

Spring & Fall 2019 Groundwater Level Conditions



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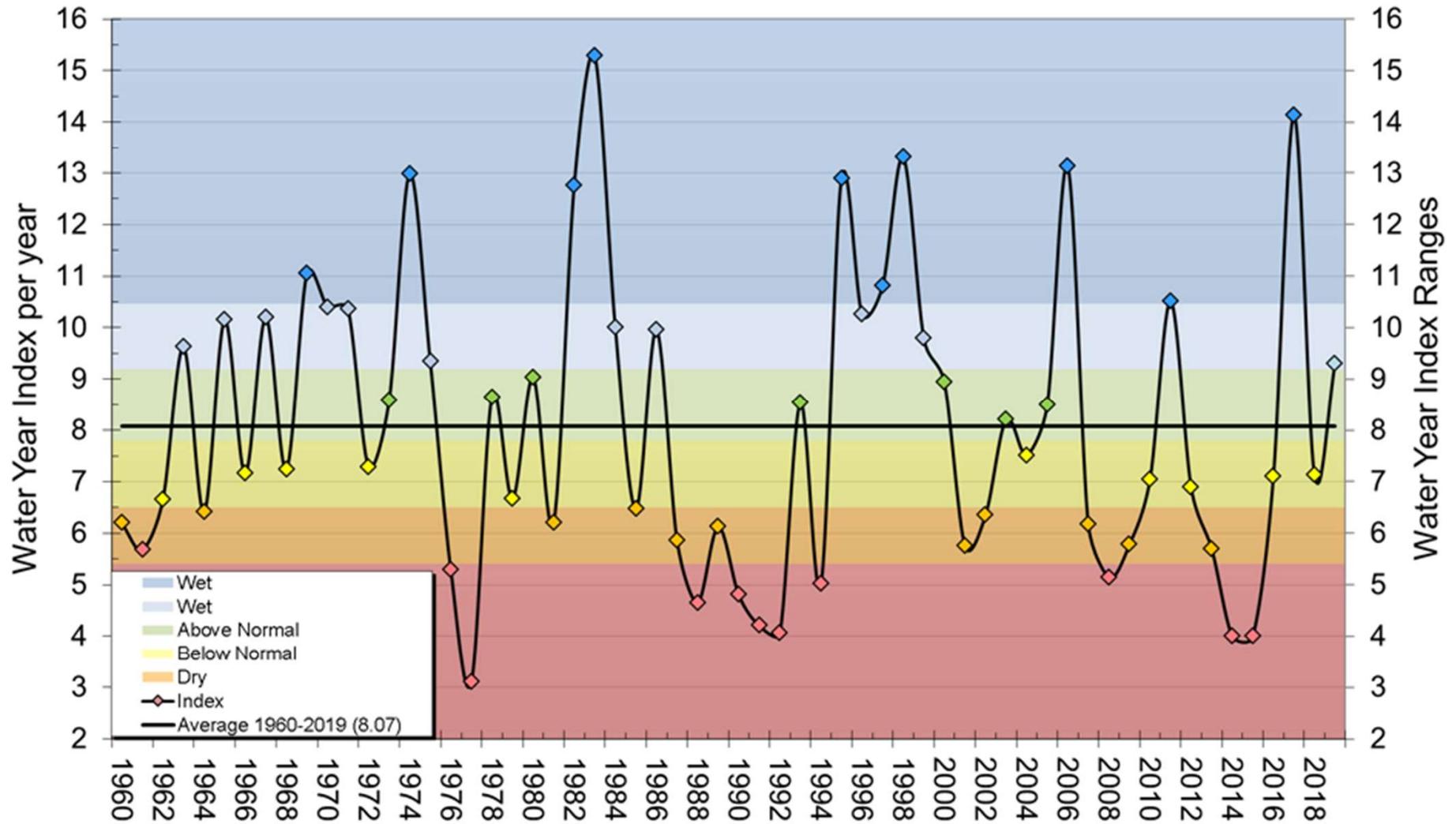
Hydrologic Conditions

