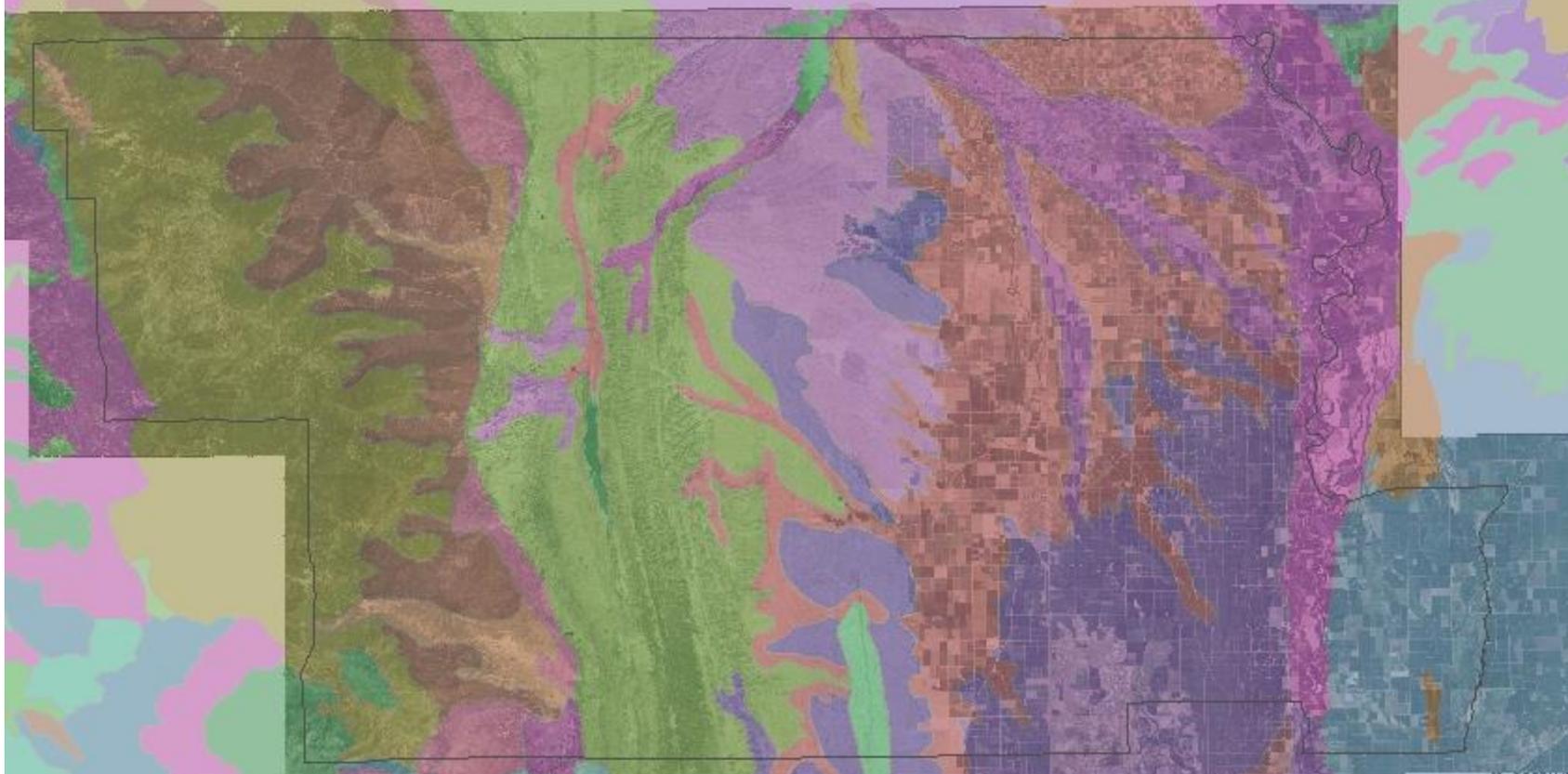
Well Distribution (2010)



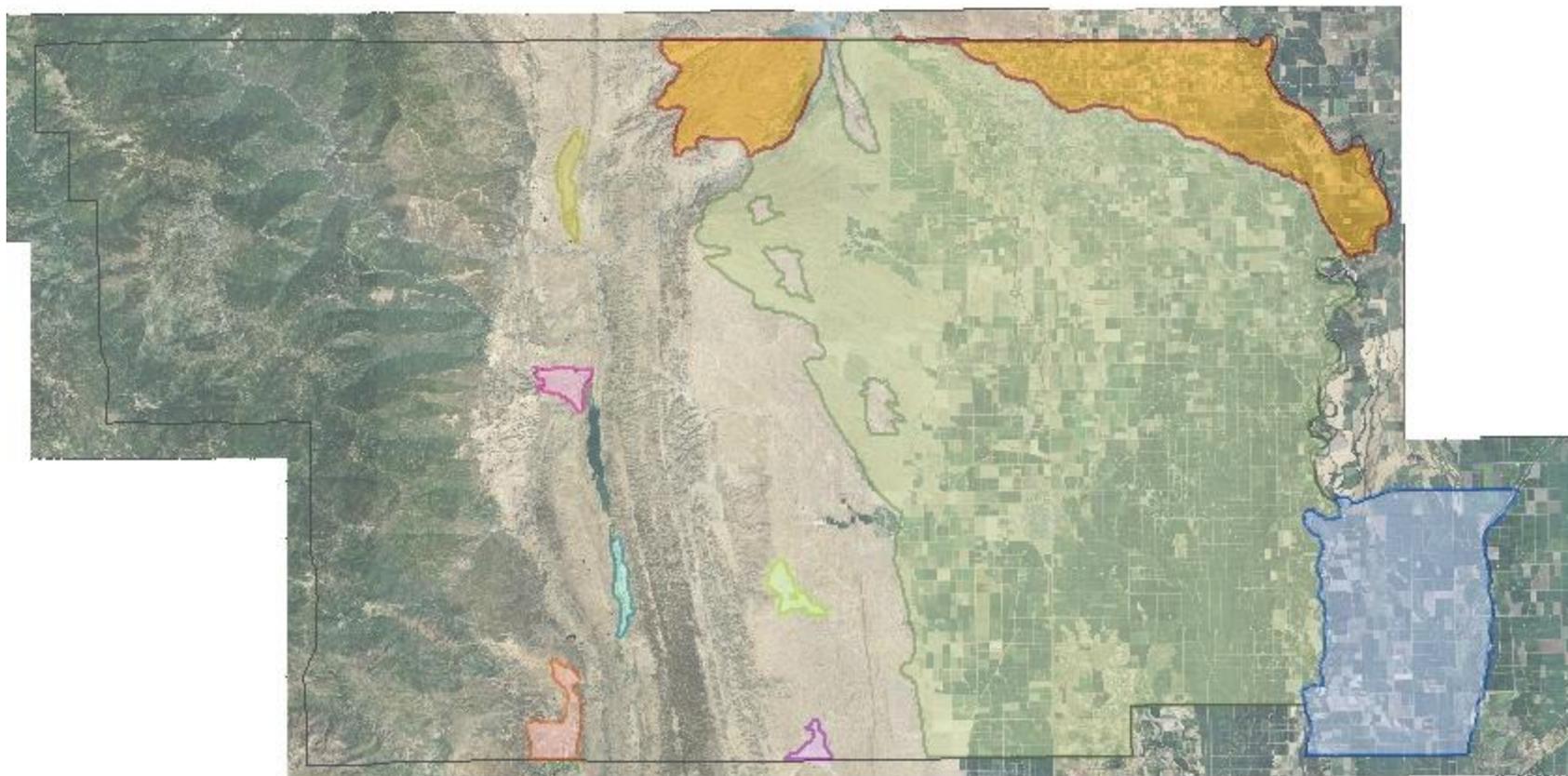
CASGEM (yellow) and
Observation (green) Wells



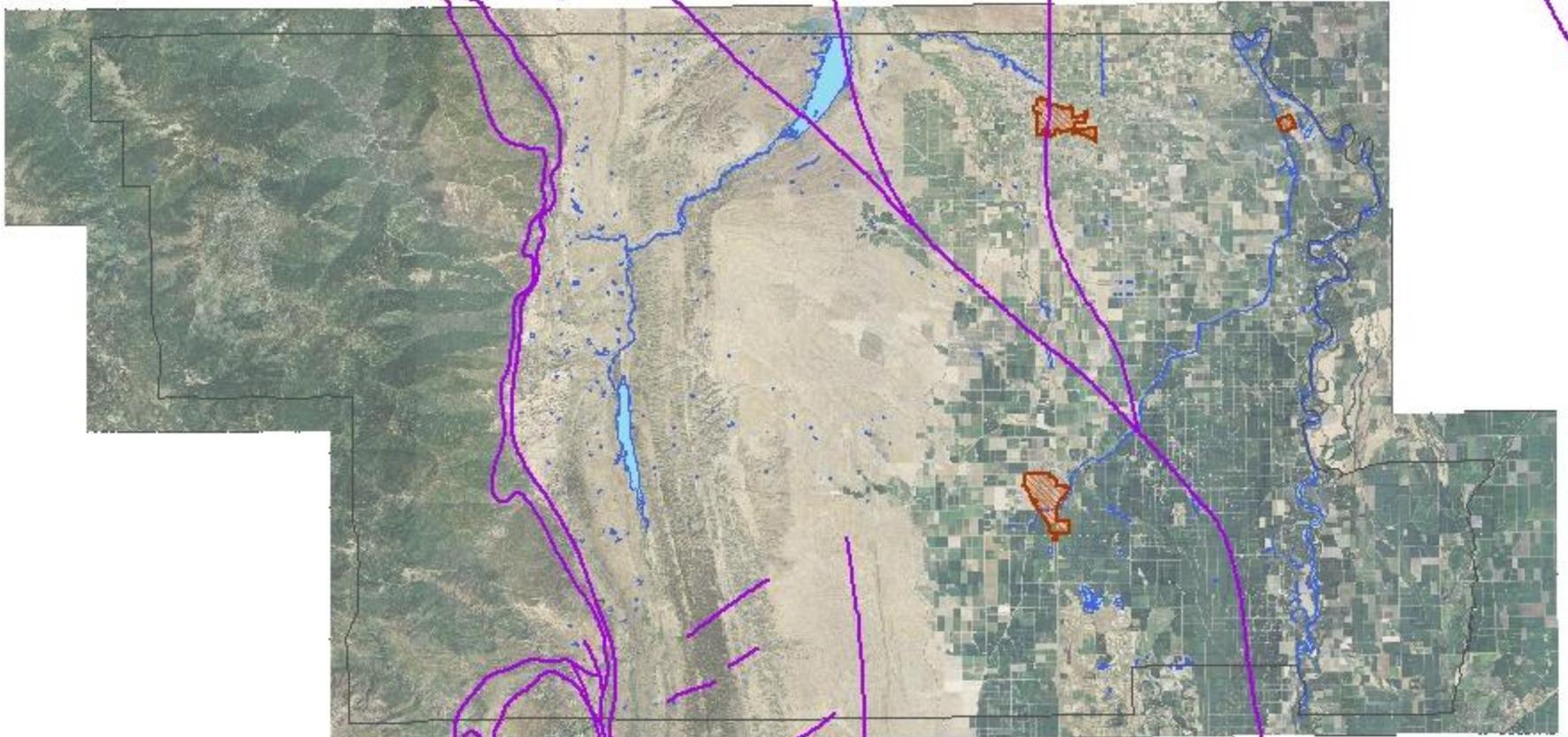
Agricultural Fields with
Pesticide Permits
(April 2014)



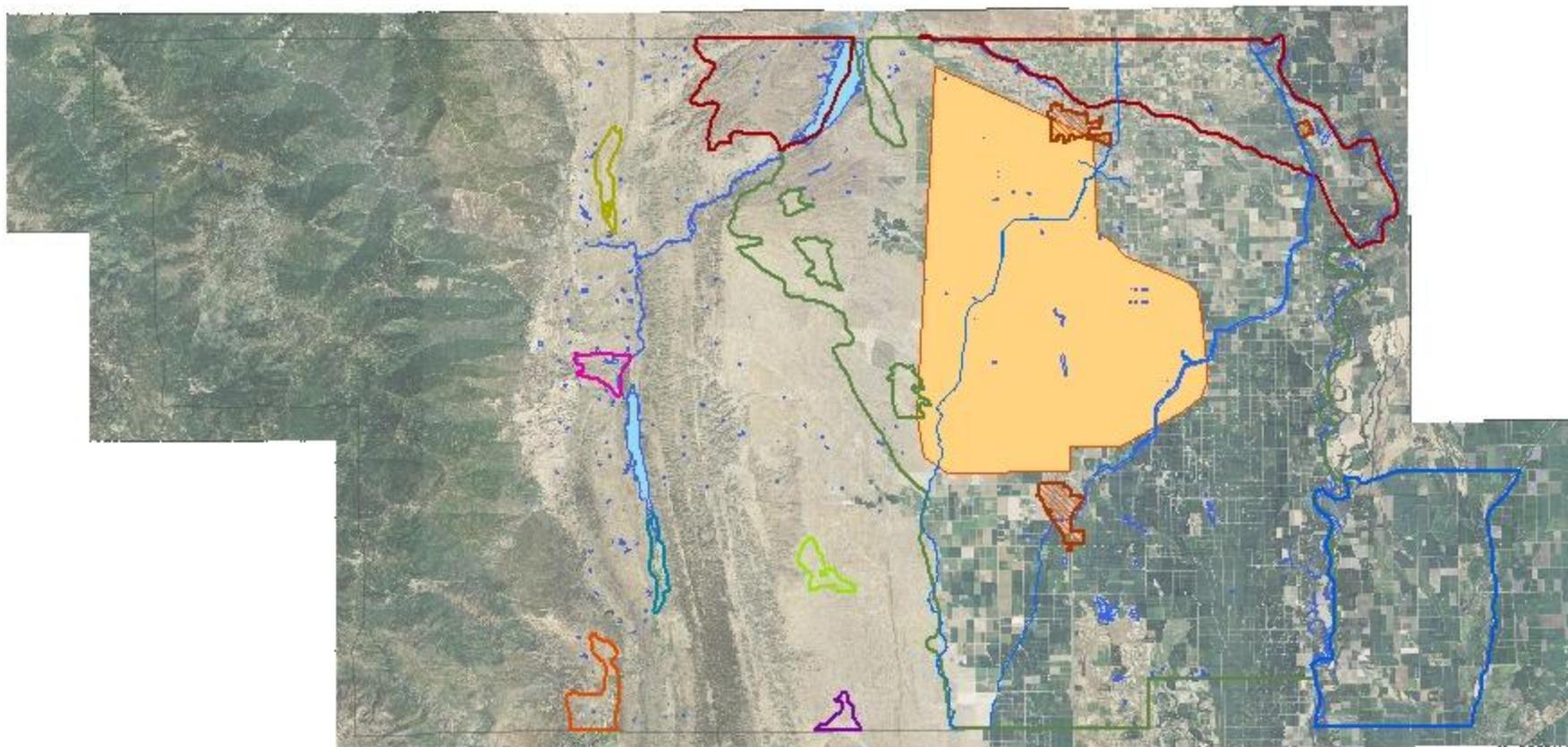
Soils and Satellite Images
Soils-USDA



Bulletin 118 Groundwater Basins

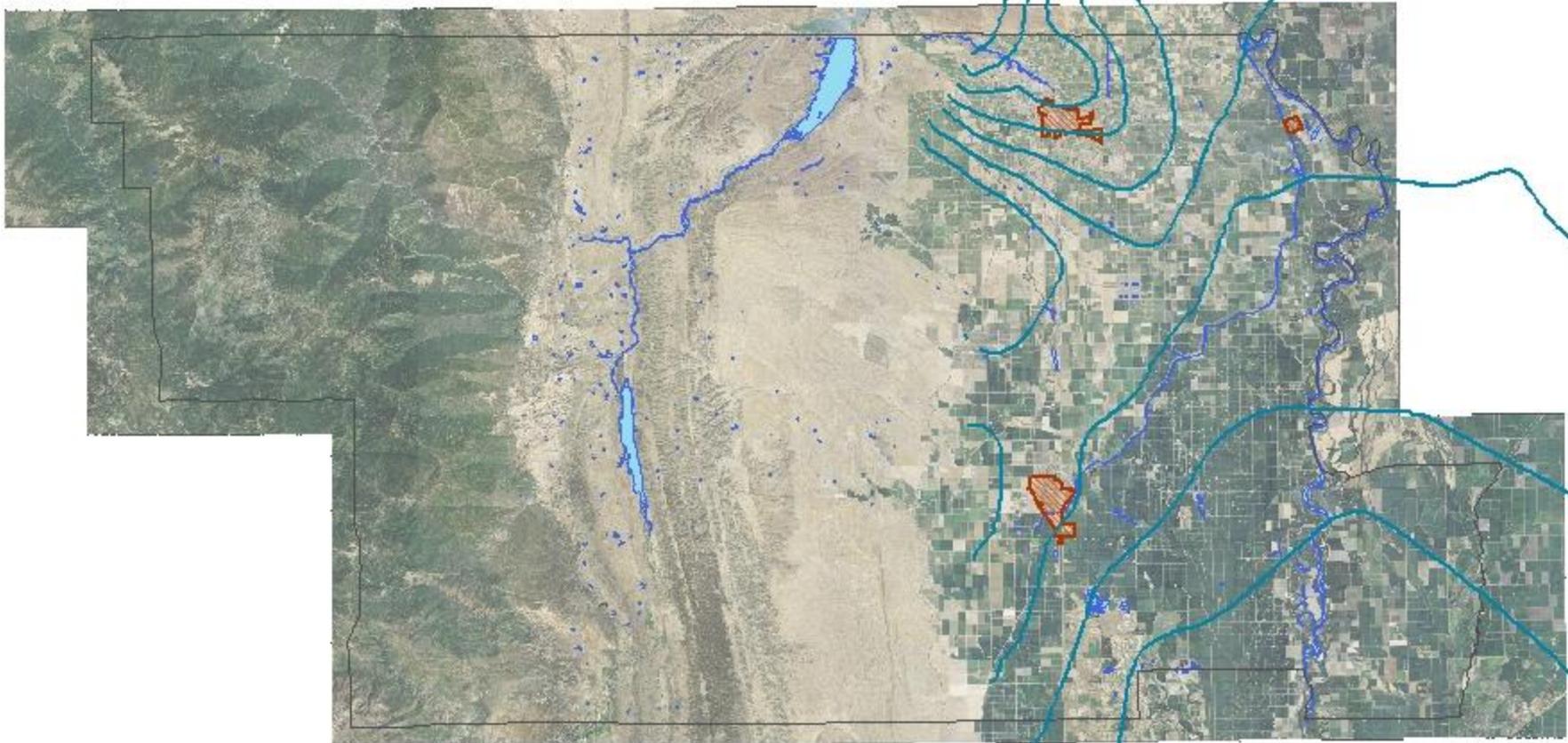


Faults (DWR)