Water Year 2019

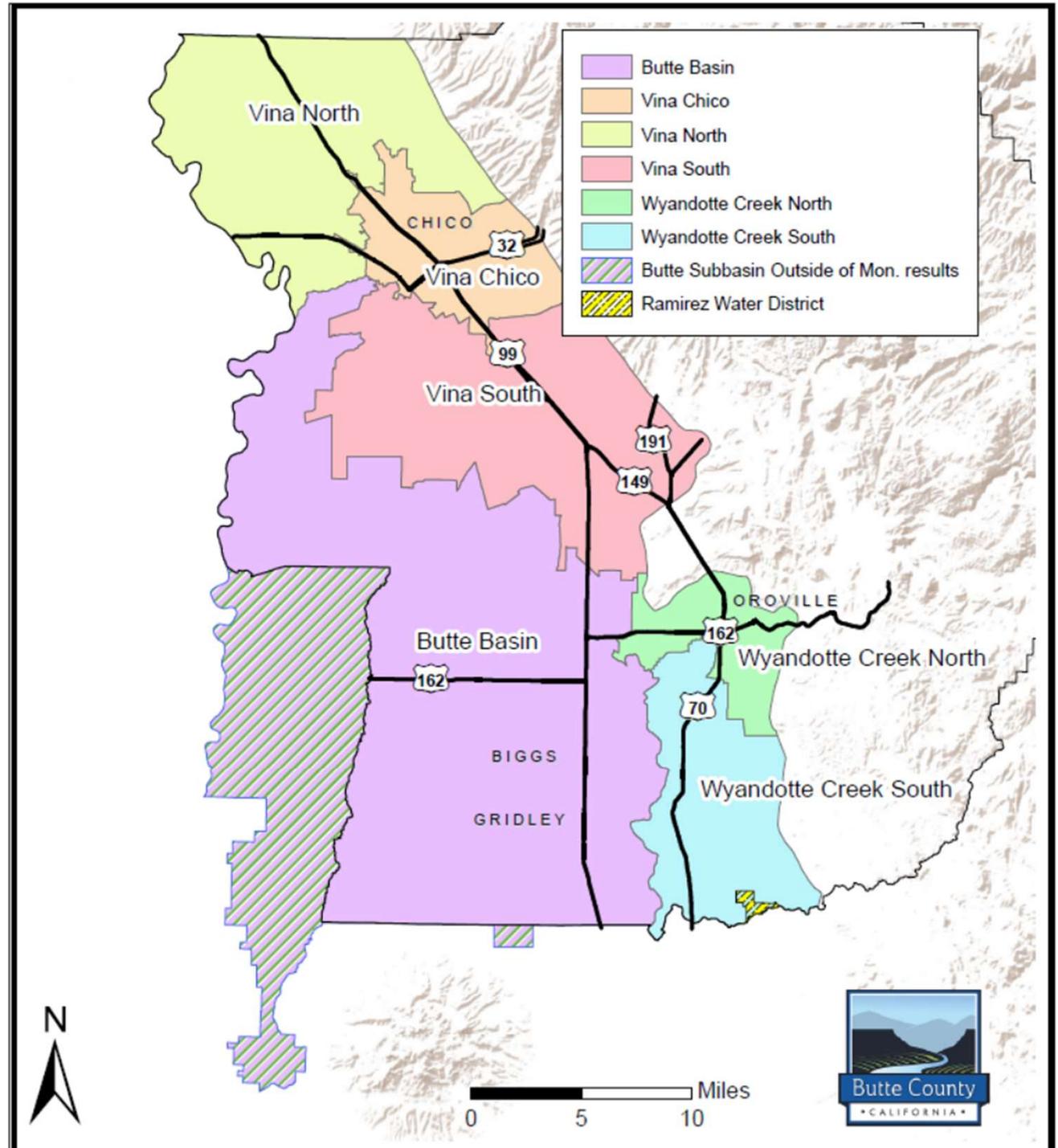
2019 Water Year:

Oct. 1, 2018 – Sept. 30, 2019

Water Year Hydrologic Classification Indices 1960-2019

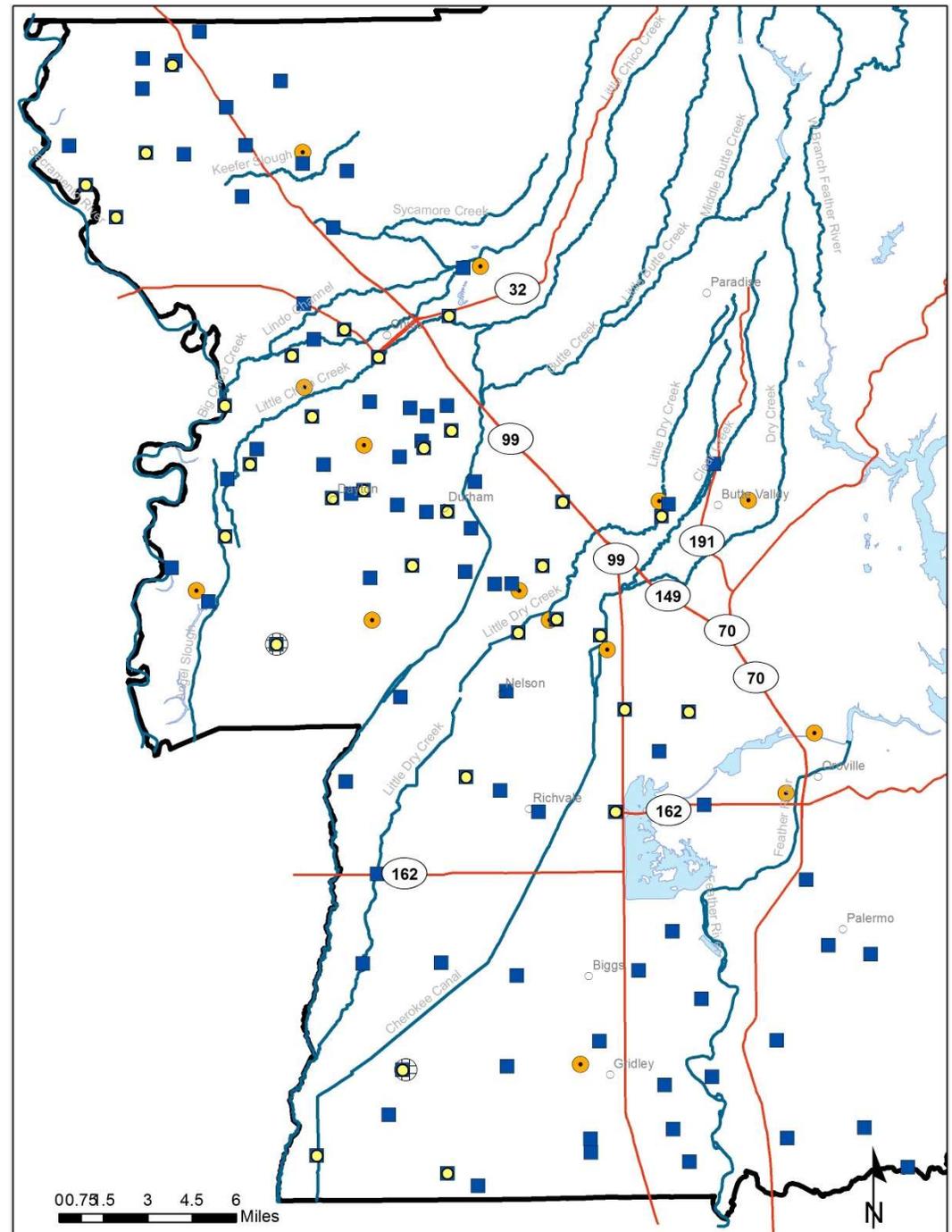


Groundwater Level Monitoring Subbasins & Subregions



Groundwater Level Monitoring

- ~125 wells Manually
4x/year: Mar, Jul, Aug, Oct
- Hourly data (~60 wells)
- 69 additional wells since 2000
- Data available online:
Water Data Library



Understanding the Basin

Why Measure?

- Ongoing monitoring helps tracks the effects of
 - hydrologic variability and groundwater use
- Research and modeling helps understand and explore the drivers
 - hydrology, demands, geology, basin dynamics, management alternatives, etc.)