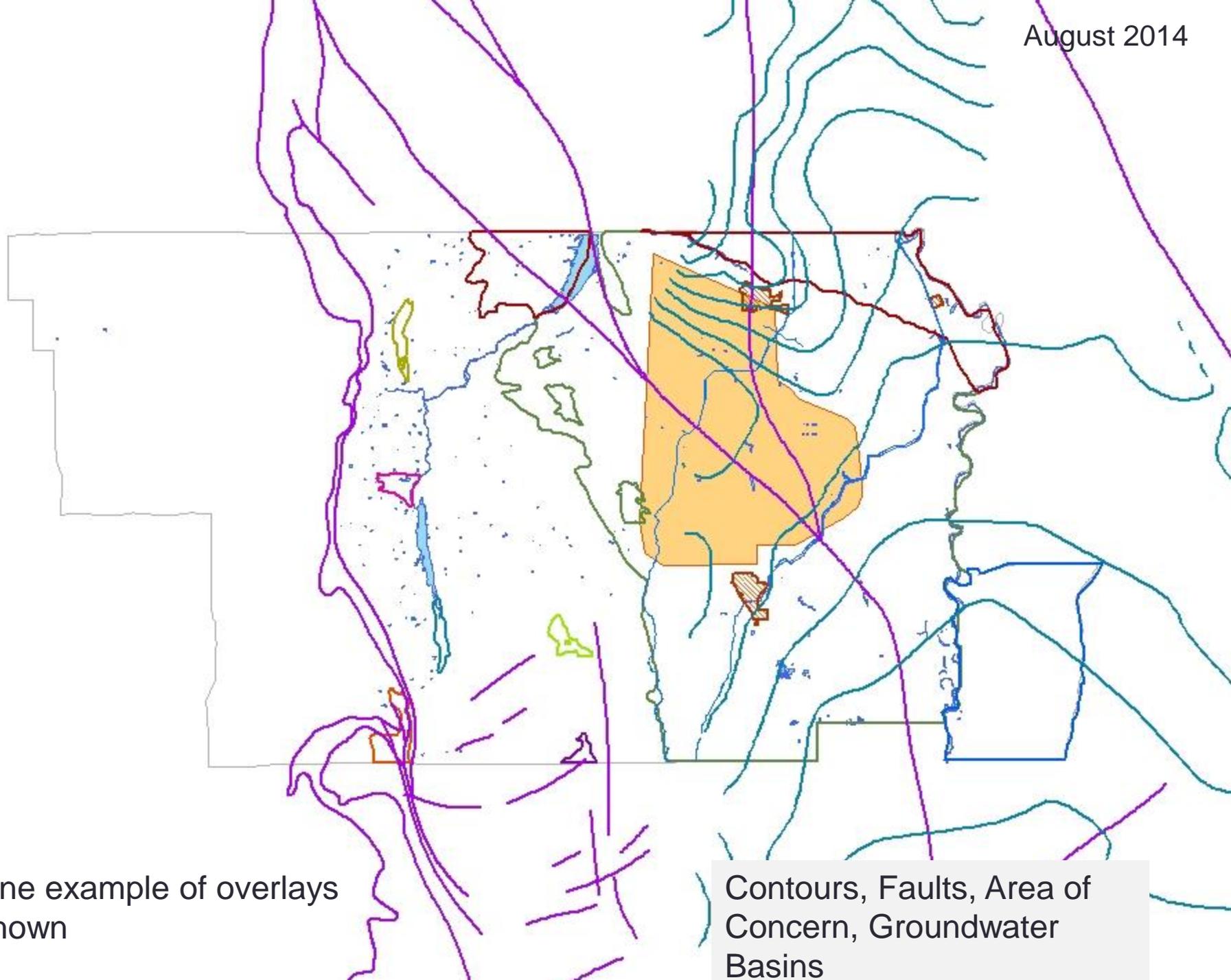


Draft "Area of Concern" and
Groundwater Basins

August 2014



Spring 2014 Contours
(DWR)



One example of overlays shown

Contours, Faults, Area of Concern, Groundwater Basins

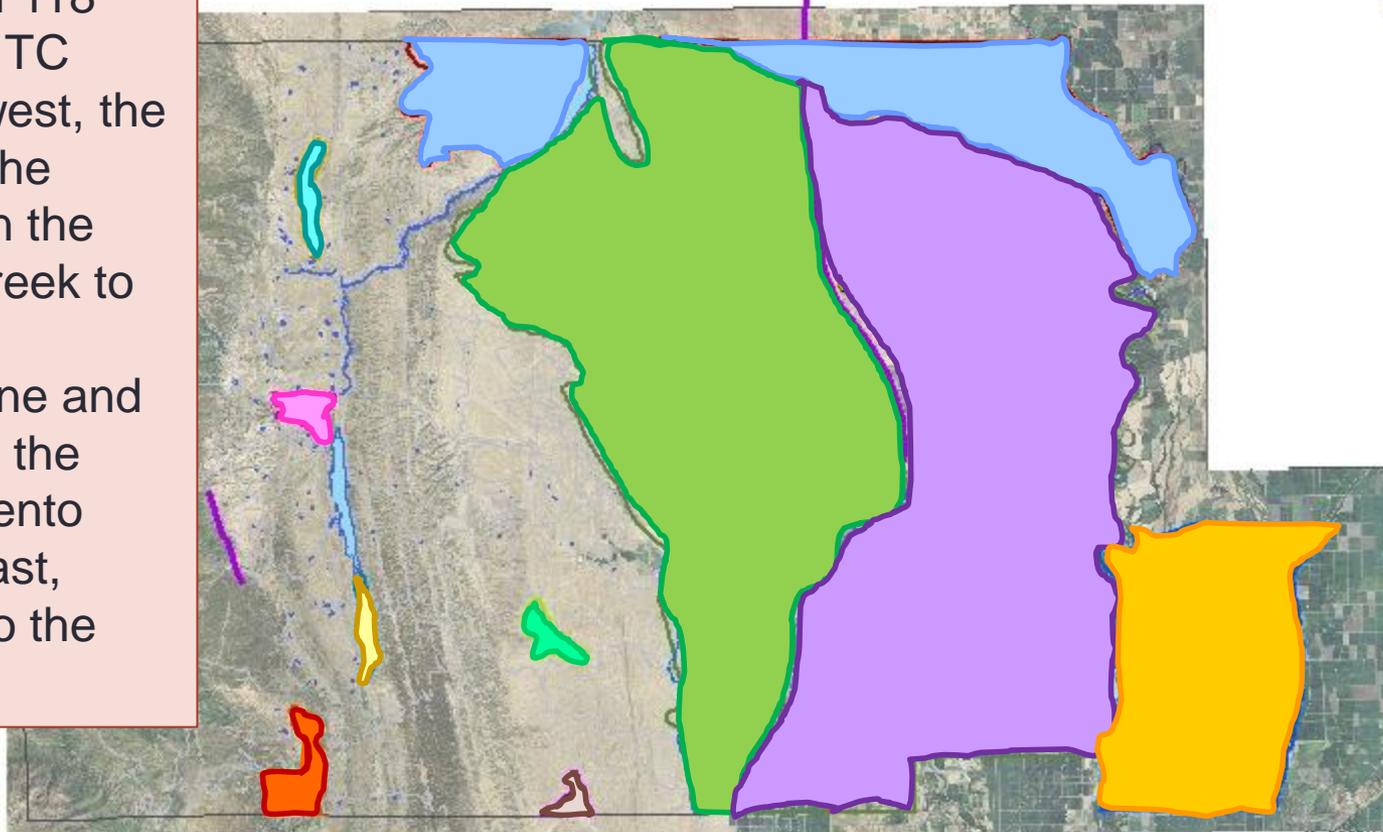
Considerations for Boundaries

- DWR's Bulletin 118 Groundwater Basins
- Sacramento River and Stony Creek
- Canals
- Fault lines
- Soils
- Land use
- Density of wells-domestic/ag
- Watersheds
- Potential groundwater sustainability legislation

Considerations for Boundaries

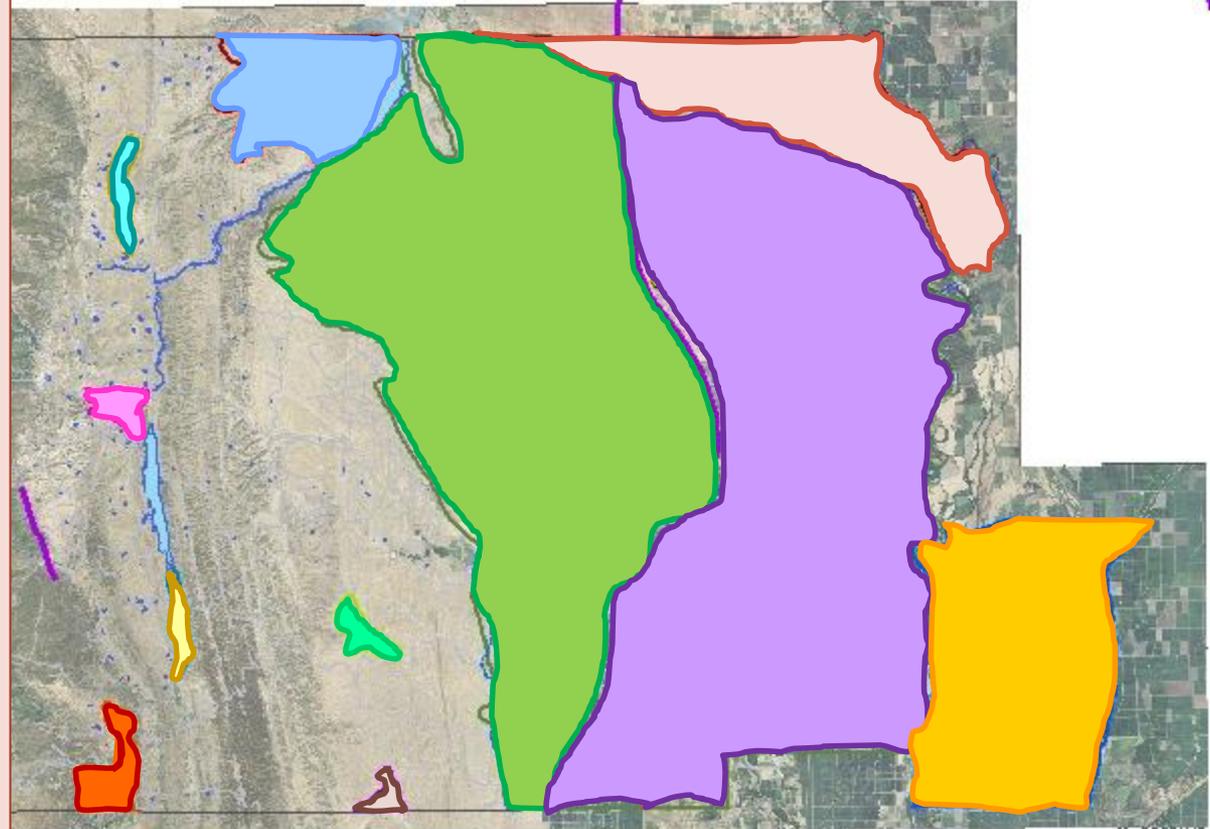
- Separate management areas for each foothill basins identified in Bulletin 118 (same in all recommendations).
- Corning Basin may remain the same management area (as identified in Bulletin 118) or divided into east and west portions due to differences in well density, land use, soils, watersheds, and location.
- West Butte Basin identified in Bulletin 118 (east of Sacramento River) should be a separate management area (same in all recommendations).
- The Colusa Basin as identified in Bulletin 118 should be sub-divided.
- Additional management area for non-alluvial basins (the rest of the County).

- Blue-Corning Basin as one basin using Bulletin 118 boundary
- Green-Bulletin 118 boundary and TC canal on the west, the fault line and the GCID canal on the east, Stony Creek to the north
- Purple-Fault line and GCID canal to the west, Sacramento River to the east, Stony Creek to the north



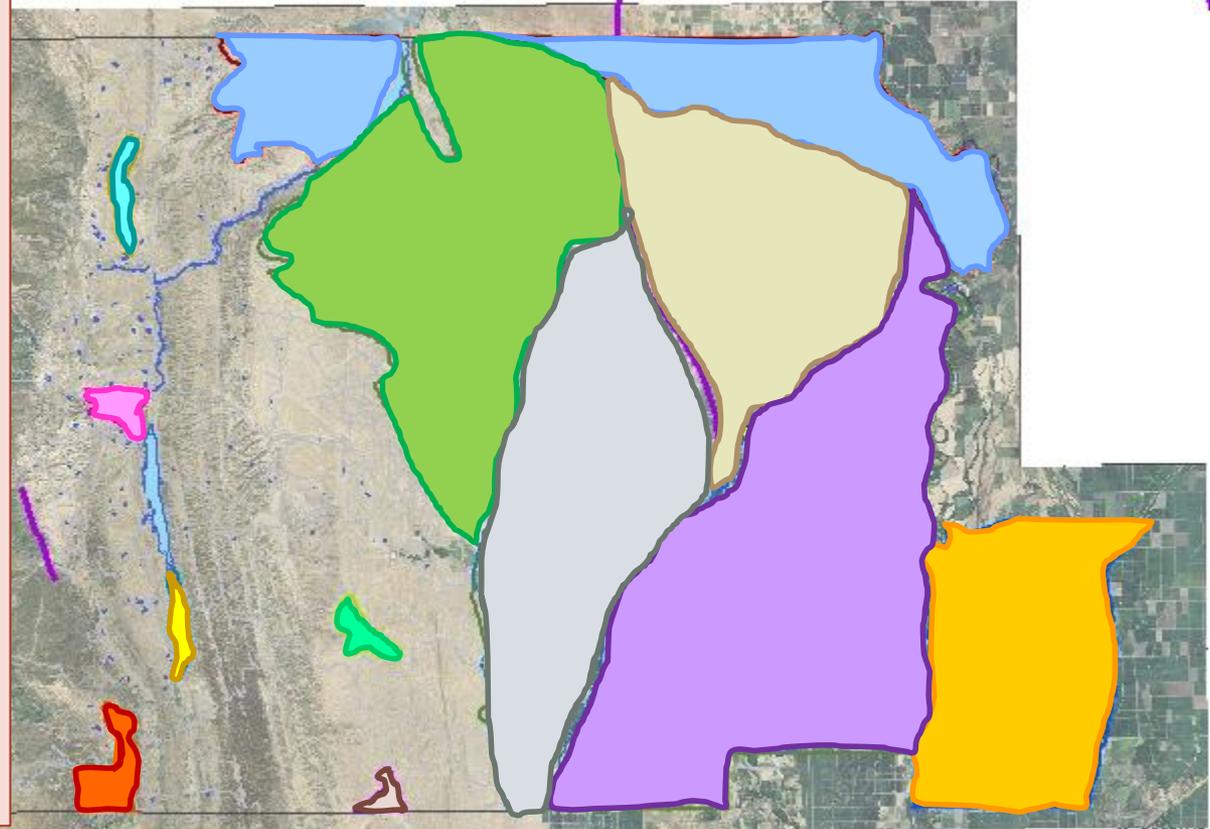
Recommendation 1

- Blue-West Corning Basin using Bulletin 118 and County line as boundaries
- Peach-East Corning Basin using Bulletin 118 and County line as boundaries
- Green-Bulletin 118 boundary and TC canal on the west, the fault line and the GCID canal on the east, Stony Creek to the north
- Purple-Fault line and GCID canal to the west, Sacramento River to the east, Stony Creek to the north



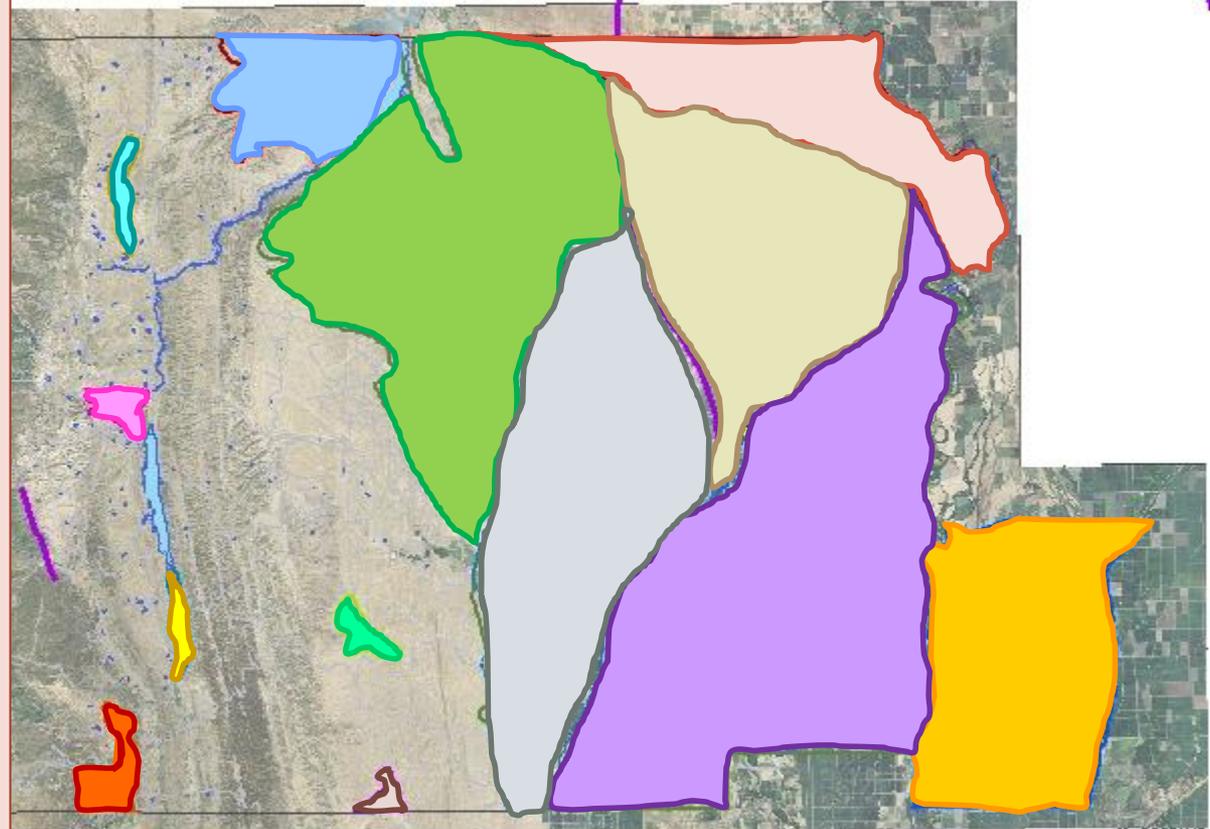
Recommendation 2

- Blue-Corning basin as one basin using Bulletin 118 boundary
- Green-Bulletin 118 boundary on the west, the fault line and the TC Canal to the east, and Stony Creek to the north
- Grey-Fault line and GCID canal to the east, TC canal and Bulletin 118 boundary to the west
- Tan-Stony Creek to the north, fault line to the west, and GCID canal to the east
- Purple-GCID canal to the west, Sacramento River to the east, Stony Creek to the north

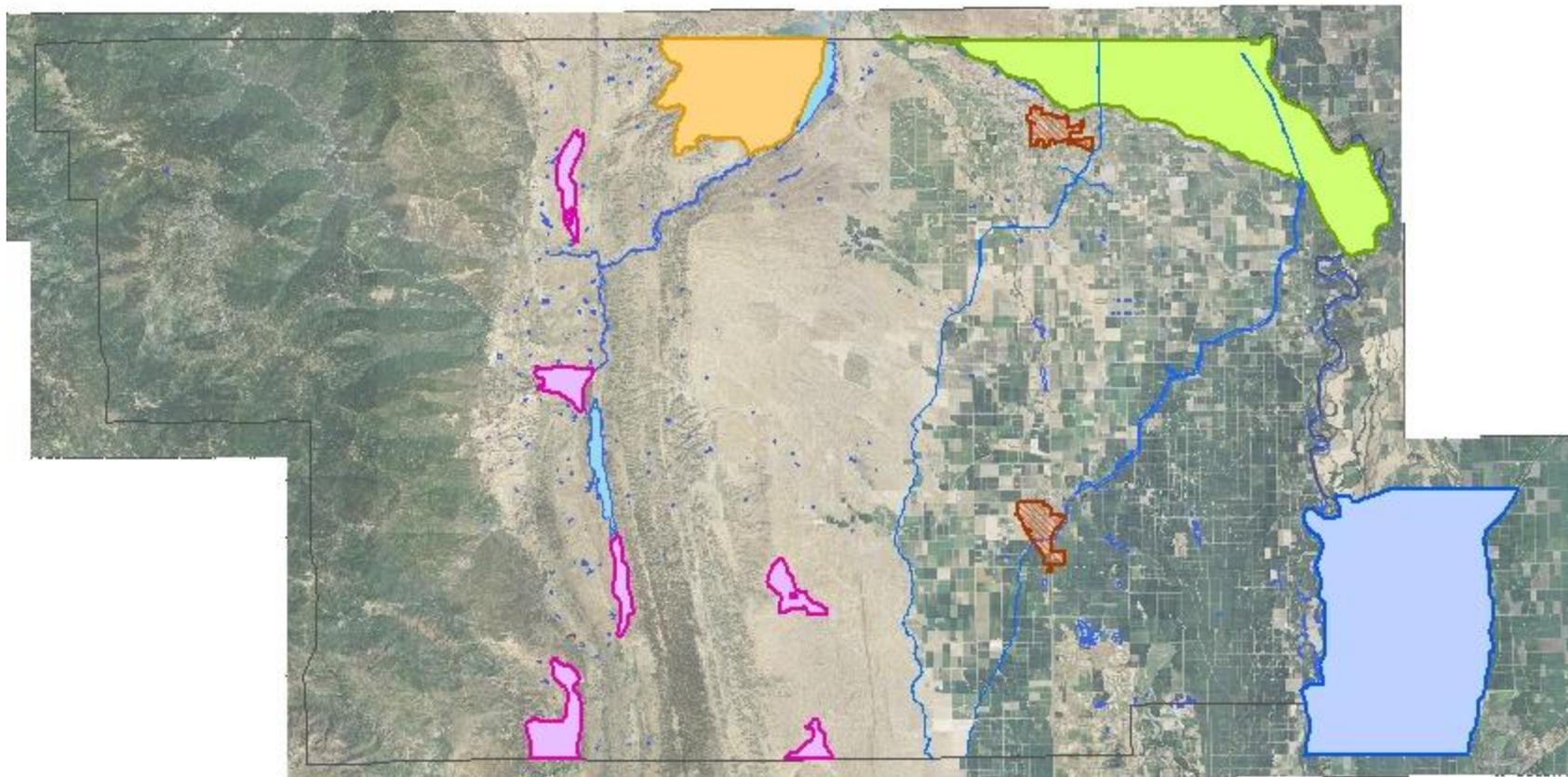


Recommendation 3

- Blue-West Corning Basin using Bulletin 118 and County line as boundaries
- Peach-East Corning Basin using Bulletin 118 and County line as boundaries
- Green-Bulletin 118 boundary on the west, the fault line and the TC Canal to the east, and Stony Creek to the north
- Grey-Fault line and GCID canal to the east, TC canal and Bulletin 118 boundary to the west
- Tan-Stony Creek to the north, fault line to the west, and GCID canal to the east
- Purple-GCID canal to the west, Sacramento River to the east, Stony Creek to the north



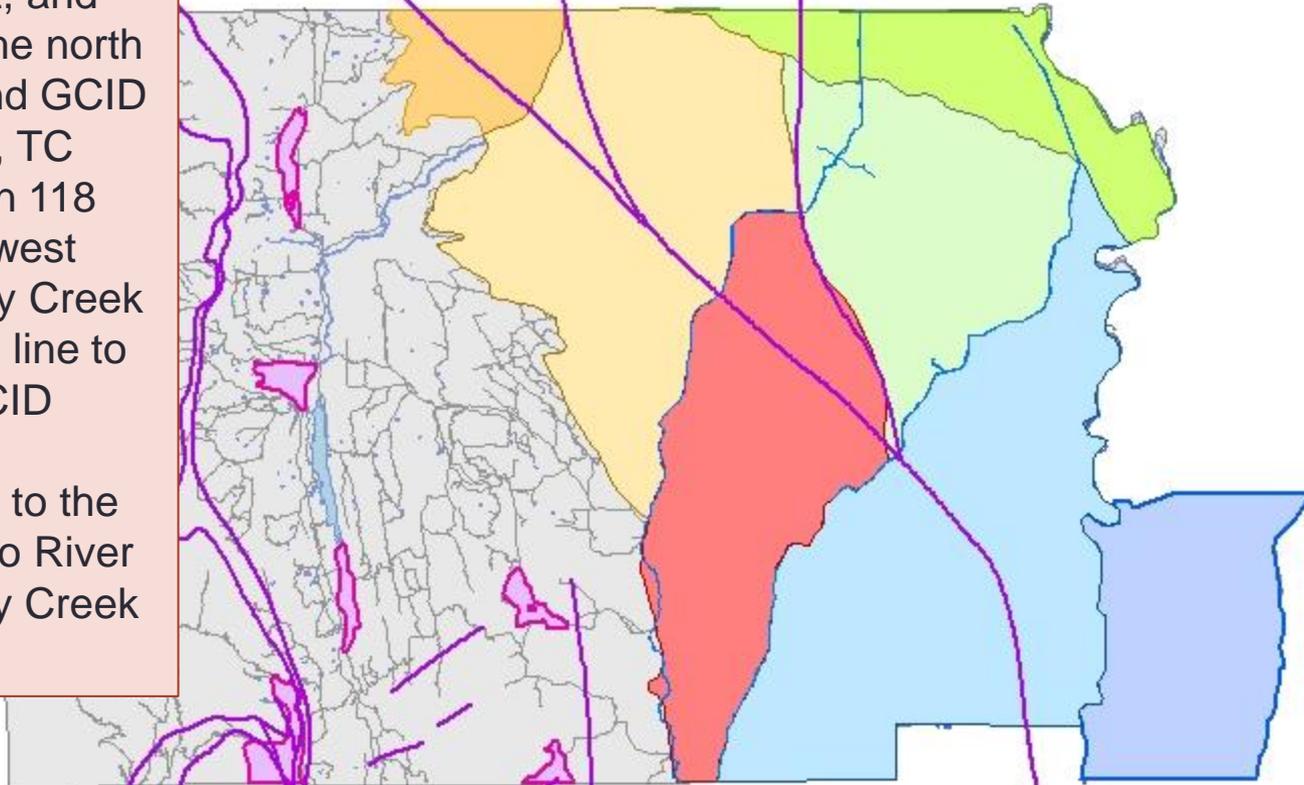
Recommendation 4



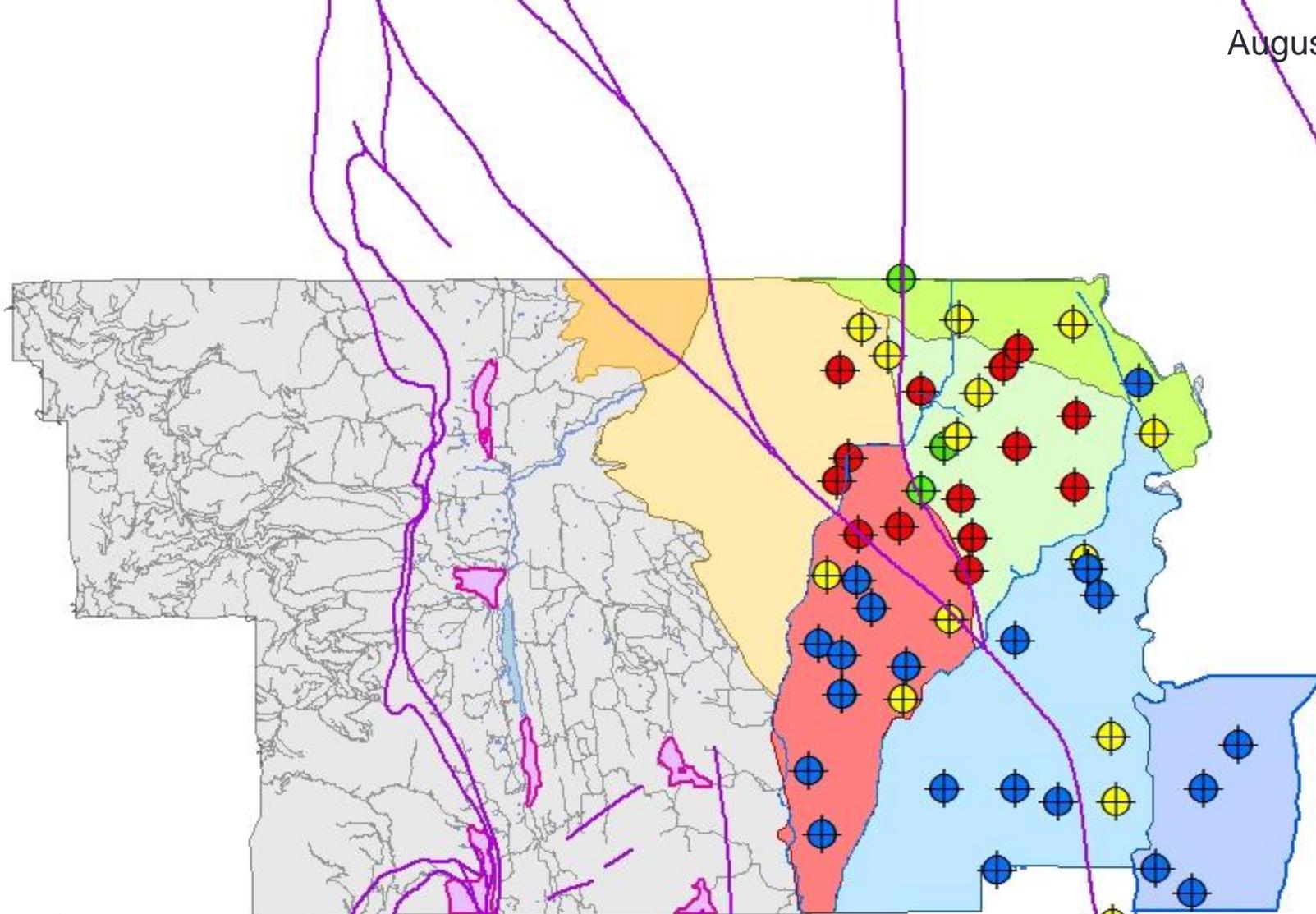
Agreed upon portions of Recommendation 4 (from July TAC)

Colusa Basin Divisions:

- Yellow-Bulletin 118 boundary on the west, the fault line and the TC Canal to the east, and Stony Creek to the north
- Red-Fault line and GCID canal to the east, TC canal and Bulletin 118 boundary to the west
- Light green-Stony Creek to the north, fault line to the west, and GCID canal to the east
- Blue-GCID canal to the west, Sacramento River to the east, Stony Creek to the north



Recommendation 4



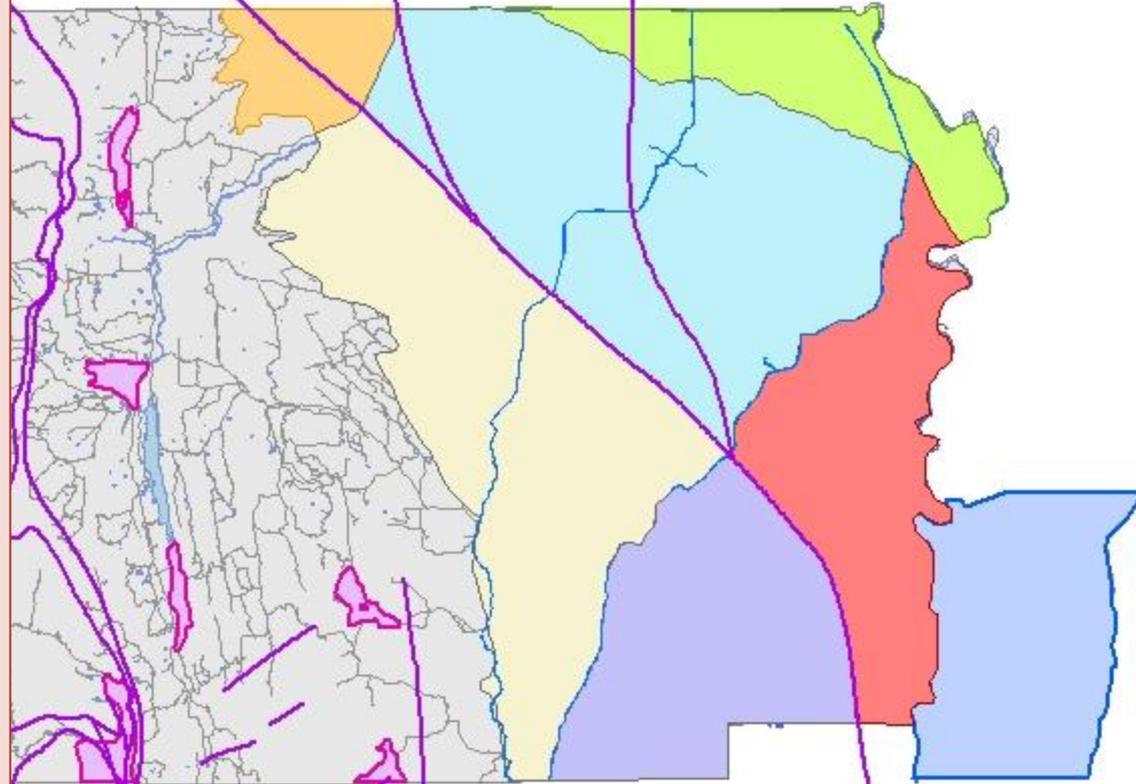
Legend:

- Discontinued
- Stage 1 or 2 Alert
- Stage 3 Alert
- No Stage Alert

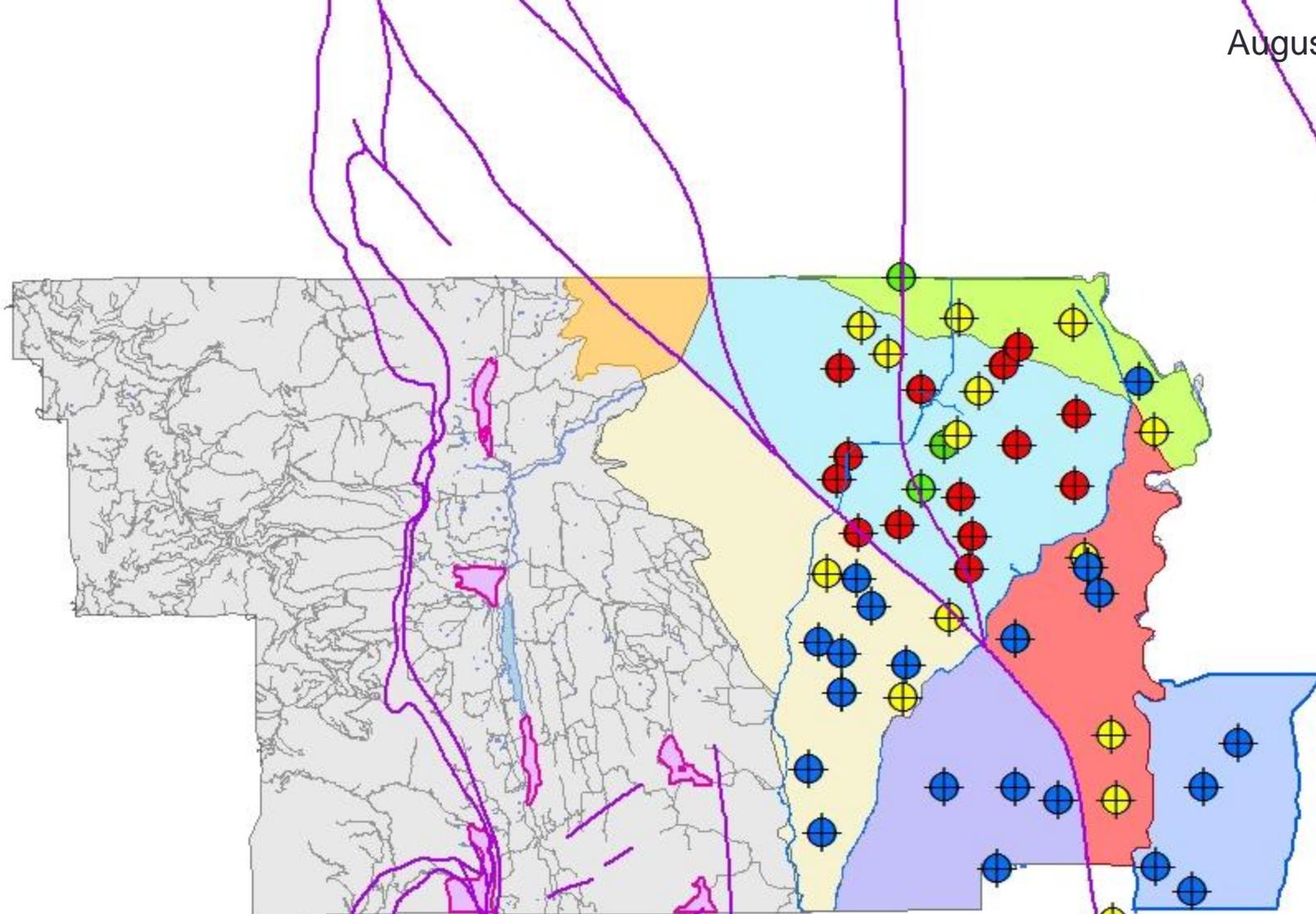
Recommendation 4 and
spring 2014 alert levels

Colusa Basin Divisions:

- Yellow-Bulletin 118 boundary on the west, the fault line to the north, and the GCID Canal to the east
- Blue-Fault line to the south, Stony Creek to the north, and GCID canal to the east, and Bulletin 118 boundary to the west
- Red-Stony Creek to the north, GCID canal and fault line to the west, and Sacramento River to the east
- Purple-GCID canal to the west and the fault line to the east



Recommendation 5



Legend:

- Discontinued
- Stage 1 or 2 Alert
- Stage 3 Alert
- No Stage Alert

Recommendation 5 and
spring 2014 alert levels

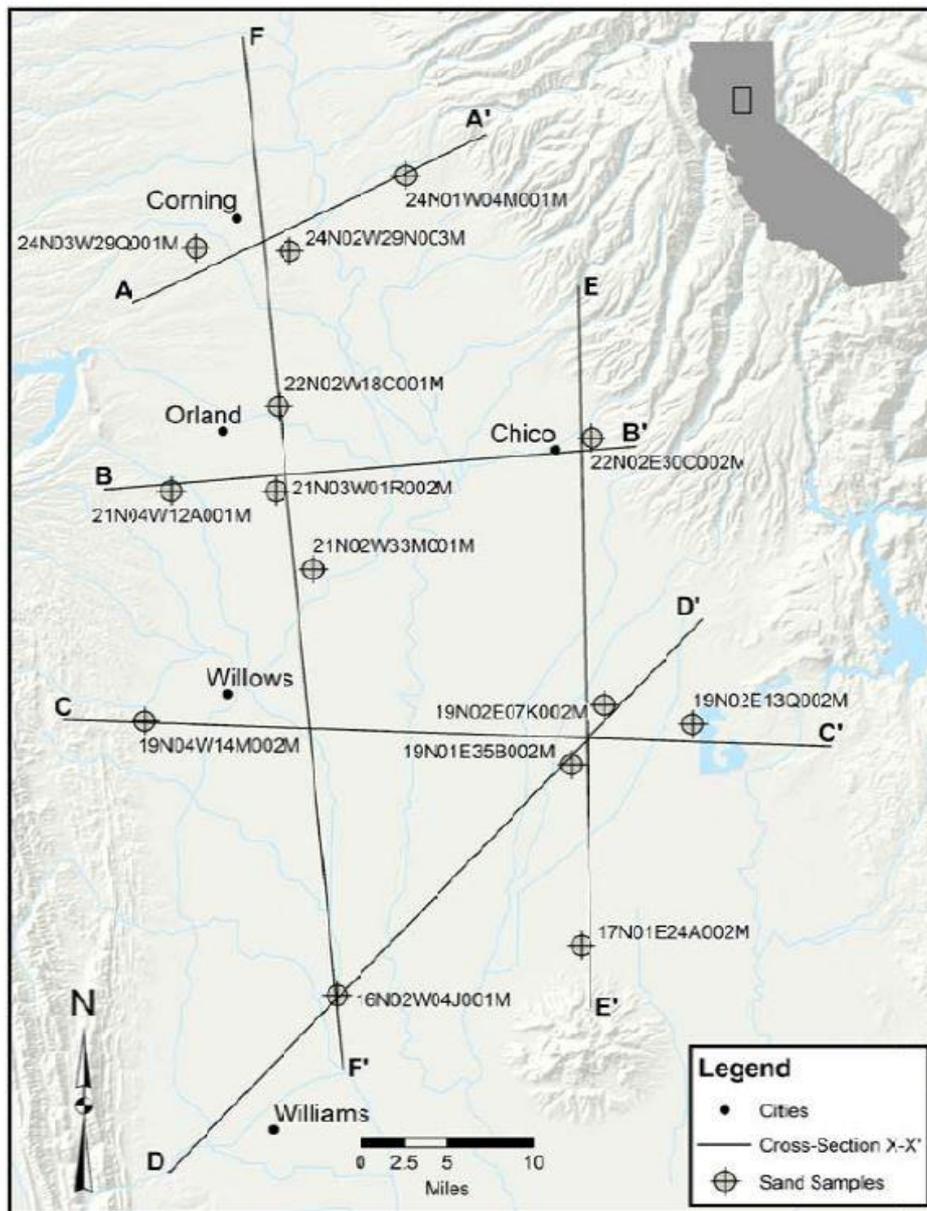
Next TAC meeting- Boundary considerations

- Review previous boundary recommendations
- Consider 3 additional recommendations based on comments from the TAC
- Finalize a boundary recommendation to bring to the WAC