Types of Wells Monitored



Domestic wells



Multi-completion wells



Irrigation wells

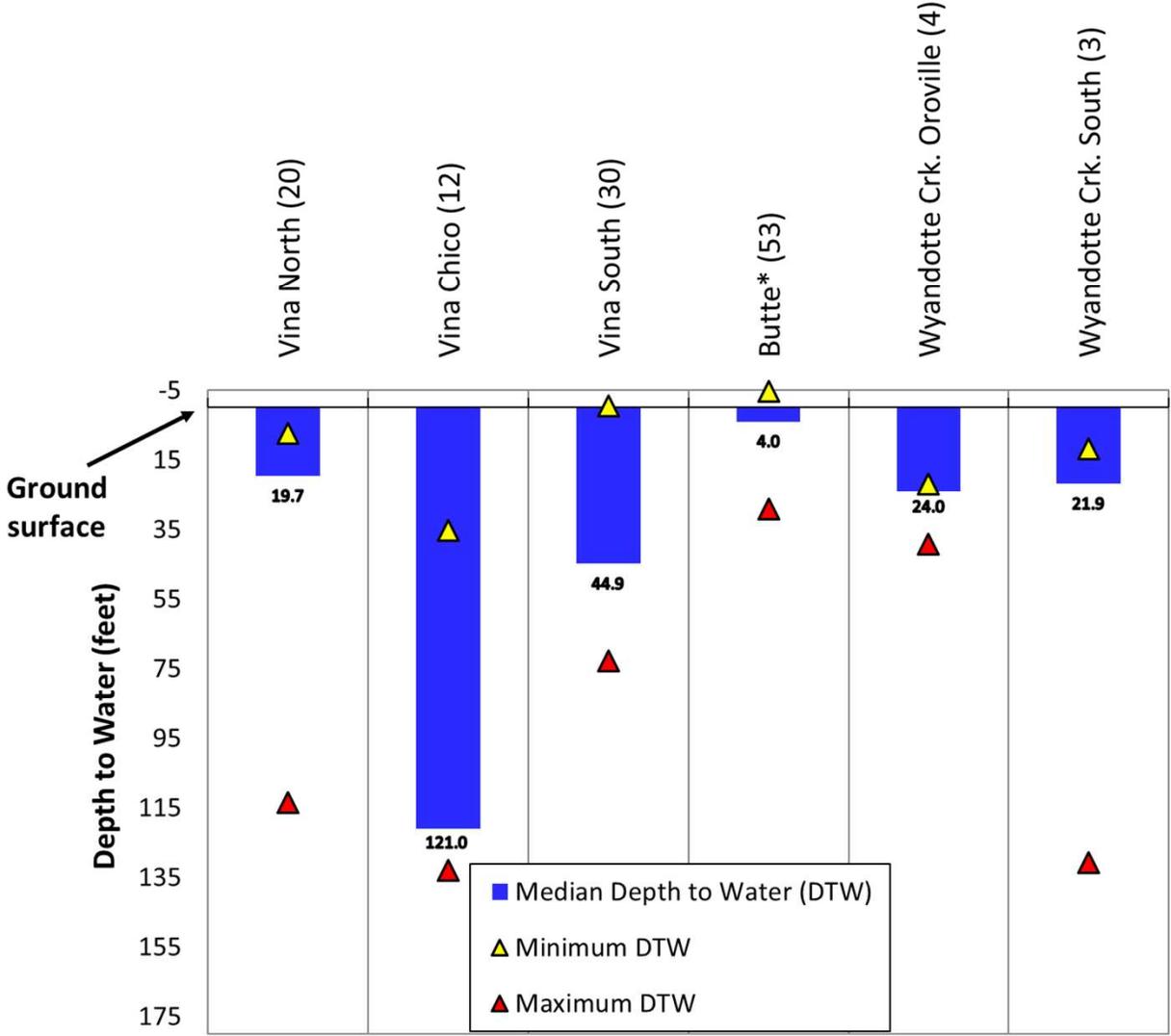
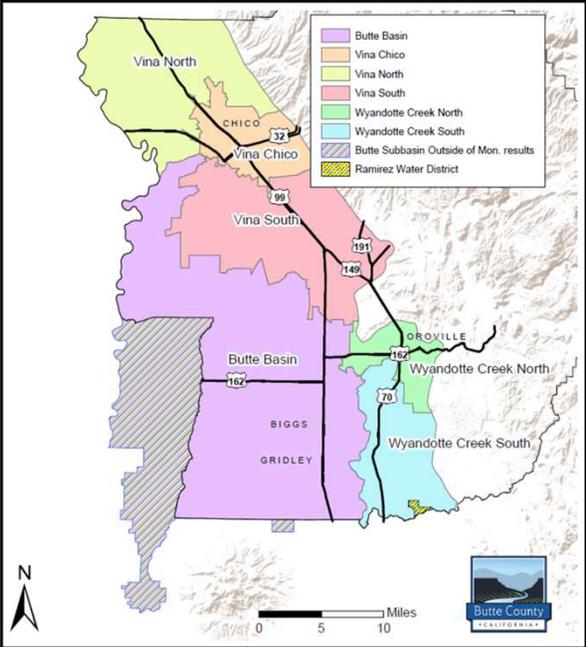