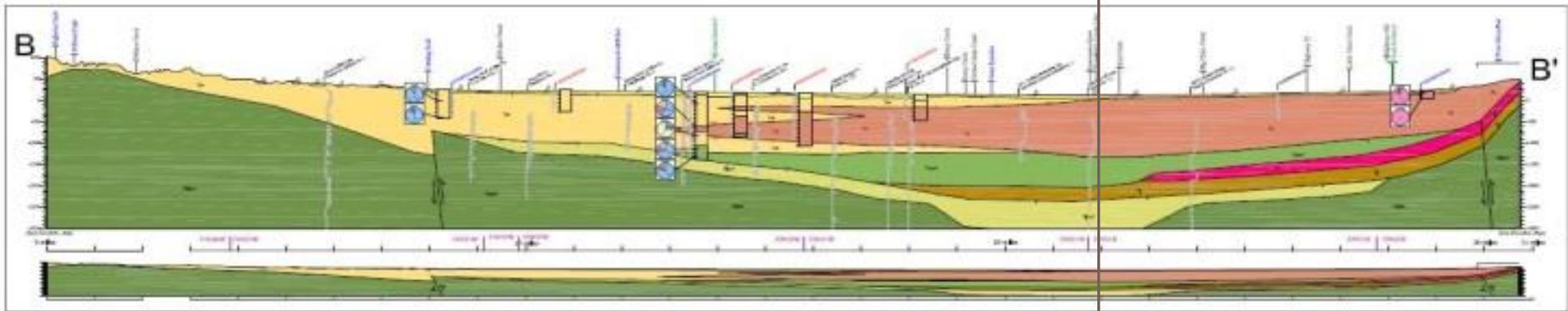
CROSS SECTIONS

Provided by Department of Water Resources, Northern
Region Office

LOCATION MAP



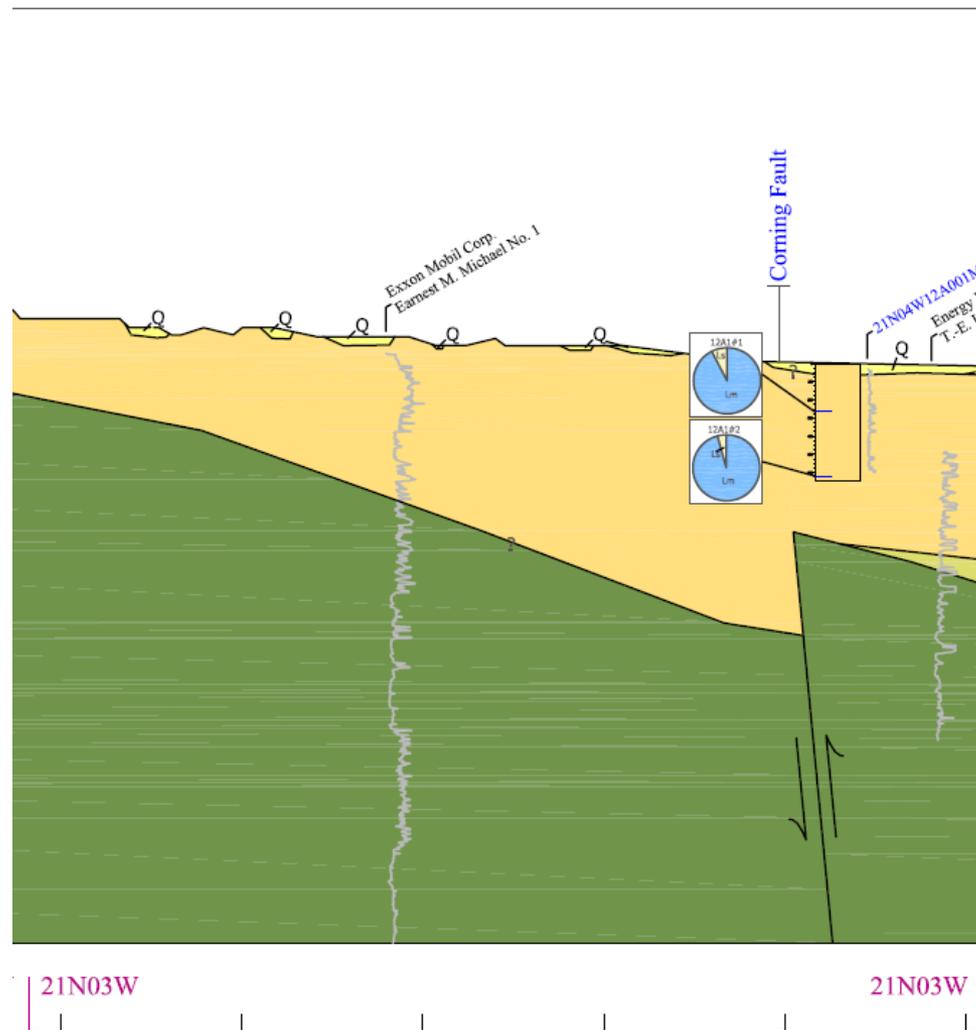
Glenn/Butte County Line

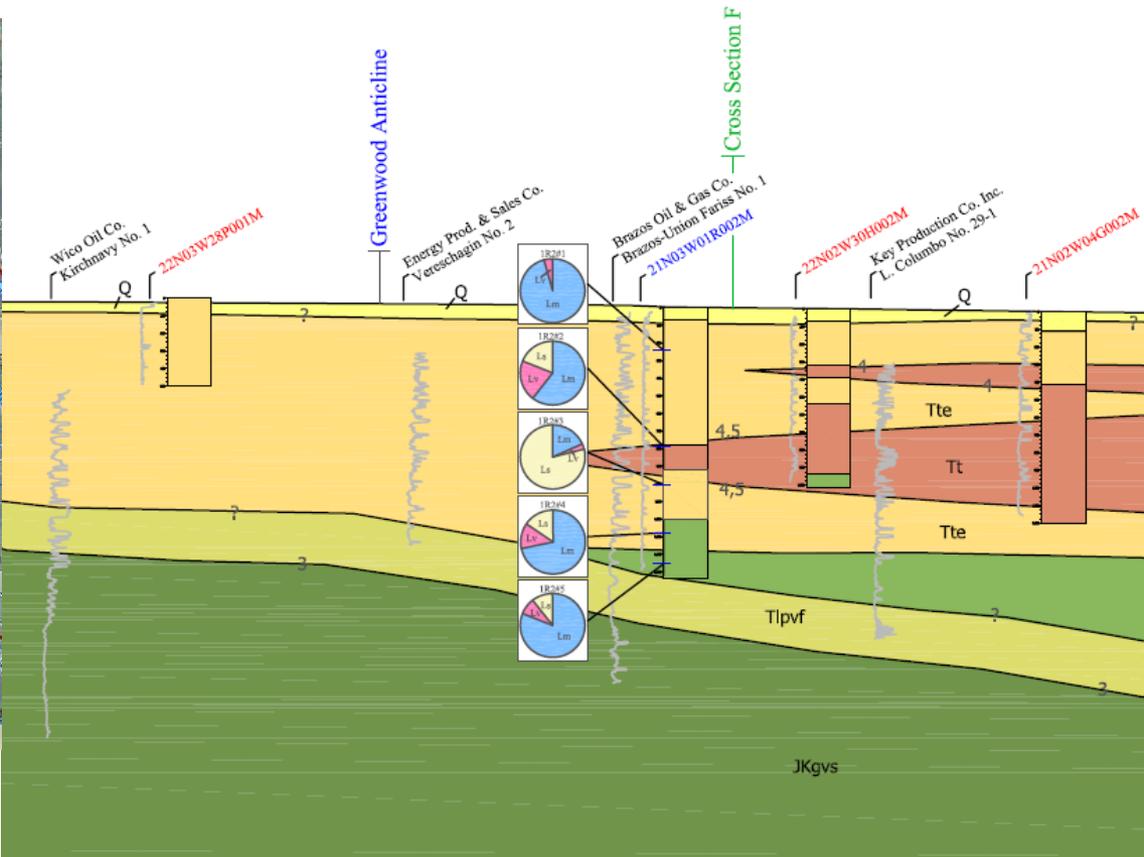


DESCRIPTION OF MAP UNITS

August 2014

	Q	Includes the following formations:
	Qa	Alluvium (Holocene)-Includes surficial alluvium and stream channel deposits of unweathered gravel, sand and silt; maximum thickness 80 ft. <i>(adapted from Helley & Harwood, 1985).</i>
	Qb	Basin deposits (Holocene)-Fine-grained silt and clay derived from adjacent mountain ranges; maximum thickness up to 200 ft. <i>(adapted from Helley & Harwood, 1985).</i>
	Qm	Modesto Formation (Pleistocene)-Includes upper and lower formation members. Alluvial fan and terrace deposits consisting of unconsolidated weathered and unweathered gravel, sand, silt and clay; maximum thickness approximately 200 ft. <i>(adapted from Helley & Harwood, 1985).</i>
	Qr	Riverbank Formation (Pleistocene)-Includes upper and lower formation members. Alluvial fan and terrace deposits consisting of unconsolidated to semi-consolidated gravel, sand, and silt; maximum thickness approximately 200 ft. <i>(adapted from Helley & Harwood, 1985).</i>
	Qrb	Red Bluff Formation
	Qtm	Tuff Breccia (Plio-Pleistocene)-Tuff breccia forming outer ring surrounding the Sutter Buttes <i>(adapted from Helley & Harwood, 1985).</i>
ozoic	Qta	Volcanic Andesites , Undifferentiated (Plio-Pleistocene)-Younger andesites forming the center of the Sutter Buttes <i>(adapted from Helley & Harwood, 1985).</i>
	Tte	Tehama Formation (Plio-Pleistocene)-Includes Red Bluff Formation. Pale green, gray and tan sandstone and siltstone with lenses of pebble and cobble conglomerate; maximum thickness 2,000 ft. <i>(adapted from Helley & Harwood, 1985).</i>
	Tt	Tuscan Formation (Plio-Pleistocene)-Interbedded lahars, volcanic conglomerate, volcanic sandstone, siltstone, and pumiceous tuff <i>(adapted from Helley & Harwood, 1985).</i> Includes the following unit divisions:
	Ttd	Tuscan Unit D (Plio-Pleistocene)-Fragmental flow deposits characterized by monolithic masses containing gray hornblende and basaltic andesites and black pumice; maximum thickness 160 ft. <i>(adapted from Helley & Harwood, 1985).</i>
	Ttc	Tuscan Unit C (Plio-Pleistocene)-Includes Red Bluff Formation. Volcanic lahars with some interbedded volcanic conglomerate and sandstone, and reworked sediments; maximum thickness 600 ft. <i>(adapted from Helley & Harwood, 1985).</i>
	Ttb	Tuscan Unit B (Pliocene)-Layered, interbedded lahars, volcanic conglomerate, volcanic sandstone and siltstone; maximum thickness 600 ft. <i>(adapted from Helley and Harwood, 1985).</i>
	Tta	Tuscan Unit A (Pliocene)-Interbedded lahars, volcanic conglomerate, volcanic sandstone, and siltstone containing metamorphic rock fragments; maximum thickness 400 ft. <i>(adapted from Helley & Harwood, 1985).</i>
	Tla	Laguna Formation (Pliocene)-Interbedded alluvial gravel, sand, and silt; maximum thickness 450 feet. <i>(adapted from Helley & Harwood, 1985; Olmsted and Davis, 1961; DWR Bulletin 118-6, 1978).</i>
	Tupvf	Upper Princeton Valley Fill (Miocene)-Non-marine sediments composed of sandstone with interbeds of mudstone, occasional conglomerate, and conglomerate sandstone; maximum thickness 1,400 ft. <i>(adapted from Redwine, 1972).</i>
	Tl	Lovejoy Basalt (early Miocene)-Black, dense, hard microcrystalline basalt; maximum thickness 65 ft. <i>(adapted from Helley & Harwood, 1985).</i>
ozoic	Ti	Ione Formation (Eocene)-Marine to non-marine deltaic sediments, light colored, commonly white conglomerate, sandstone and siltstone, soft and easily eroded; maximum thickness 650 ft. <i>(adapted from DWR Bulletin 118-6, 1978; Creely, 1965).</i>
	Tlvpvf	Lower Princeton Valley Fill (Eocene)-Includes Capay Formation. Marine sandstone, conglomerate, and interbedded silty shale; maximum thickness 2,400 ft. <i>(adapted from Redwine, 1972)</i>
	JKgvs	Great Valley Sequence (Late Jurassic to Upper Cretaceous)-Marine clastic sedimentary rock consisting of siltstone, shale, sandstone, and conglomerate; maximum thickness 15,000 ft.
	pKmi	Metamorphic and Igneous Rocks (pre-Cretaceous)-Undivided. Slate, quartzite, metaconglomerate, marble, metamorphic rocks, serpentinite, metagabbro, diorite, and monzonite; maximum thickness unknown. <i>(adapted from Helley & Harwood, 1985).</i>





22N02W | 22N02W | 22N01

Next TAC meeting- DWR cross sections

- Refine the B-B' Cross section previously reviewed
- Also look at C-C' and D-D'

STAGE ALERT

Definitions, Actions, Enforcement

From Exhibit A of Ordinance 1237 (County Code 20.03)

Stage Alert Definitions

- How many stage alert levels are necessary? Currently 3
- Period of Record: Entire record of well or specific timeframe (1976-2014)
- Season: Spring or Fall, Both
- Measurements: Average or Low
- Determination: 1 standard deviation below the average of spring measurements (stage 1), or 2 standard deviations below the average of spring measurements (stage 2 & 3)

Stage Alert Actions (Compliance)

- Stage 1: **Informational**- report WAC and notify the public
- Stage 2: **Informational**-report to WAC and public;
Investigational- WAC direct TAC to investigate, determine possible cause, recommend how to address. TAC present to WAC in a timely manner.
- Stage 3: **Informational**-report to WAC and public;
Investigational-WAC direct TAC to investigate, determine possible cause, recommend how to address. TAC present to WAC in a timely manner; **Actionable**-WAC to work with local and adjoining BMO areas, implement adaptive management activities necessary to correct issue.

Adaptive Management

- Adaptive Management shall include, but not limited to: voluntary water conservation measures, redistribution or reduction of groundwater extraction, and/or other measures(s) referred to or identified in Ordinance 1115 as recommended by the WAC and approved by the BOS.

When to Rescind the Stage Alert

- Stage 1,2, and 3 shall be rescinded when measured groundwater surface elevations return to an elevation above 1 standard deviation for the corresponding BMO key well

Enforcement Actions

- Adaptive management-should it be more specific?

Next TAC meeting- Stage Alert discussions

- Hold discussion on current definitions, actions, and compliance
- Hold discussion on potential improvements

SEPTEMBER 2014



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Water & Land Management Newsletter



Allan

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UC Irrigation and Water Resources Farm Advisor
Tehama, Glenn, Colusa, and Shasta Counties

Prepared by Jody Samons
Office Manager/Ag Secretary, Glenn County

- ◇ **A BRIEF, HISTORIC LOOK AT GROUNDWATER DEVELOPMENT IN GLENN COUNTY**
- ◇ **UPDATE ON 2014 GROUNDWATER LEVELS IN GLENN COUNTY**
- ◇ **SUGGESTED READING ABOUT GROUNDWATER MANAGEMENT IN CALIFORNIA**

Acknowledgements: Contents in this newsletter were made possible by the California Department of Water Resources, Northern Region Office in Red Bluff, CA and the Glenn County Department of Agriculture. A special thanks is extended to Kelly Staton, Roy Hull, and Bill Ehorn who are staff in the Groundwater section of DWR, Northern Region and to Lisa Hunter, Water Resources Coordinator, and Brian Taylor in the Glenn County Department of Agriculture.

A BRIEF, HISTORIC LOOK AT GROUNDWATER DEVELOPMENT IN GLENN COUNTY

Figure 1 shows that 56,833 wells have been developed to supply groundwater in the five northern Sacramento Valley Counties of Shasta, Tehama, Glenn, Butte, and Colusa Counties. This estimate is based upon well completion reports (WCR) submitted to the California Department of Water Resources, Northern Region headquartered in Red Bluff, CA.

The number of WCRs submitted usually corresponds with the number of wells that have been drilled (with the exception of instances such as well destruction, which also requires a WCR to be submitted). Therefore, the number of water wells that have been drilled in an area over time can be an indicator of groundwater development.

Well completion reports were not required to be submitted in the early part of the 20th century, hence the low numbers from 1900 to about 1947. As might be expected, the data show that the highest number of wells drilled on an annual basis generally correspond with below normal, dry, or critically dry precipitation years. This reflects that when surface water is not available or reliable that the reliance on groundwater increases. During low precipitation years the number of wells drilled annually in the five county area generally ranged between 1000 and 1700 wells. In 1977, well development was about 2200 wells in the five county area.

Table 1 provides well development data specifically for Glenn County through 2013. The total number of wells developed in Glenn County according to WCR's is 6,017 wells. Privately owned domestic wells account for almost 48 percent of the total number of wells (2,869 wells) constructed in Glenn County. Irrigation wells tally for just over 28 percent of the total

Figure 1. Cumulative Number of Wells drilled in the northern Sacramento Valley Counties, 1900 through 2013 (Source: California Department of Water Resources (DWR), Northern Region).

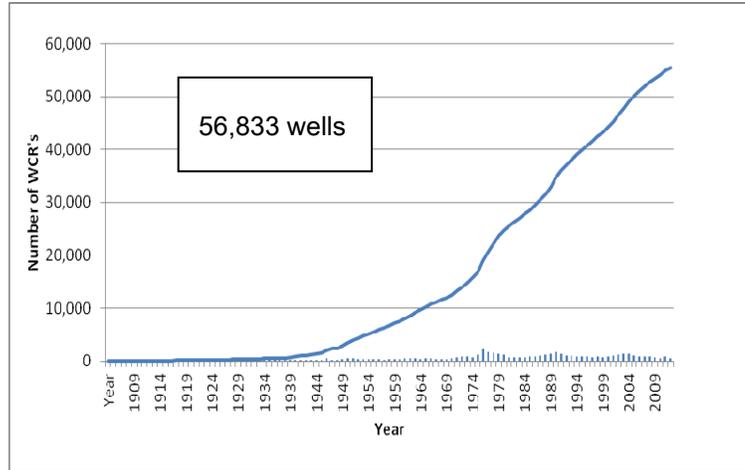


Table 1. Well Completion Report Data for Glenn County through 2013 (Source: California Department of Water Resources, Northern Region)

Well Use	Glenn Co.	Percentage
Domestic	2,869	47.7
Irrigation	1,689	28.1
Municipal & Industrial	82	1.3
*Other	1,377	22.9
Total	6,017	100

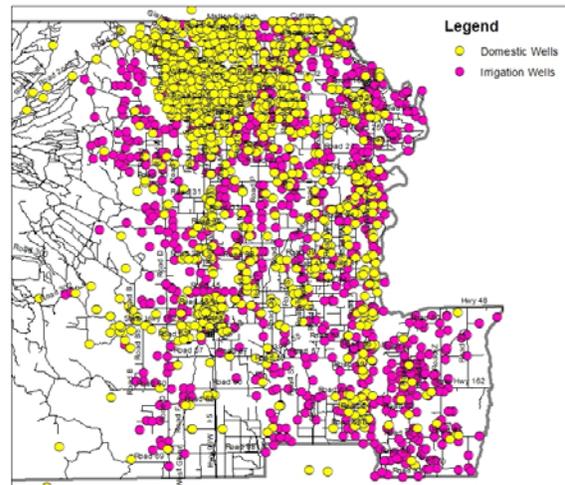
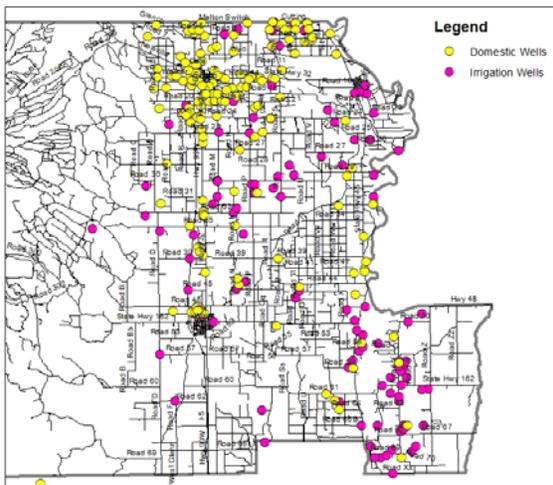
* Other well uses generally indicates wells that do not produce water or produce low volumes of water. Examples would include dedicated monitoring wells and wells for livestock watering. However, in some cases, the use may have not been specified on the WCR and they may be either domestic or irrigation wells.

(1,689 wells) and municipal and industrial wells account for only 1.3 percent of the total (82 wells). A fourth category of well use, "Other" accounts for almost 23 percent (1,377) of the total wells developed in Glenn County. Many of these wells do not produce water or produce low volumes of water. An example would be 83 multi-completion, dedicated groundwater monitoring wells that are overseen by the Glenn County Department of Agriculture and local irrigation districts. Another example would be small wells that provide livestock water. In addition, some of the Well Completion Reports may not have specified the use and they are likely to be either domestic or irrigation wells.

Figures 2 and 3 compares the extent of groundwater development on the valley floor of Glenn County in 1970-74 to the extent of groundwater development in 2010.

Figure 2. Illustration of water well development in Glenn County, 1970-74. (Source: Glenn County Department of Agriculture).

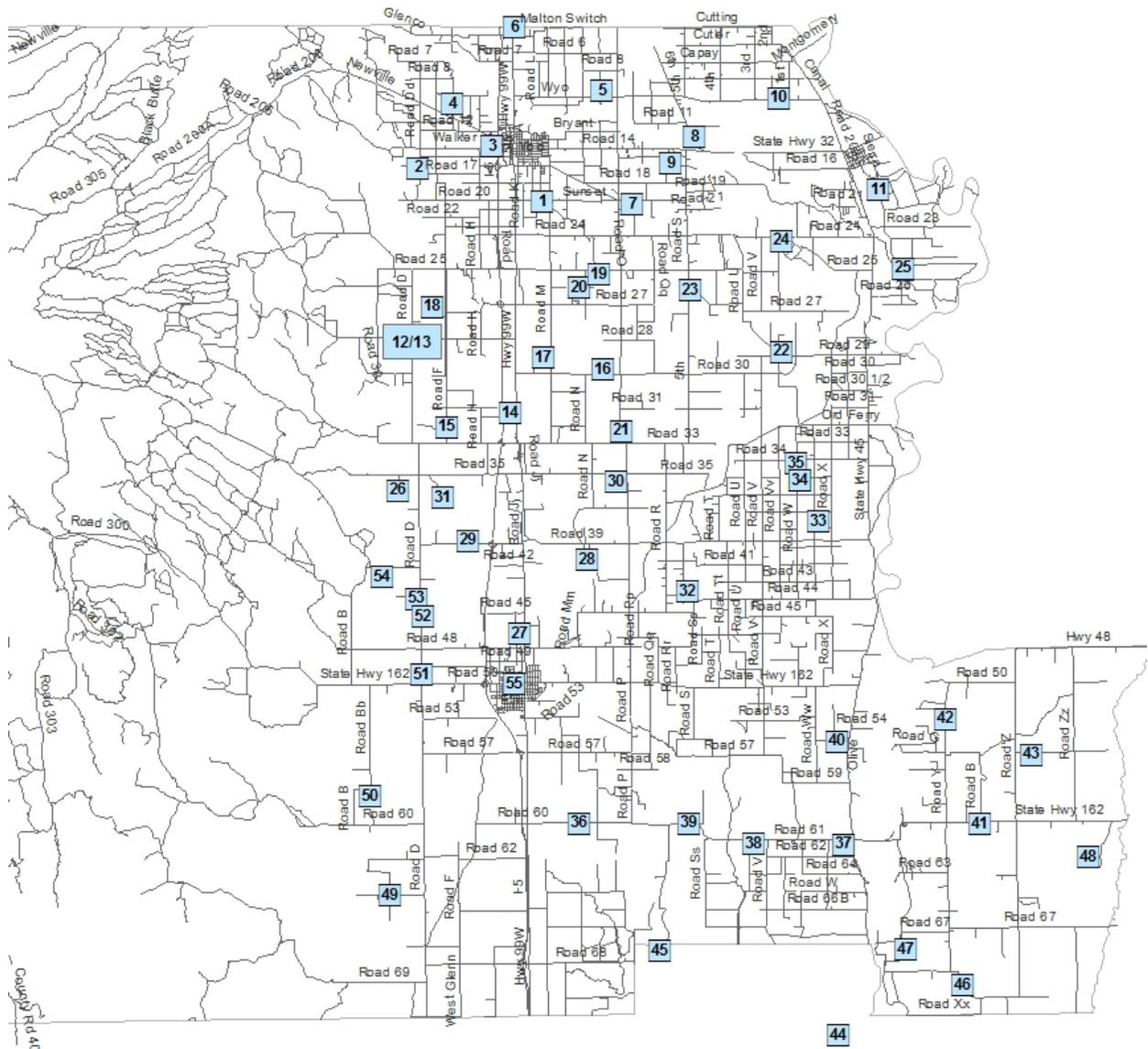
Figure 3. Illustration of water well development in Glenn County, 2010. (Source: Glenn County Department of Agriculture).



UPDATE ON 2014 GROUNDWATER LEVELS IN GLENN COUNTY

Glenn County Code 20.03 and Ordinance 1237, "Groundwater Coordinated Resource Management Plan", includes an element of groundwater monitoring in Glenn County. Figure 4 below shows a map of Glenn County and illustrates the location of 55 key wells that are used to routinely monitor groundwater levels. The key wells are numbered consecutively on the map and correspond with the map symbol numbers and descriptions listed in Table 2. Table 2 provides the Spring groundwater levels from 2012 through 2014 for each key well. The groundwater levels are expressed in feet below ground surface. Spring groundwater levels dating back to 1977, another period of severe drought, are also given for comparison for those key wells where records were available. The data indicate a wide range in groundwater levels. Levels that are shaded denote levels deeper than those recorded in 1977.

Figure 4. Map showing location of 55 key wells for monitoring groundwater levels on the valley floor of Glenn County
 (Source: Glenn County Department of Agriculture).



Groundwater levels are measured in each key well during the spring of each year (usually late March) and then again in the fall of each year (usually mid October). Static (non-pumping) groundwater levels measured in the spring and fall, before and after the most intensive summer pumping season, are better indicators of the groundwater conditions in Glenn County. Static levels versus actual pumping levels during the summer season, provide more accurate tracking data, because actual pumping levels are site-specific and can vary significantly depending upon how the well is constructed, whether water is pumped from it regularly, and whether other nearby wells are pumping at the same time. Groundwater levels are generally deeper in the fall following the summer season of highest water demand. Levels recover, to some degree, each spring after the fall and winter season ends. The extent of spring recovery is dependent on rainfall and snowpack totals.

Table 2. Summary of Spring Groundwater Levels from 2012 - 14 measured in 55 key monitoring wells in Glenn County (Source: California Department of Water Resources, Water Data Library and Glenn County Department of Agriculture).

Map Symbol #	Well ID Number	General Location	1977 Level	2012 Level	2013 Level	2014 Level
			----(feet below ground surface)----			
1	22N03W34A01M	Rd 20 & Rd M	21.8	17.7	14.6	22.5
2	22N03W30C01M	Between Rds 15 & 17 & Rd DD	103.0	109.3	112.7	118.2
3	22N03W21F02M	Rd 14 & Rd HH	29.5	26.1	21.2	29.1
4	22N03W17E01M	Rd 200 & Cedar Ave	17.3	20.1	15.3	20.2
5	22N03W12Q03M	Rd 9 & Rd O	39.9	35.2	36.1	42.7
6	22N03W03D01M	Rd 3 & Hwy 99W	78.9	77.1	79.7	NM
7	22N02W31C01M	Rd 20 & Rd P	26.0	23.7	22.0	29.7
8	22N02W21D01M	6th Ave & Hwy 32	33.1	25.8	26.0	41.5
9	22N02W20Q01M	Rd 16 & Rd XX	21.4	16.7	15.2	26.4
10	22N02W11Q01M	Rd 9 & Between 1st & 2nd Aves	25.9	25.5	29.0	30.7
11	22N01W29K01M	Rd 206 & Hamilton City	19.4	17.5	17.9	20.1
12	21N04W24A03M	Rd 28 & Rd D	NA	124.7	134.4	143.3
13	21N04W24A02M	Rd 28 & Rd D	113.5	NM	NM	NM
14	21N03W33A04M	Hwy 99W & Rd 31	55.0	55.6	68.4	68.5
15	21N03W31H01M	Rd 31 & Rd F	81.9	73.9	81.8	88.5
16	21N03W24P01M	Rd 30 & Rd P	56.1	46.2	50.9	58.4
17	21N03W22H01M	Rd 30 & Rd M	67.6	54.9	58.9	NM
18	21N03W18B02M	Rd 28 & Rd F	86.2	120.1	NM	140.9
19	21N03W12C02M	Rd 25 & Rd NN	42.7	34.4	33.6	40.8
20	21N03W11G01M	Rd 25 & Rd N	43.2	35.8	NM	NM
21	21N02W31M01M	Rd 33 & Rd P	NM	33.5	39.5	44.1
22	21N02W23G01M	Rd 29 & Rd V	31.0	25.9	NM	37.3
23	21N02W09M02M	Rd 25 & Rd S	45.0	37.9	40.6	50.0
24	21N02W02B02M	Rd V V & Rd 24	33.0	25.6	26.0	37.4
25	21N01W04N01M	Rd 23 & Rodgers Ranch Road	21.5	NM	20.0	22.8
26	20N04W12F02M	Rd 35 & Rd D	77.6	51.6	56.8	62.8
27	20N03W33J01M	Rd 45 & Rd J	33.4	10.1	10.4	15.4
28	20N03W23G02M	Rd 39 & Rd P	36.3	25.3	26.5	31.0
29	20N03W17P01M	Rd 39 & Rd H	57.0	19.3	31.5	22.8
30	20N03W12C01M	Rd 35 & Rd P	44.0	33.9	37.0	44.5
31	20N03W07K03M	Rd 35 & Rd D	77.4	40.3	44.4	48.7
32	20N02W29G01M	Rd 44 & Rd S	8.0	6.1	6.3	7.3
33	20N02W13G01M	Rd 37 & Rd W W	6.8	2.6	5.3	4.7
34	20N02W11A03M	Rd 35 & Rd W	NM	18.1	21.0	19.9
34	20N02W11A02M	Rd 35 & Rd W	NM	11.9	13.8	15.0
34	20N02W11A01M	Rd 35 & Rd W	NM	8.8	9.5	9.3
35	20N02W02J01M	Rd 34 & Rd W	12.6	6.6	9.9	11.5
36	19N03W26P01M	Rd 60 & Hwy 99W	4.7	0.0	0.0	1.6
37	19N02W36H01M	Rd 61 & Between Hwy 45 & Rd WW	8.6	10.5	10.4	9.6
38	19N02W34F01M	Rd U & Rd 61	7.2	3.4	4.7	3.1
39	19N02W29Q01M	Rd 60 & Rd SS	4.8	2.8	4.2	2.8
40	19N02W13J01M	Rd 56 & Between Hwy 45 & Rd WW	14.0	12.6	12.5	11.6
41	19N01W27R01M	Hwy 162 & Rd Y	15.8	12.8	11.6	11.2
42	19N01W15D01M	Rd 50 and Rd Y	15.6	11.4	NM	NM
43	19N01W13Q01M	Hwy 162 & Rd Z	NM	4.0	5.0	3.0
44	18N02W36B01M	Dodge Road & Hwy 45	11.4	5.5	12.1	13.5
45	18N02W18K01M	Norman Rd & Lambert Lane	11.1	7.4	8.0	7.1
46	18N01W22L01M	Rd 69 & Rd Y	8.7	6.3	NM	6.0
47	18N01W17G01M	Rd 67 & Levee Rd	19.8	18.4	17.7	19.1

48	18N01E05D01M	Hwy 162 & Rd Z	NM	NM	3.9	3.8
49	KWD-3	Rd 65 & D	NM	8.6	15.6	23.6
50	KWD-2	Rd 60 & Rd B	NM	8.7	10.7	14.7
51	KWD-1	Hwy 162 & Rd D	NM	9.7	12.7	16.7
52	GWD-3	Rd 45 & Rd D	NM	27.3	19.3	22.3
53	GWD-2	Rd 45 & Rd D	NM	17.8	19.8	25.8
54	GWD-1	Rd 43 & Rd D	NM	27.3	27.3	30.3
55	CALWater 002-01	Within the City of Willows	NM	20.0	14.7	19.0

Footnotes:

Highlighted measurements indicate that groundwater levels are deeper than measured in 1977 drought. NM indicates no groundwater level measurement was available.

Suggested Reading About Groundwater Management in California

1. Draft Sustainable Groundwater Management 5.22.14. The Governor's Office of Planning & Research. http://www.opr.ca.gov/docs/Draft_Groundwater_Management_Language.pdf (9 pages)
2. Recommendations for Achieving Groundwater Sustainability. April 2014. Association of California Water Agencies. http://www.acwa.com/sites/default/files/post/groundwater/2014/04/final_acwa-groundwater-sustainability-recommendations.pdf. (15 pages)
3. Recommendations for Sustainable Groundwater Management. April 2014. California Water Foundation. [http://www.californiawaterfoundation.org/uploads/1399077265-GroundwaterReport-5-2014\(00249329xA1C15\).pdf](http://www.californiawaterfoundation.org/uploads/1399077265-GroundwaterReport-5-2014(00249329xA1C15).pdf). (35 pages)
4. Sacramento Valley Groundwater Assessment. June 2014. Northern California Water Association. <http://www.norcalwater.org/res/docs/NCWA-GW-2014-web.pdf>. (Call to Action - 20 pages), (Technical Supplement - 91 pages).
5. An Evaluation of California Groundwater Management Planning. July 2014. California Water Foundation. [http://www.californiawaterfoundation.org/uploads/1405009350-GMPReport2014\(00256304xA1C15\).pdf](http://www.californiawaterfoundation.org/uploads/1405009350-GMPReport2014(00256304xA1C15).pdf). (64 pages)

Glenn County WAC/TAC Joint Meeting

October 23, 2014



Water & Land Management Newsletter



Allan

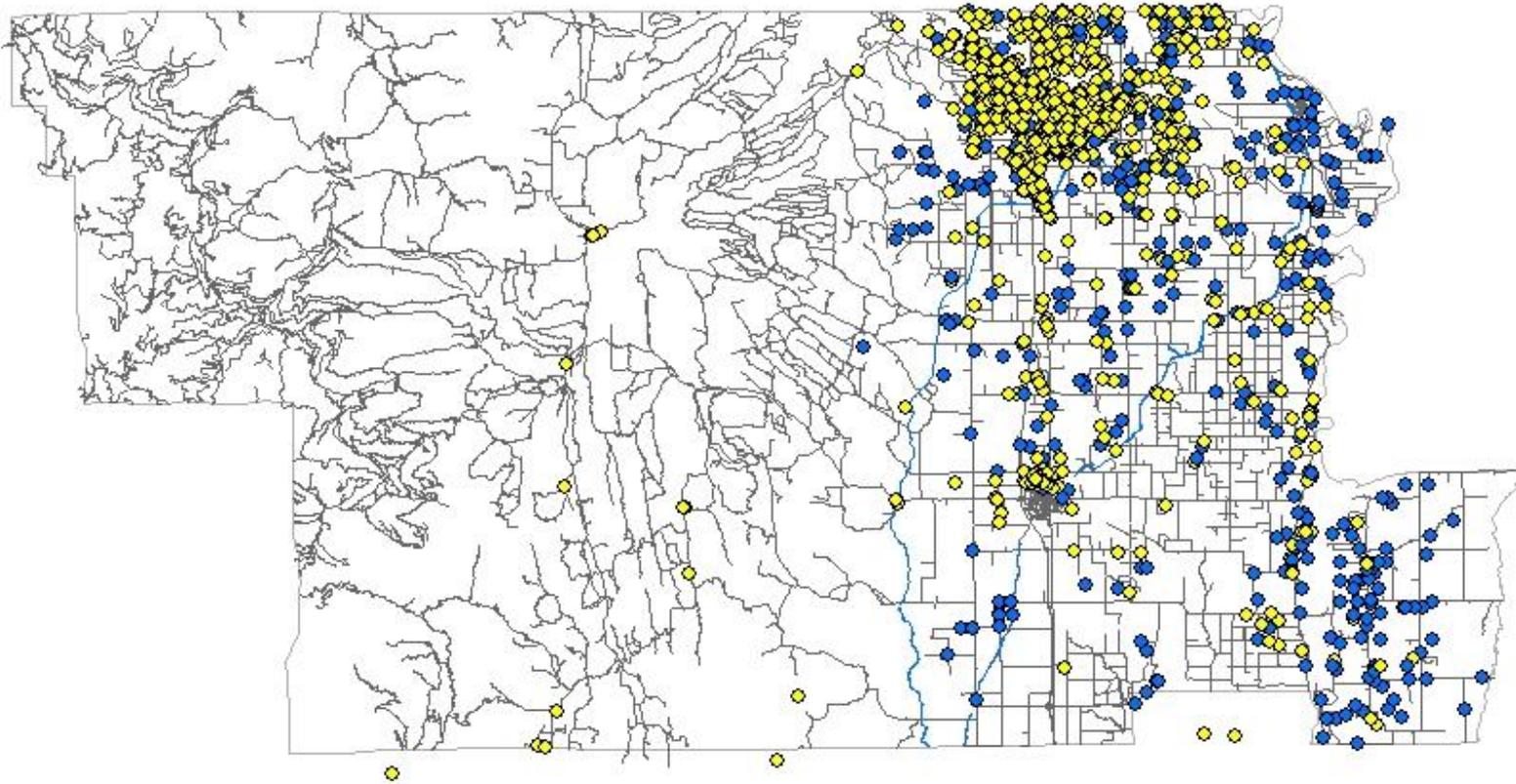
Allan E. Fulton
UC Irrigation and Water Resources Farm Advisor
Tehama, Glenn, Colusa, and Shasta Counties

Prepared by Jody Samons
Office Manager/Ag Secretary, Glenn County

- ◊ **A BRIEF, HISTORIC LOOK AT GROUNDWATER DEVELOPMENT IN GLENN COUNTY**
- ◊ **UPDATE ON 2014 GROUNDWATER LEVELS IN GLENN COUNTY**
- ◊ **SUGGESTED READING ABOUT GROUNDWATER MANAGEMENT IN CALIFORNIA**

Acknowledgements: Contents in this newsletter were made possible by the California Department of Water Resources, Northern Region Office in Red Bluff, CA and the Glenn County Department of Agriculture. A special thanks is extended to Kelly Staton, Roy Hull, and Bill Ehorn who are staff in the Groundwater section of DWR, Northern Region and to Lisa Hunter, Water Resources Coordinator, and Brian Taylor in the Glenn County Department of Agriculture.