Municipal wells



Spring 2019 Groundwater Level Conditions

Spring 2019 Depth to Water (DTW) Conditions



Note: Bars show median DTW and are labeled, triangles show range. Questionable measurements are not included in data. Number after subbasin area name indicates number of wells measured.
 * Indicates areas primarily served by surface water

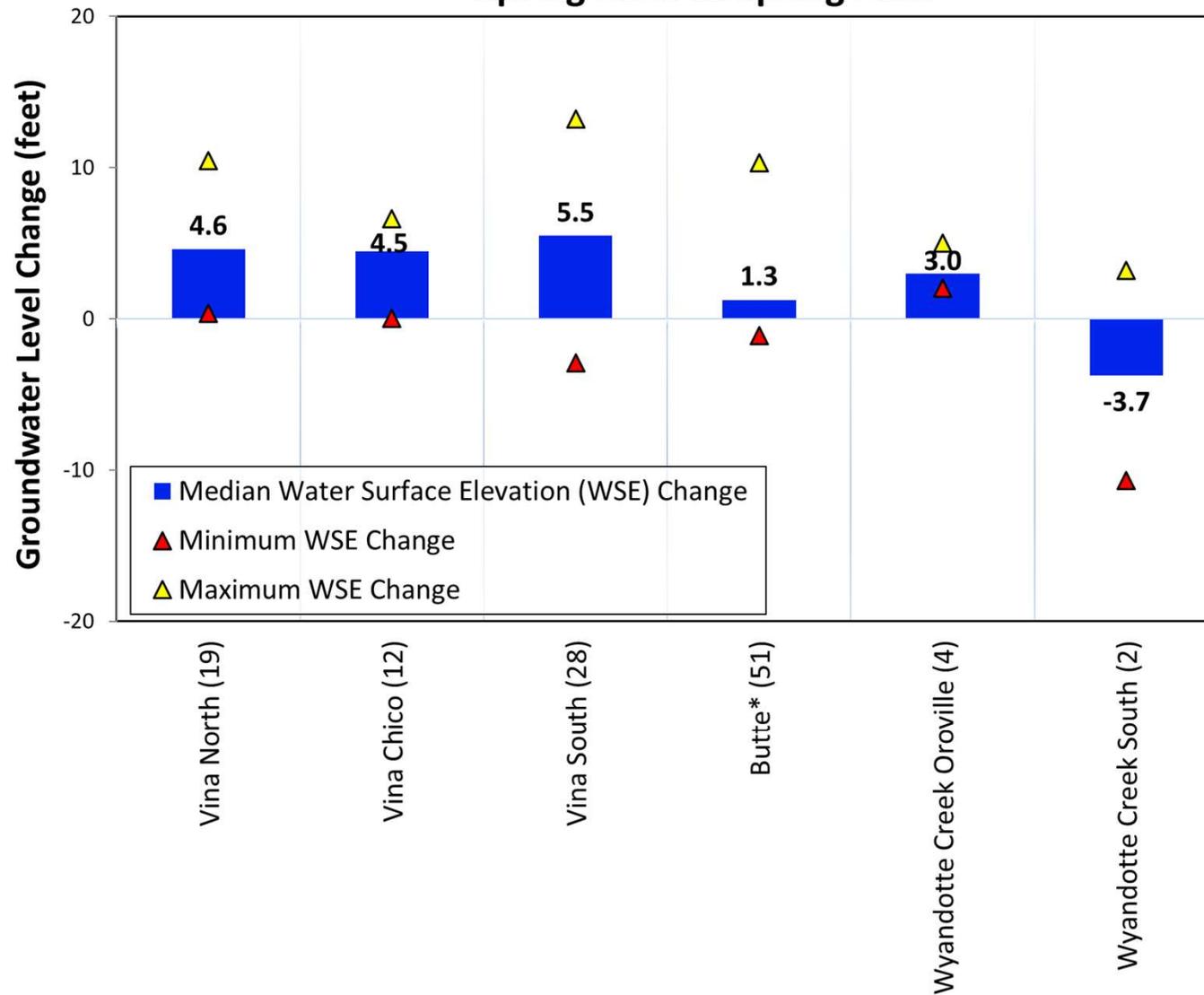
Spring Monitoring Data and BMOs

Groundwater Level Elevation Change - Spring 2018 to Spring 2019

Number of wells		Change (ft.)	Area
116	Average GWL Change	3.4	
	Median GWL Change	3.0	
99	Average Increase	4.2	
	Median Increase	3.6	
	Max Increase	13.2	Vina South
15	Average Decrease	-2.0	
	Median Decrease	-0.5	
	Max Decrease	-10.7	Wyandotte Creek South