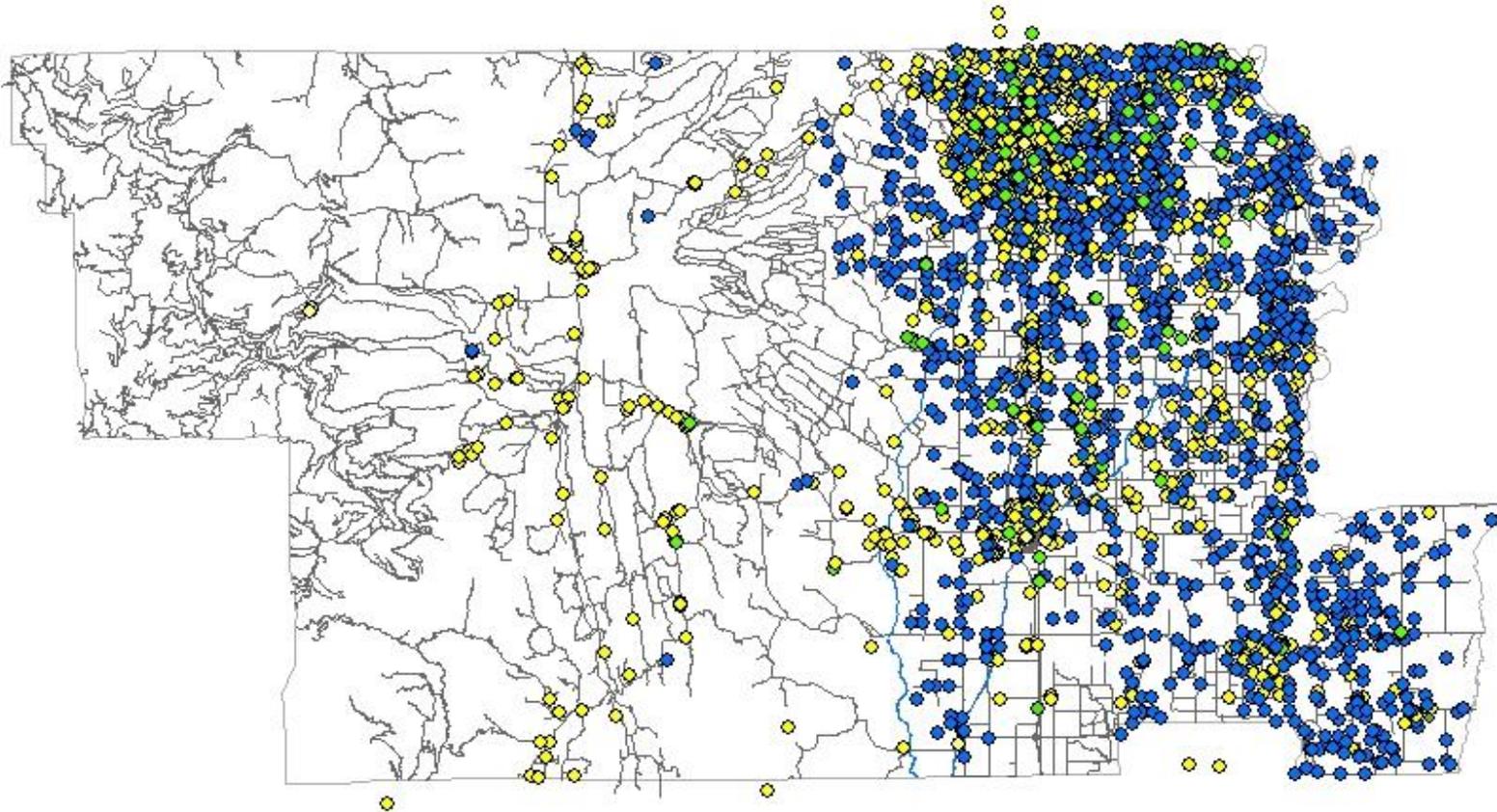
Wells drilled 1970-1979



Legend:

- Other
- Irrigation
- Domestic/Public

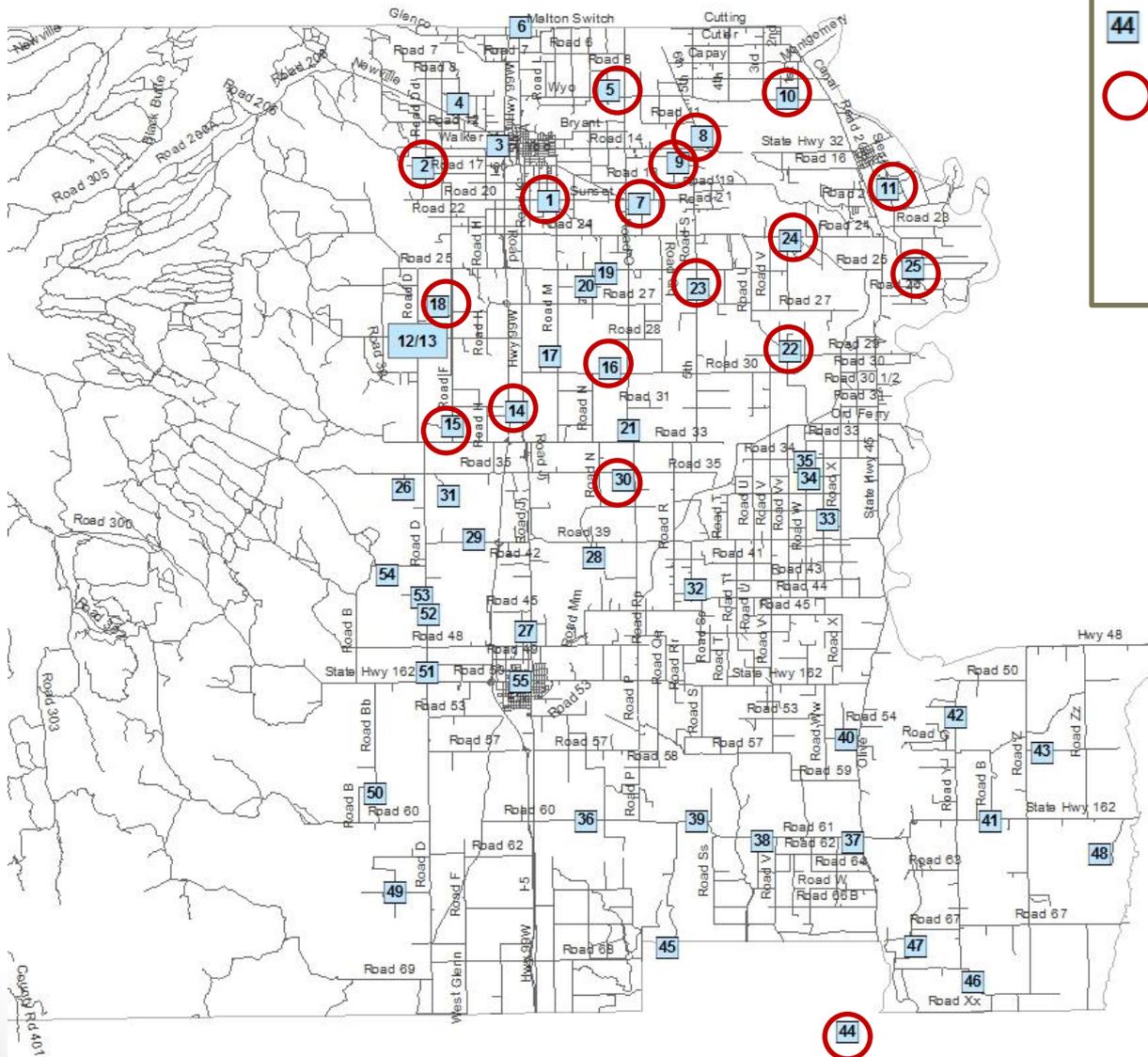
Wells drilled 1970-June 2014



Legend:

- Other
- Irrigation
- Domestic/Public

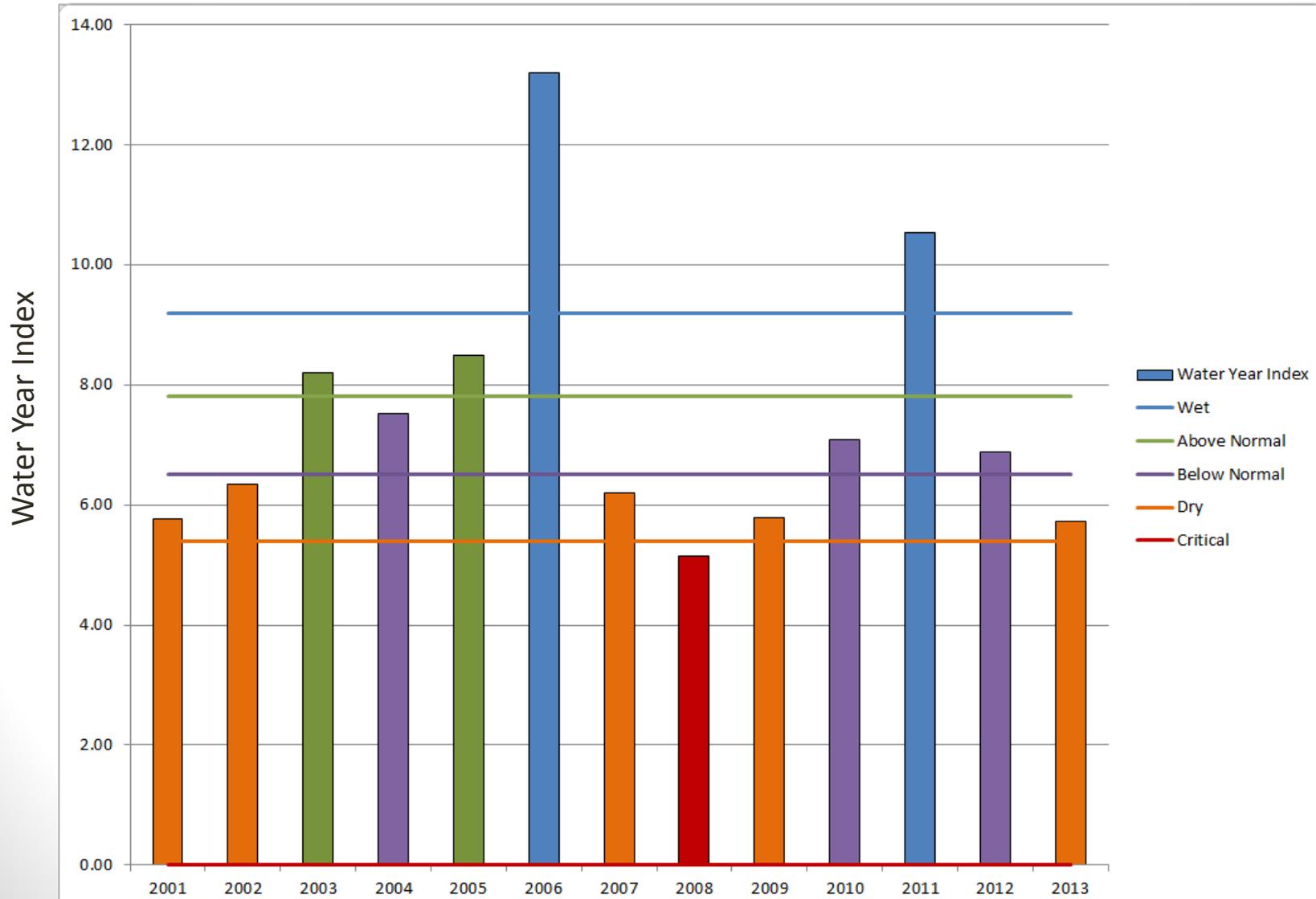
Groundwater Level Monitoring



- 44 BMO well
- Spring 2014 measurements lower than 1977 level

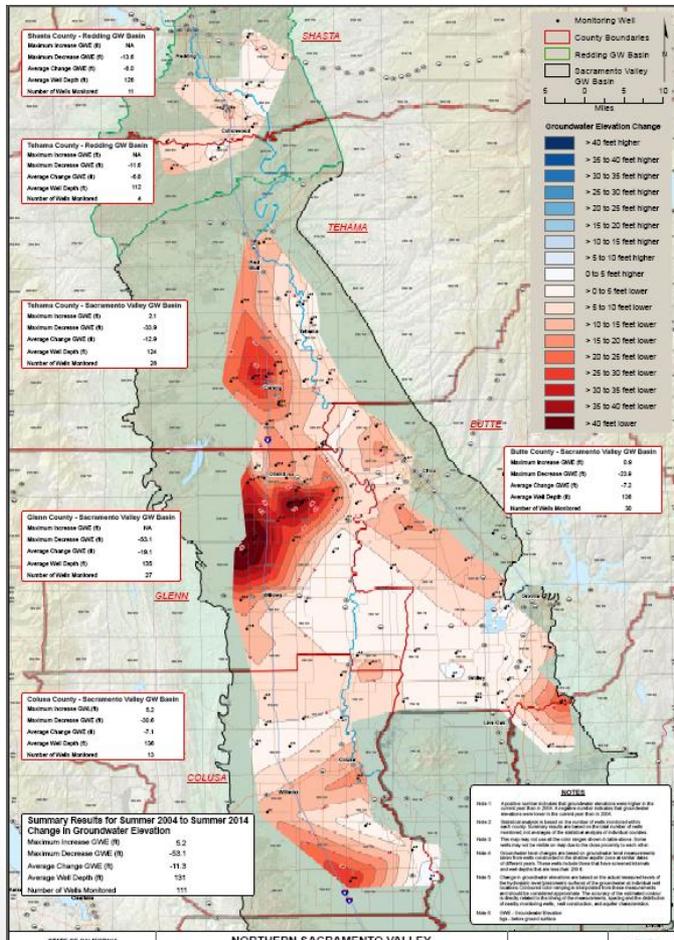
Note:
 Not all wells have measurements from 1977, therefore more wells may be at historic lows, but are not represented with a red circle.

Sacramento Valley Water Year Index 2001-2013

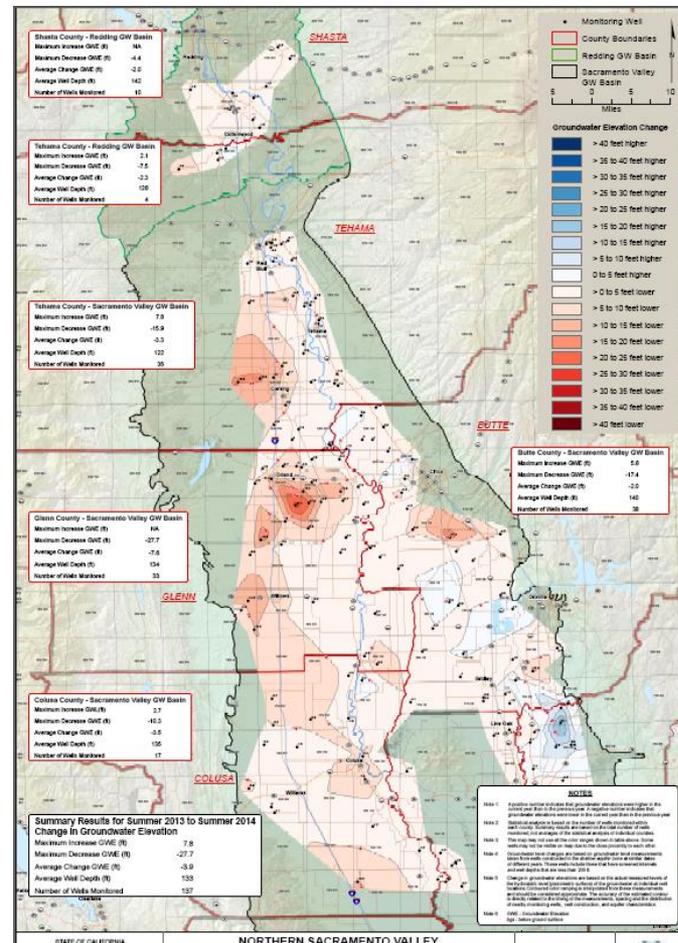


Groundwater Conditions

Draft maps from DWR
 Shallow Aquifer Zone
 (generally less than 200 feet)
 Summer 2004 to Summer 2014



Shallow Aquifer Zone
 (generally less than 200 feet)
 Summer 2013 to Summer 2014



Groundwater Conditions

Draft maps from DWR indicate changes in summer groundwater measurements for Glenn County:

Shallow Aquifer Zone

(generally less than 200 feet)

Summer 2004 to Summer 2014

- Max increase NA
- Max decrease 53.1 feet
- Average change -19.1 feet

Shallow Aquifer Zone

(generally less than 200 feet)

Summer 2013 to Summer 2014

- Max increase NA
- Max decrease 27.7 feet
- Average change -7.6 feet

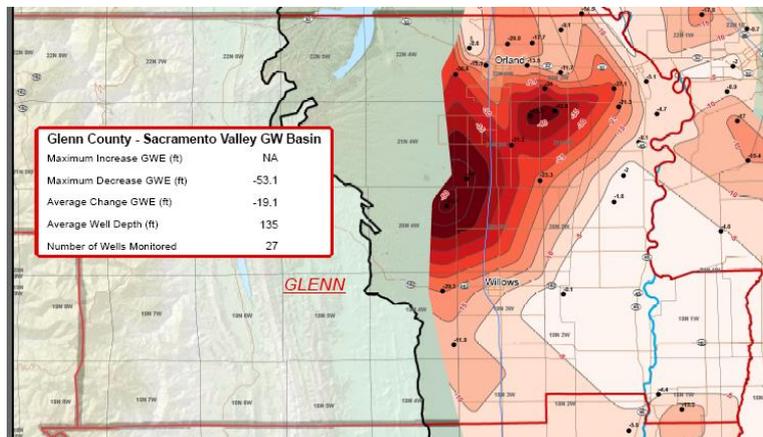
Groundwater Conditions

Draft maps from DWR indicate changes in summer groundwater measurements for Glenn County:

Shallow Aquifer Zone

(generally less than 200 feet)

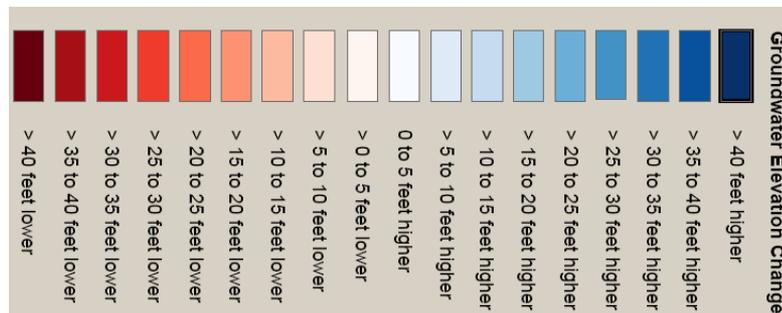
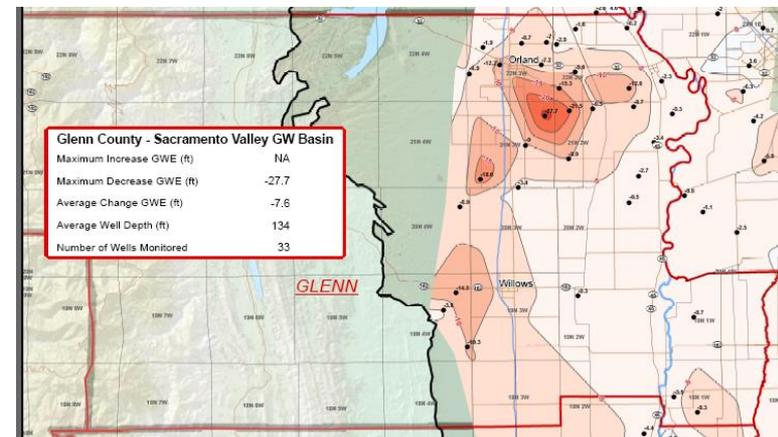
Summer 2004 to Summer 2014



Shallow Aquifer Zone

(generally less than 200 feet)

Summer 2013 to Summer 2014

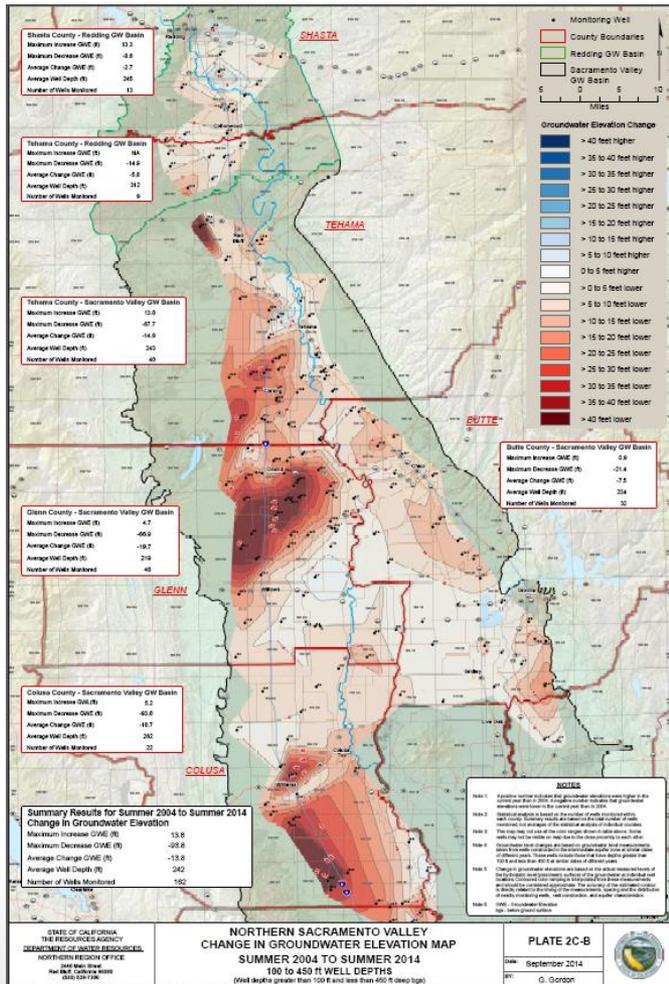


Groundwater Conditions

Draft maps from DWR

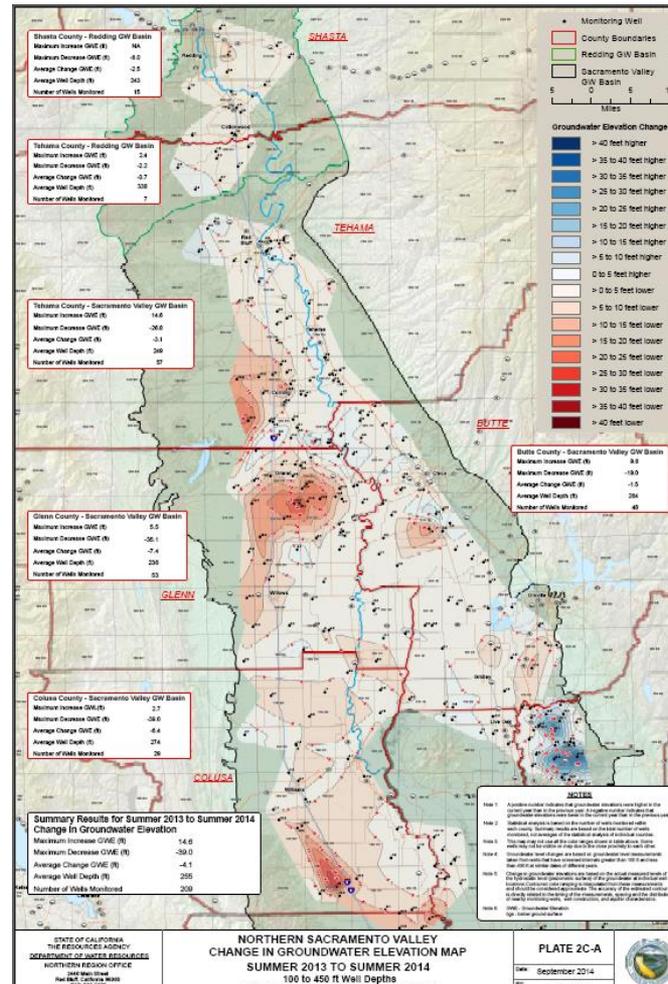
Well Depth 100-450 feet

Summer 2004 to Summer 2014



Well Depth 100-450 feet

Summer 2013 to Summer 2014



Groundwater Conditions

Draft maps from DWR indicate changes in summer groundwater measurements for Glenn County:

Well Depth 100-450 feet

Summer 2004 to Summer 2014

- Max increase 4.7 feet
- Max decrease 66.9 feet
- Average change -19.7 feet

Well Depth 100-450 feet

Summer 2013 to Summer 2014

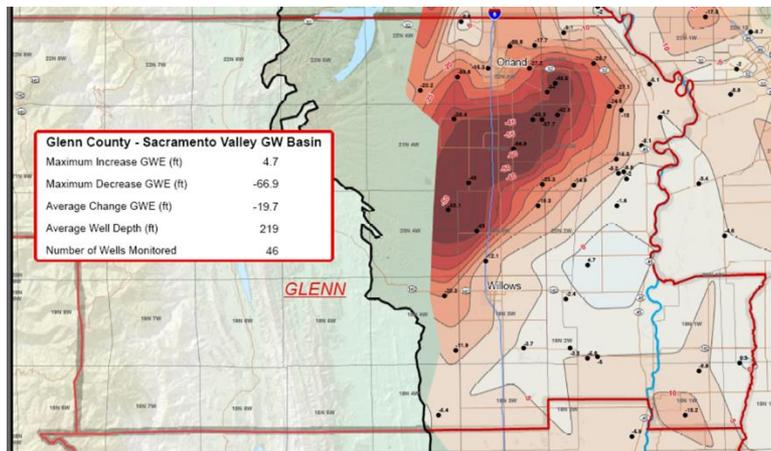
- Max increase 5.5 feet
- Max decrease 35.1 feet
- Average change -7.4 feet

Groundwater Conditions

Draft maps from DWR indicate changes in summer groundwater measurements for Glenn County:

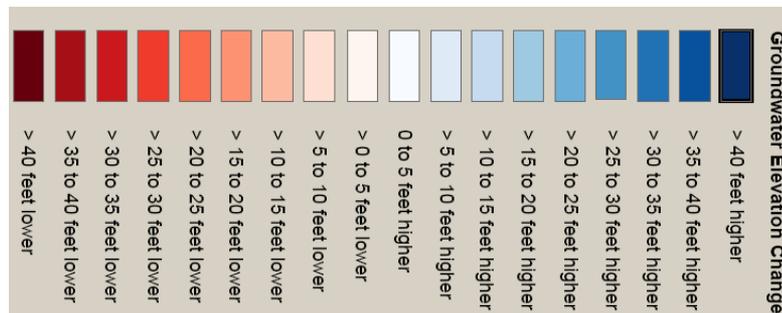
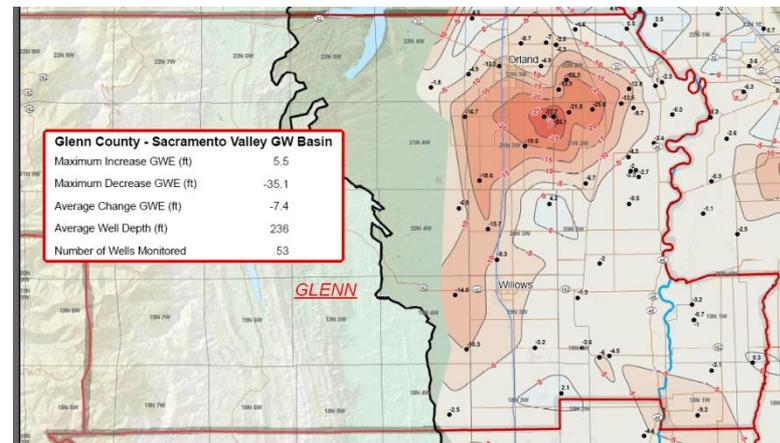
Well Depth 100-450 feet

Summer 2004 to Summer 2014



Well Depth 100-450 feet

Summer 2013 to Summer 2014

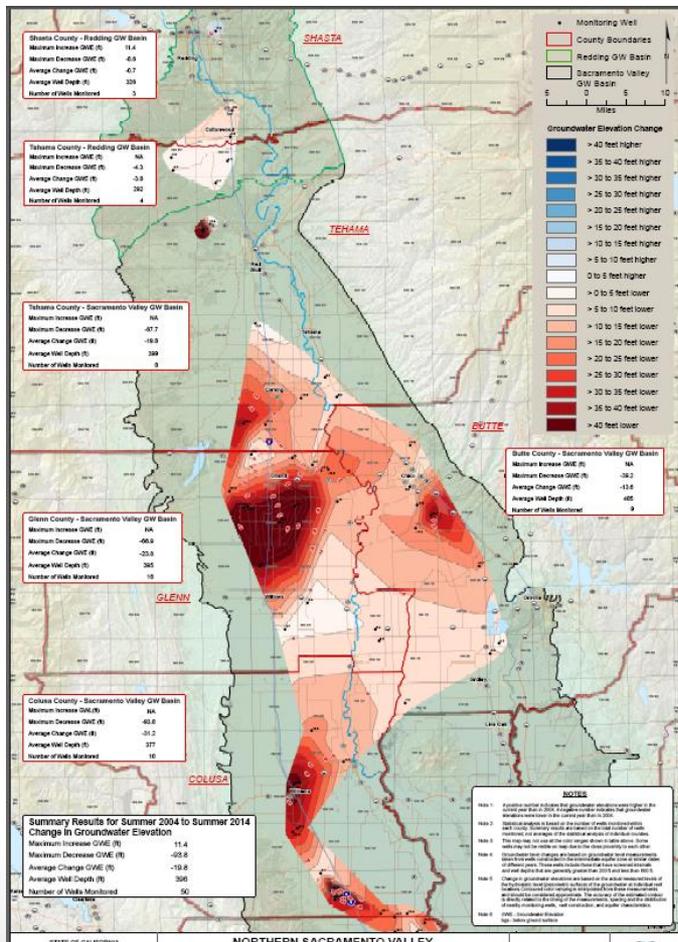


Groundwater Conditions

Draft maps from DWR

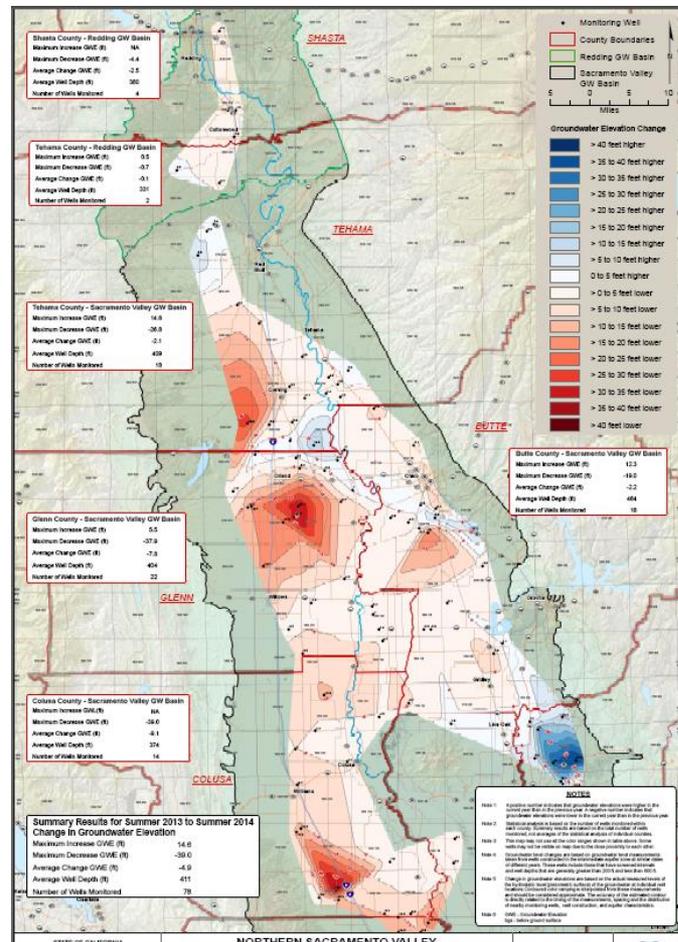
Intermediate Aquifer Zone (generally 200-600 feet)

Summer 2004 to Summer 2014



Intermediate Aquifer Zone (generally 200-600 feet)

Summer 2013 to Summer 2014



Groundwater Conditions

Draft maps from DWR indicate changes in summer groundwater measurements for Glenn County:

**Intermediate Aquifer Zone
(generally 200-600 feet)**

Summer 2004 to Summer 2014

- Max increase NA
- Max decrease 66.9 feet
- Average change -23.8 feet

**Intermediate Aquifer Zone
(generally 200-600 feet)**

Summer 2013 to Summer 2014

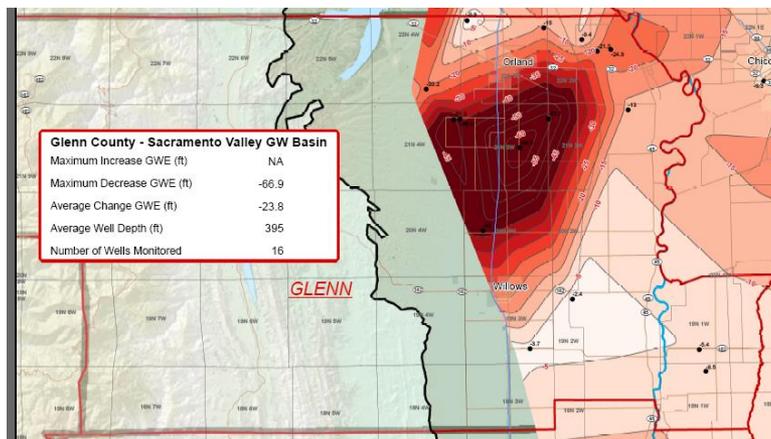
- Max increase 5.5 feet
- Max decrease 37.9 feet
- Average change -7.8 feet

Groundwater Conditions

Draft maps from DWR indicate changes in summer groundwater measurements for Glenn County:

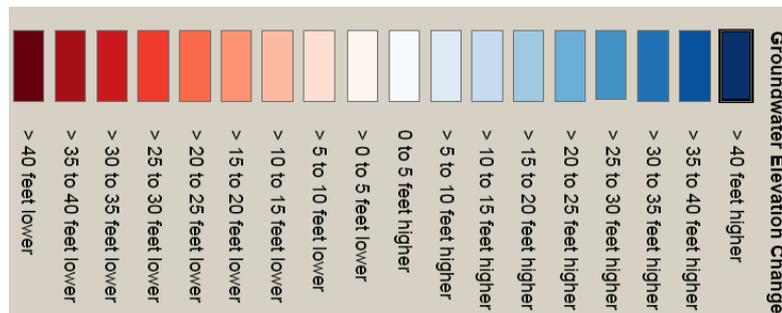
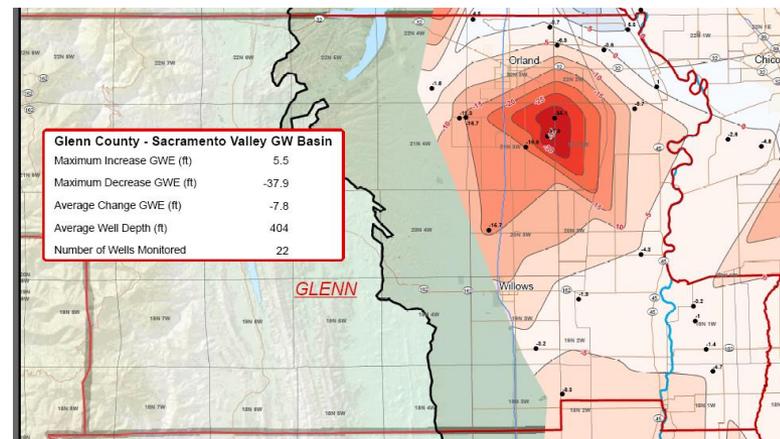
Intermediate Aquifer Zone
(generally 200-600 feet)

Summer 2004 to Summer 2014



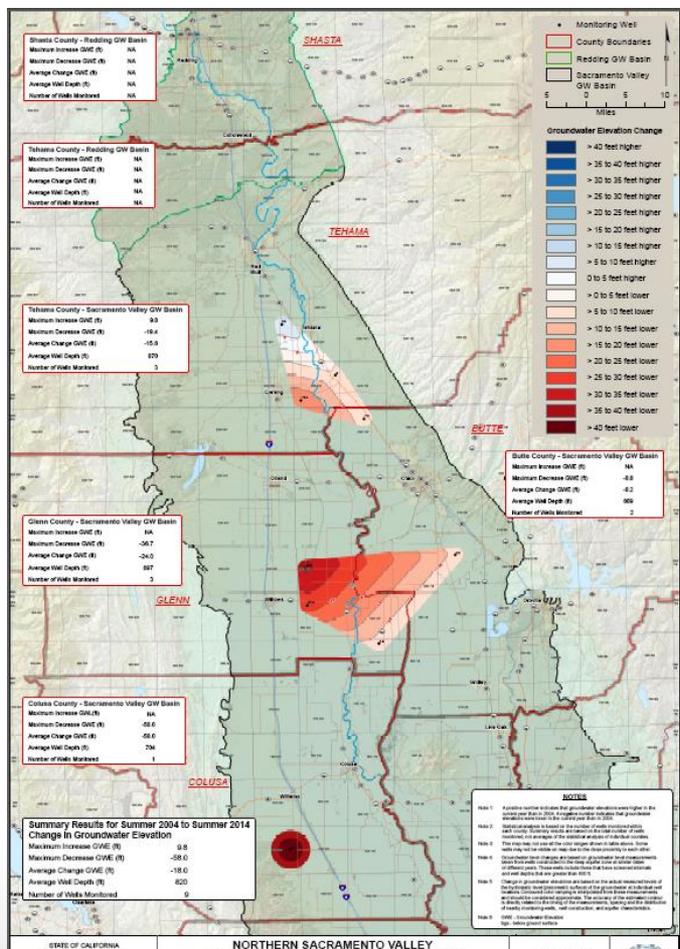
Intermediate Aquifer Zone
(generally 200-600 feet)

Summer 2013 to Summer 2014

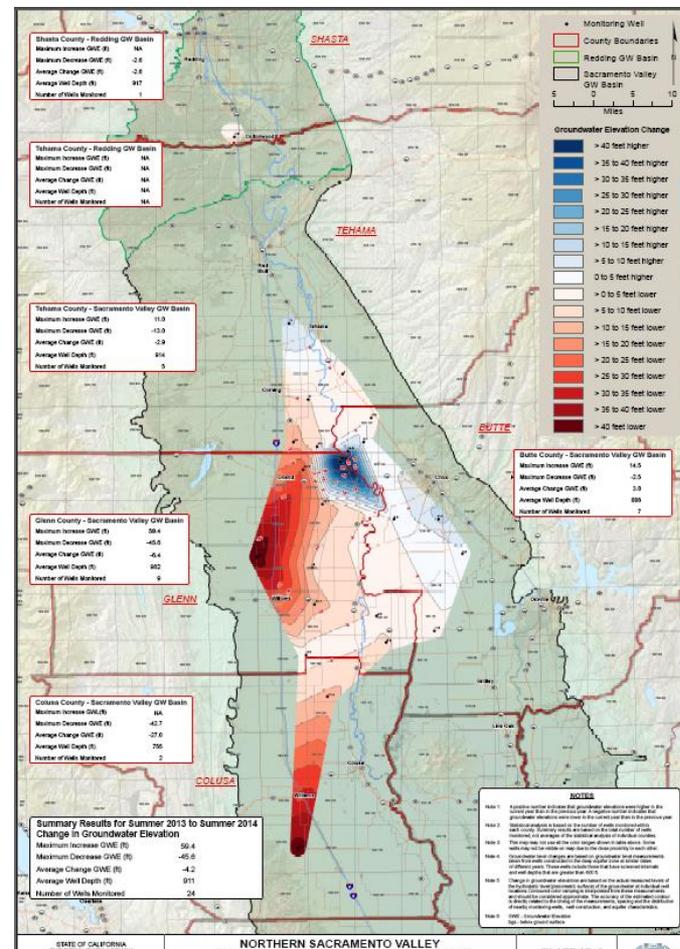


Groundwater Conditions

Draft maps from DWR
 Deep Aquifer Zone
 (generally greater than 600 feet)
 Summer 2004 to Summer 2014



Deep Aquifer Zone
 (generally greater than 600 feet)
 Summer 2013 to Summer 2014



Groundwater Conditions

Draft maps from DWR indicate changes in summer groundwater measurements for Glenn County:

Deep Aquifer Zone

(generally greater than 600 feet)

Summer 2004 to Summer 2014

- Max increase NA
- Max decrease 36.7 feet
- Average change -24.0 feet

Deep Aquifer Zone

(generally greater than 600 feet)

Summer 2013 to Summer 2014

- Max increase 59.4
- Max decrease 45.6 feet
- Average change -6.4 feet

Groundwater Conditions

Draft maps from DWR indicate changes in summer groundwater measurements for Glenn County:

Deep Aquifer Zone

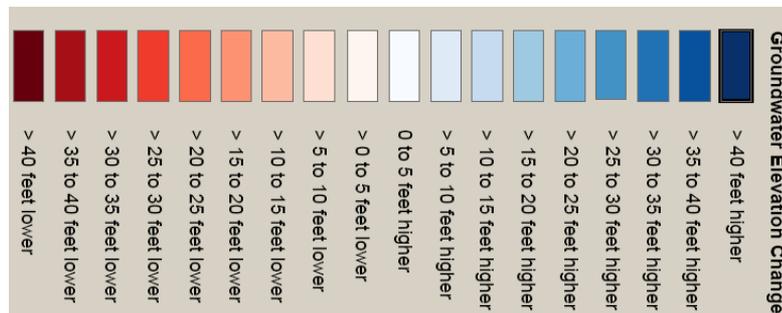
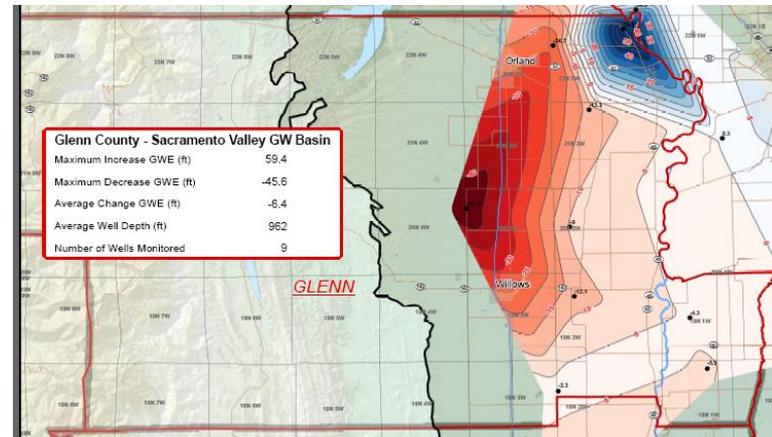
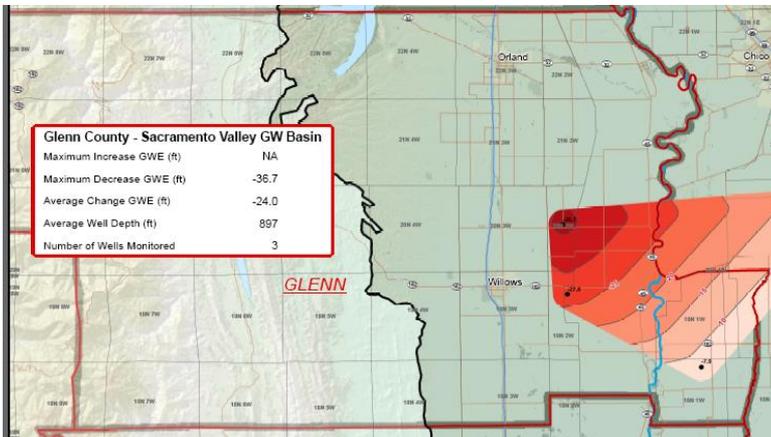
(generally greater than 600 feet)