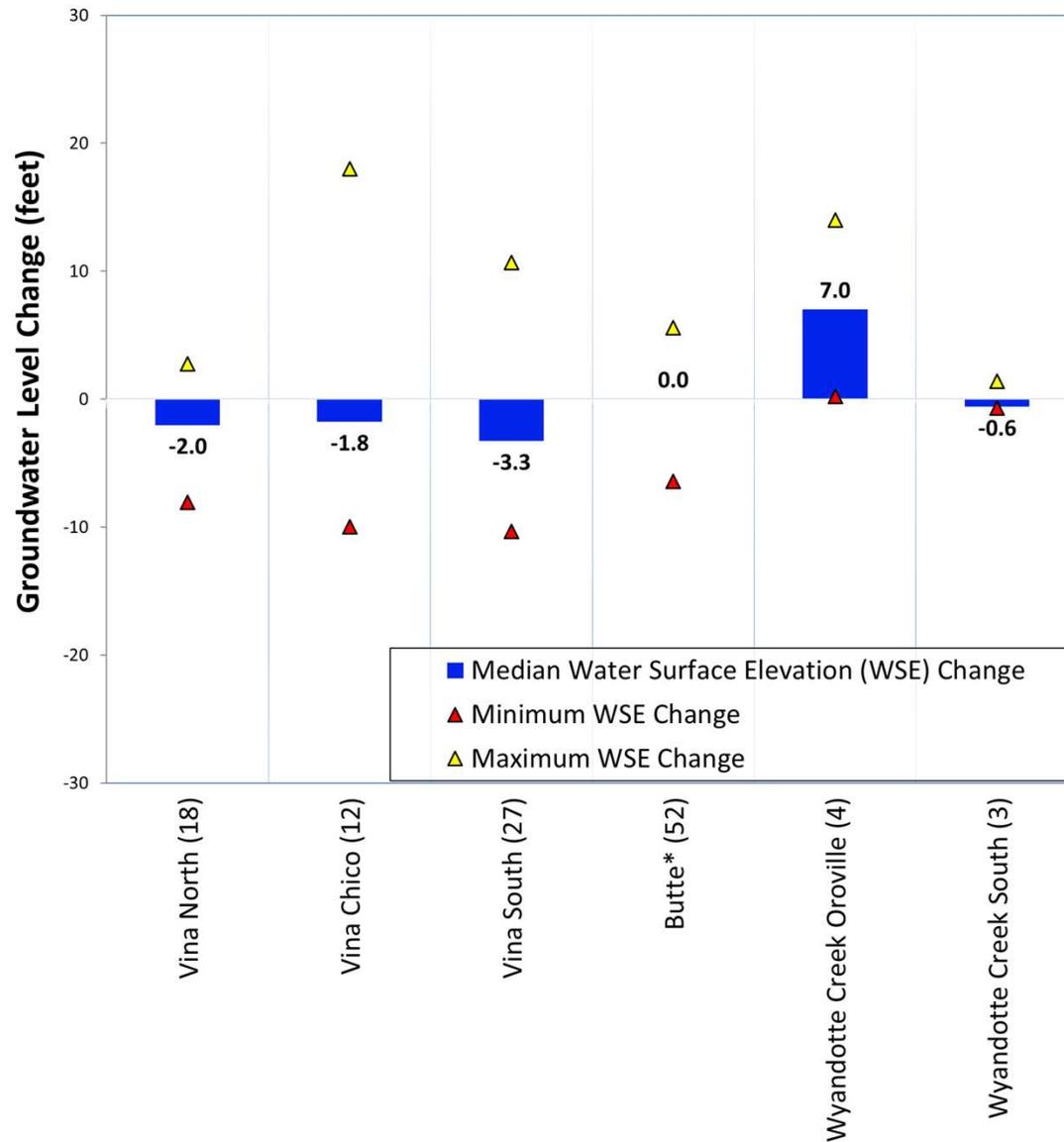
Note: Questionable measurements were not included and 2 wells measured did not change in GWL between Spring of 2018 and Spring of 2019

Groundwater Level [Water Surface Elevation (WSE)] Change Spring 2018 to Spring 2019



Note: Bars show median WSE change and are labeled, triangles show range. Questionable measurements are not included in data. Number after the subbasin area name indicates number of wells measured. Positive values = increased water surface elevations (WSEs) and negative values = decreased WSEs *Areas primarily served by surface water.