Summer 2004 to Summer 2014

Deep Aquifer Zone

(generally greater than 600 feet)

Summer 2013 to Summer 2014



BOS meeting overview

September 16, 2014

- WAC/TAC develop updated groundwater management plan by 2015 irrigation season
- No moratorium on well permits
- More coordination between County Departments

Groundwater Legislation

Sustainable Groundwater Management Act of 2014

- Governor Brown signed AB 1739, SB 1168, SB 1319 on September 16, 2014.
- Sustainable Groundwater Management
- Details being worked out
- Will be discussing later this meeting and future meetings

Groundwater Legislation

Sustainable Groundwater Management Act of 2014

- Key dates (from ACWA handout):
 - June 30, 2017- local agencies establish Groundwater Sustainability Agencies (GSAs)
 - After July 1, 2017 SWRCB can designate basins as probationary where GSAs have not been formed
 - January 30, 2020- Medium/High priority basins in critical overdraft adopt and implement Groundwater Sustainability Plans (GSPs)
 - January 31, 2022- All other Medium/High priority basins adopt and implement GSPs
 - 20 years to achieve sustainability

2014 Groundwater Quality Summary

WELL	TEMP (°C)			pH			EC (µs/cm)		
	2014	Average	Range	2014	Average	Range	2014	Average	Range
SUB- AREA 3									
1	21.8	22.0	21.1-22.9	7.9	7.7	7.1-8.2	313	297	244-325
2	NM	23.0	22.4-24.6	NM	8	7.8-8.3	NM	550	523-593
3	NM	20.5	19.4-21.2	NM	7.9	7.5-8.3	NM	244	191-283
SUB- AREA 4									
4	19.1	19.3	18.0-21.0	7.8	7.6	7.0-8.1	340	307	264-354
SUB-AREA 5									
6	18.9	19.2	18.2-20.7	7.1	7.3	6.9-7.9	517	622	332-846
7	20.5	20.9	19.3-22.9	7.3	7.2	6.4-8.1	412	433	226-507
SUB-AREA 7									
8	18.8	19.0	17.9-20.3	7.4	7.5	7.0-7.9	458	553	458-636
9 (Average of 9 monitoring wells)	20.7	19.8	18.3-22.9	7.3	7.6	7.3-8.0	783*	664	576-800
10	19.1	19.7	18.5-20.5	7.5	7.5	7.0-8.1	473	579	473-665
SUB-AREA 8									
11	19.5	18.7	16.9-20.7	7.6	7.5	7.1-7.8	464	682	457-868
12	18.1	18.9	17.6-20.4	7.8	7.7	7.3-8.1	591	526	253-668
13	19.4	20.1	19.4-21.3	7.6	7.5	7.0-7.9	454	436	240-481
5	19.2	19.7	18.7-21.0	7.6	7.4	7.0-8.1	523	462	247-529
SUB-AREA 9									
14	18.3	18.3	17.3-19.7	7.3	7.4	7.0-7.6	1066*	930	495-1083
15	18.7	19.1	17.7-21.3	7.4	7.3	6.4-7.8	419	603	419-744
SUB-AREA 10									
17	18.4	18.9	18.2-20.0	7.5	7.6	7.1-8.0	494	574	303-796
16	19.6	20.1	19.0-21.2	7.5	7.1	6.5-7.7	306	385	207-480
18	18.9	19.1	18.2-20.0	7.5	7.4	6.9-7.8	446	679	421-818
CalWater-Willows (2013 report)	NM	NM	NM	7.9	8	7.9-8.1	540	525	409-558
SUB-AREA 11									
19	19.2	19.5	18.5-20.9	7.8	7.7	7.5-7.9	610	451	359-653
SUB-AREA 12									
20	NM	19.6	19.0-20.7	NM	7.9	7.2-8.3	NM	281	239-310
21	19.3	19.9	19.0-20.9	7.8	7.9	7.5-8.3	344	301	260-344
SUB-AREA 13									
22	NM	19.6	18.6-20.5	NM	7.7	7.3-8.4	NM	442	395-486
SUB-AREA 14									
23	18.6	18.9	18.0-19.9	7.6	7.7	7.1-8.1	457	430	358-484

2014 Groundwater Quality Summary

WELL	TEMP (°C)			pH			EC (µs/cm)		
	2014	Average	Range	2014	Average	Range	2014	Average	Range
24	18.5	18.6	17.7-20.1	7.5	7.7	7.0-8.0	431	402	358-467
25	18.8	19.1	18.5-19.9	7.8	7.6	7.3-7.9	459	434	369-493
SUB-AREA 15									
26	19.9	19.8	18.2-21.7	7.8	7.9	7.6-8.0	278	463	278-678
27	19.2	19.0	17.8-19.8	7.6	7.6	7.1-8.2	388	537	388-619

* exceeds the EC Water Quality Threshold for agricultural water standards

Notes:

NO MULTI COMPLETION WELLS INCLUDED

pH Water Quality Threshold 6.5---8.5

EC Water Quality Threshold <900 µs/cm= Drinking Water <700 µs/cm = Ag water

Averages and ranges calculated on period of record

24 wells sampled for the 2014 season



**GLENN COUNTY
BOARD OF SUPERVISORS**

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530-934-6400 FAX 530-934-6419
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web site: www.countyofglenn.net

John Viegas, District 1
Dwight Foltz, District 2
Steve Soeth, District 3
Michael Murray, District 4
Leigh McDaniel, District 5

The following Minute Order of the Board of Supervisors is being sent to you for information or possible action. If you have any questions concerning this matter, please call the Board's office.

Minute Order of the Board of Supervisors
September 16, 2014 Regular Meeting
County of Glenn, State of California

4. **Groundwater Management**

Also Present: Leigh McDaniel, District 5 Supervisor

Matter: Recommendation of Supervisor McDaniel to:

- a. Direct the Water Advisory Committee (WAC) and the Technical Advisory Committee (TAC) to intensify their efforts to bring a revised groundwater management plan to the Board of Supervisors before the 2015 irrigation season, based on new State legislation and current information available in the County;
- b. Order a moratorium on issuing new well permits in Stage II and Stage III Areas until this plan is completed. Instruct staff to prepare a process, allowing certain moratorium waivers to County residents who have failed wells, as long as the replacement well does not exceed fit, form and function of the lost well;
- c. Direct the Ag Department and Health & Human Services Agency to form and fund a water coordination group, comprised of the Water Coordinator, Environmental Health Staff, and others, as needed, to develop new well permitting requirements, integrating Basin Management Objective (BMO) Alert Stage information and groundwater management with existing public health regulations;
- d. Direct Planning and Public Works to coordinate with water coordinator staff in preparing to integrate anticipated groundwater management requirements in to current zoning codes and to identify staff and funding requirements for these efforts; and
- e. Direct Staff to project the future water management staffing and funding needs of the County to improve water reliability for county residents and to respond to the new State water legislation. Present a plan towards these staffing and funding goals to the Board of Supervisors by mid-year budget review.

- Proceedings:
- a. Supervisor McDaniel reviewed the aforesaid matter and advised that the State is writing groundwater management bills;
 - b. Mike Vereschagin, Water Advisory Committee member, Farm Bureau, and Orland-Artois Water District, spoke of agriculture's conservation of water and efficient irrigation practices having a negative impact on groundwater recharge, spoke of the State not



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Minute Order of the Board of Supervisors **September 16, 2014 Regular Meeting** **County of Glenn, State of California**

- building dams to store water and focusing on environmental issues which impacts surface water supply, spoke of the Irrigation Districts having projects to recharge and stabilize groundwater, and encouraged the Board to take no action;
- c. Glenn County Farm Bureau President David Toney submitted and read a letter regarding groundwater management being handled at a local or regional level;
 - d. Mark Atlas, Attorney for the Princeton-Codora-Glenn Irrigation District, Provident Irrigation District, and Kanawha and Glide Water Districts, spoke against a well permit moratorium, advised that the Basin Management Objective levels need to be adjusted and recommended taking no action until the relationship between agriculture wells and dry wells is determined. Also spoke of the relationship between the Irrigation Districts' surface water and groundwater, stated the Technical Advisory Committee and Water Advisory Committee have a process to resolve non-compliance issues and encouraged the Board to act within the bounds of the Groundwater Ordinance. Also advised that the State will tell Agencies what the groundwater management for sustainability plans must look like by year 2016, the Districts he represents will name themselves as Groundwater Sustainable Agencies and will implement the plans for groundwater management by the State deadline of 2022, and that the State cannot take action on regulating local groundwater plans until 2025;
 - e. Ron Stilwell spoke of net water usage being reduced due to irrigation system's efficiency, and advised that deep wells tap deep aquifers which puts relief on shallow wells;
 - f. Assistant Assessor Ron von Barga advised that property values will be affected by a well permit moratorium due to landowner's loss of a water source;
 - g. Artois resident Virginia Freeman advised that her domestic well failed due to the amount of irrigation occurring around her, advised that there is a direct correlation between her well and irrigation, and advised of the difficulties of getting water for her livestock;



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Minute Order of the Board of Supervisors September 16, 2014 Regular Meeting County of Glenn, State of California

- h. Darrin Titus, 1st Vice President for Glenn County Farm Bureau and walnut and almond farmer, spoke of aquifers being in different strata, advised that the management of the various zones is important, reviewed the process and science used to drill wells, spoke of a Newsletter written by Allen Fulton, University of California Irrigation and Water Resource Department Farm Advisor regarding the results from Glenn County monitoring wells which illustrates concerns and success, advised that a management plan is needed and consideration of aquifer zones needs to be given at the start of the permit process;
- i. Supervisor Viegas reviewed the Drought Task Force ad hoc Committee meeting regarding sustainability of groundwater and surface water and spoke of the importance of recharging the aquifers;
- j. Sheriff Larry Jones advised that the Drought Task Force is a fact gathering committee and that as the Office of Emergency Services Officer he is responsible for sending drought information to the State;
- k. Motion by Supervisor McDaniel to approve (a), (c), (d) and (e) in matter above died for lack of a second;
- l. On motion of Supervisor Soeth, seconded by Supervisor Foltz, it was ordered to approve (a) in matter above by the following roll call vote:
 - Supervisor Foltz: Yes
 - Supervisor McDaniel: Yes
 - Supervisor Soeth: Yes
 - Supervisor Viegas: Yes
 - Supervisor Murray: Yes
- m. It was the general consensus that (c), (d), and (e) in matter above be presented to the Drought Task Force ad hoc Committee, Department of Agriculture, and Planning & Public Works Agency.

Fact Sheet

The Sustainable Groundwater Management Act of 2014 is a comprehensive three-bill package that provides a framework for sustainable management of groundwater supplies by local authorities, with a limited role for state intervention only if necessary to protect the resource.

The act requires the formation of local groundwater sustainability agencies (GSAs) that must assess conditions in their local water basins and adopt locally-based management plans. The act provides substantial time – 20 years – for GSAs to implement plans and achieve long-term groundwater sustainability. It protects existing surface water and groundwater rights and does not impact current drought response measures.

ACWA supported the legislation, which was substantially consistent with recommendations developed by the association's Groundwater Sustainability Task Force and adopted by the ACWA Board of Directors. ACWA's recommendations, together with recommendations from the California Water Foundation and input from other stakeholders, helped shape many provisions to protect local control and empower local agencies to achieve the sustainability goal.

The Sustainable Groundwater Management Act of 2014 is considered just one part of a statewide, comprehensive water plan for California that includes investments in water conservation, water recycling, expanded water storage, safe drinking water, wetlands and watershed restoration. The plan is intended to ensure a reliable water supply for California for years to come.

GSAs and Local Sustainability Plans

The Sustainable Groundwater Management Act provides local GSAs with tools and authority to:

- Require registration of groundwater wells
- Measure and manage extractions
- Require reports and assess fees
- Request revisions of basin boundaries, including establishing new subbasins

GSAs responsible for high- and medium-priority basins must adopt groundwater sustainability plans within five to seven years, depending on whether the basin is in critical overdraft. Agencies may adopt a single plan covering an entire basin or combine a number of plans created by multiple agencies. Preparation of groundwater sustainability plans is exempt from CEQA.

Plans must include a physical description of the basin, including groundwater levels, groundwater quality, subsidence, information on groundwater-surface water interaction, data on historical and

projected water demands and supplies, monitoring and management provisions, and a description of how the plan will affect other plans, including city and county general plans.

Plans will be evaluated every five years.

State Involvement and Technical Assistance

The California Department of Water Resources (DWR) has several tasks under the Sustainable Groundwater Management Act. It must:

- Designate basins as high, medium, low or very low priority by Jan. 31, 2015
- Adopt regulations for basin boundary adjustments by Jan. 1, 2016
- Adopt regulations for evaluating adequacy of GSPs and GSA coordination agreements by June 1, 2016
- Publish a report estimating water available for groundwater replenishment by Dec. 31, 2016
- Publish groundwater sustainability best management practices by Jan. 1, 2017

State Review and Intervention

The State Water Resources Control Board may intervene if a GSA is not formed or it fails to adopt or implement compliant plans by certain dates.

DWR is tasked with reviewing GSPs for adequacy after they are adopted at the local level. If DWR determines in its review that a GSP is not adequate, the State Board may designate the basin as “probationary.” If the local agency does not respond within 180 days, the State Board is authorized to create an interim plan that will remain in place until a local GSA is able to reassume responsibility with a compliant plan.

Financial Assistance

If approved by voters, Proposition 1 would provide \$100 million in funding to GSAs to develop and implement sustainable groundwater management plans.

Key Implementation Dates

- **June 30, 2017:** Local groundwater sustainability agencies formed.
- **Jan. 31, 2020:** Groundwater sustainability plans adopted for critically overdrafted basins.
- **Jan. 31, 2022:** Groundwater sustainability plans adopted for high- and medium-priority basins not currently in overdraft.
- **20 years after adoption:** All high- and medium-priority groundwater basins must achieve sustainability.

Frequently Asked Questions

Q: What is the Sustainable Groundwater Management Act of 2014?

A: The Sustainable Groundwater Management Act of 2014 is a comprehensive three-bill package that includes AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley) and sets the framework for statewide long-term sustainable groundwater management by local authorities.

It requires the formation of new groundwater sustainability agencies (GSAs) tasked with assessing the conditions in their local basins and adopting locally-based sustainable management plans. It provides for limited state intervention only when a GSA is not formed and / or fails to create and implement a plan that will result in groundwater sustainability within 20 years.

Q: What authority will GSAs have?

A: GSAs are empowered to utilize a number of new management tools to achieve the sustainability goal. For example, GSAs may require registration of groundwater wells, mandate annual extraction reports from individual wells, impose limits on extractions, and assess fees to support creation and adoption of a groundwater sustainability plan (GSP). GSAs also may request a revision of a groundwater basin boundary, including the establishment new subbasins.

A GSA may adopt a single plan covering an entire basin or may combine several plans from multiple agencies.

Q: Is there any funding available to assist GSAs?

A: If approved by voters, Proposition 1 – the Water Quality, Supply and Infrastructure Improvement Act of 2014 – would provide \$100 million in funding to help create and implement GSPs.

Q: When do sustainable groundwater management plans have to be completed and implemented?

A: GSPs for critically overdrafted basins must be completed and adopted by the GSA by Jan. 31, 2020. GSPs for high- and medium-priority basins not in overdraft must be completed and adopted by the GSA by Jan. 31, 2022. All high- and medium-priority groundwater basins must achieve sustainability within 20 years of GSP adoption.

Q: Who determines whether a groundwater sustainability plan is sufficient?

A: The Department of Water Resources (DWR) is tasked with reviewing GSPs for compliance. If DWR determines that an adequate GSP has not been adopted or that it is not being implemented in a way

that will achieve sustainability within 20 years, then the State Water Resources Control Board may designate the basin “probationary.”

After receiving notice from the State Board, local authorities will have 180 days to address GSP deficiencies. If the plan is brought into compliance the state will remove the “probationary” designation and will have no further authority to intervene.

If the deficiencies are not addressed by the GSA, the State Board is authorized to create an interim plan that would remain in effect only until the GSA could assume responsibility with a compliant plan that will achieve sustainability.

Q: Isn't this basically a state takeover of groundwater?

A: No. At its core, the legislation provides a framework for the improved management of groundwater supplies by local authorities. In fact, it provides protection *against* state intervention, provided that local agencies develop and implement groundwater sustainability plans as required by the legislation. Significantly, the legislation provides tools and authorities some agencies have previously lacked to manage for sustainability. In addition, it provides substantial time (20 years from the time a GSP is adopted) to take the actions necessary to achieve sustainability.

Q: Does this legislation take away the ability of growers to pump groundwater if the current drought continues?

A: No. The legislation will not affect the ability of local water managers and water users to get through the current drought. The legislation allows local managers time to get on the path of sustainability. It recognizes that implementation of local groundwater sustainability plans may take up to 20 years.

Q: How does this legislation affect existing water and property rights?

A: The legislation does not change existing groundwater rights. Groundwater rights will continue to be subject to regulation under article 10, section 2, of the California Constitution.

Q: Will this legislation make future adjudications more complicated?

A: No. In fact, it is possible that future adjudications would be made easier because there will be more data and information about the basin and pumpers available. Although it is important to note that the legislation will restrict public release of information related to individual groundwater pumpers.

Q: Does this legislation allocate groundwater for environmental and habitat purposes?

A: The legislation does not allocate water for any purpose. There is no expansion of water rights and the public trust doctrine does not apply to groundwater. Local agencies may choose to address this issue in their plans, if they desire.

Q: Why doesn't this legislation address groundwater recharge as a beneficial use of surface water?

A: Groundwater recharge is currently accomplished by filing a petition with the State Board that demonstrates the water would be put to beneficial use. ACWA members have been working on legislative language to address this matter but have not yet reached agreement on any recommendations.

Q: Where can I get more information on groundwater sustainability?

A: Information is available from the following resources:

California Department of Water Resources Groundwater Information Center

<http://www.water.ca.gov/groundwater/>

ACWA's Recommendations for Achieving Groundwater Sustainability

<http://www.acwa.com/content/groundwater/acwa-recommendations-achieving-groundwater-sustainability>

California Water Foundation Information / Recommendations on Groundwater Sustainability

www.californiawaterfoundation.org

Implementation Deadlines

When	Who	What
January 31, 2015	Department of Water Resources (DWR)	Categorize and prioritize basins as high, medium, low, or very low [§ 10722.4(a)]
January 1, 2016	DWR	Adopt regulations for basin boundary adjustments and accept adjustment requests from local agencies [§ 10722.2(4)(b)]
April 1, 2016	Local water agencies or water-masters in adjudicated areas	Submit final judgment /order / decree and required report to DWR (report annually thereafter) [§ 10720.8(f)]
June 1, 2016	DWR	Adopt regulations for evaluating adequacy of Groundwater Sustainability Plans (GSPs) and Groundwater Sustainability Agency (GSA) coordination agreements [§ 10733.2]
December 31, 2016	DWR	Publish report estimating water available for groundwater replenishment [§ 10729(c)]
January 1, 2017	DWR	Publish groundwater sustainability best management practices [§ 10729(d)]
By June 30, 2017	Local agencies	Establish GSAs [§ 10735.2(a)(1)]
After July 1, 2017	State Water Resources Control Board (SWRCB)	Designate basins as probationary where GSAs have not been formed [§ 10735.2(1)]
After July 1, 2017	Groundwater users in probationary basins	File annual groundwater extraction report with SWRCB by December 15 each year [§ 5202]
January 31, 2020	GSAs in medium- and high-priority basins in critical overdraft	Adopt GSPs and begin managing basins under GSPs [§ 10720.7(a)(1)] or alternative [§ 10733.6]
After January 31, 2020	SWRCB	Designate basins as probationary where GSPs have not been adopted in medium- and high-priority basins in critical overdraft [§ 10735.2(1)]
January 31, 2022	GSAs in other medium- and high- priority basins	Adopt GSPs and begin managing basins under GSPs [§ 10720.7(a)(2)]
After January 31, 2022	SWRCB	Designate basins as probationary where GSPs have not been adopted in other medium- and high-priority basins [§ 10735.2(1)]
After January 31, 2025	SWRCB	Designate basins as probationary where GSPs are inadequate or not being implemented, and extractions result in significant depletions of interconnected surface waters [§ 10735.2(a)(5)(B)]
After January 31, 2040	GSAs (in medium- and high-priority basins in critical overdraft)	Achieve groundwater sustainability goals (DWR may grant two five-year extensions upon a showing of good cause) [§ 10727.2(3)(A)]
After January 31, 2042	GSAs (in other medium and high priority basins)	Achieve groundwater sustainability goals (DWR may grant two five-year extensions upon a showing of good cause) [§ 10727.2(3)(A)]