Groundwater Level [Water Surface Elevation (WSE)] Change Spring 2011 to Spring 2019

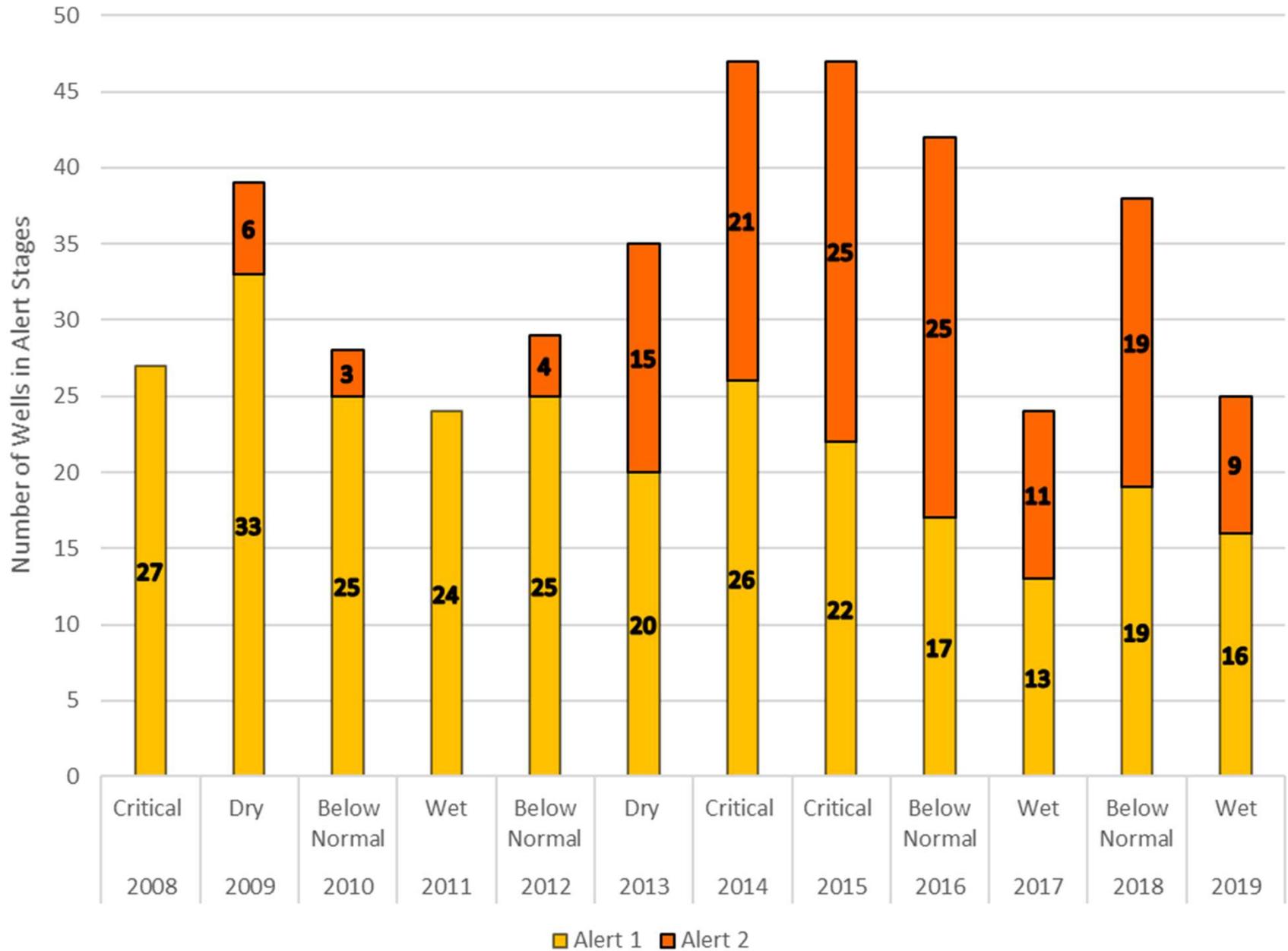


Note: Bars show median WSE change and are labeled, triangles show range. Questionable measurements are included in data. Number after the subbasin area name indicates number of wells measured. Positive values = increased water surface elevations (WSEs) and negative values = decreased WSEs *Areas primarily served by surface water.

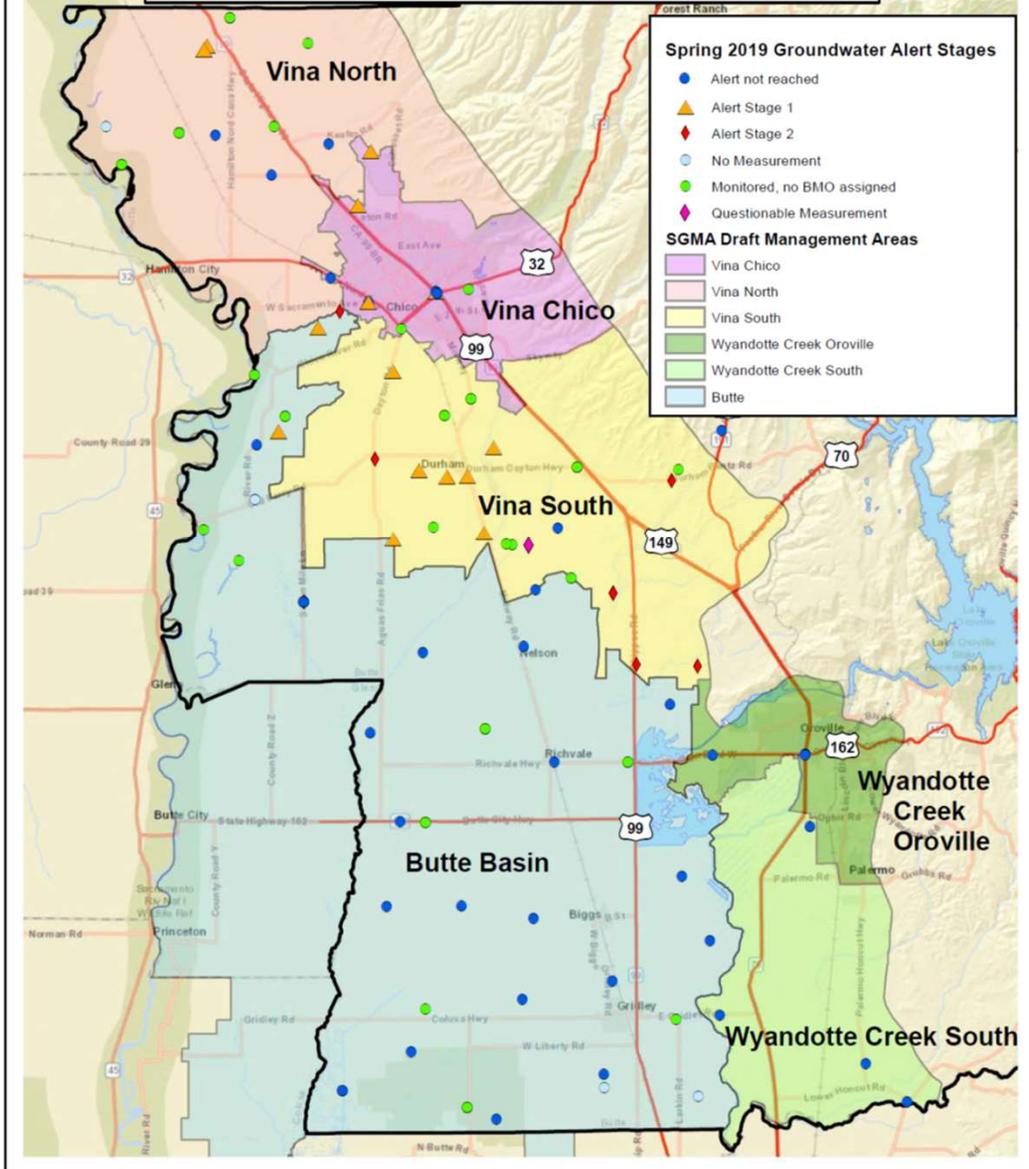
Basin Management Objective Alert Stages

- Basin Management Objectives (BMOs) established for portion of wells in network per Chapter 33A
- Determined from historical data
- When a well fails to achieve the BMO it reaches an “Alert level” (1 or 2)
- If Alert levels are reached – triggers increased outreach, TAC evaluation and potentially additional monitoring

Spring BMO Alert Frequencies 2008-2019

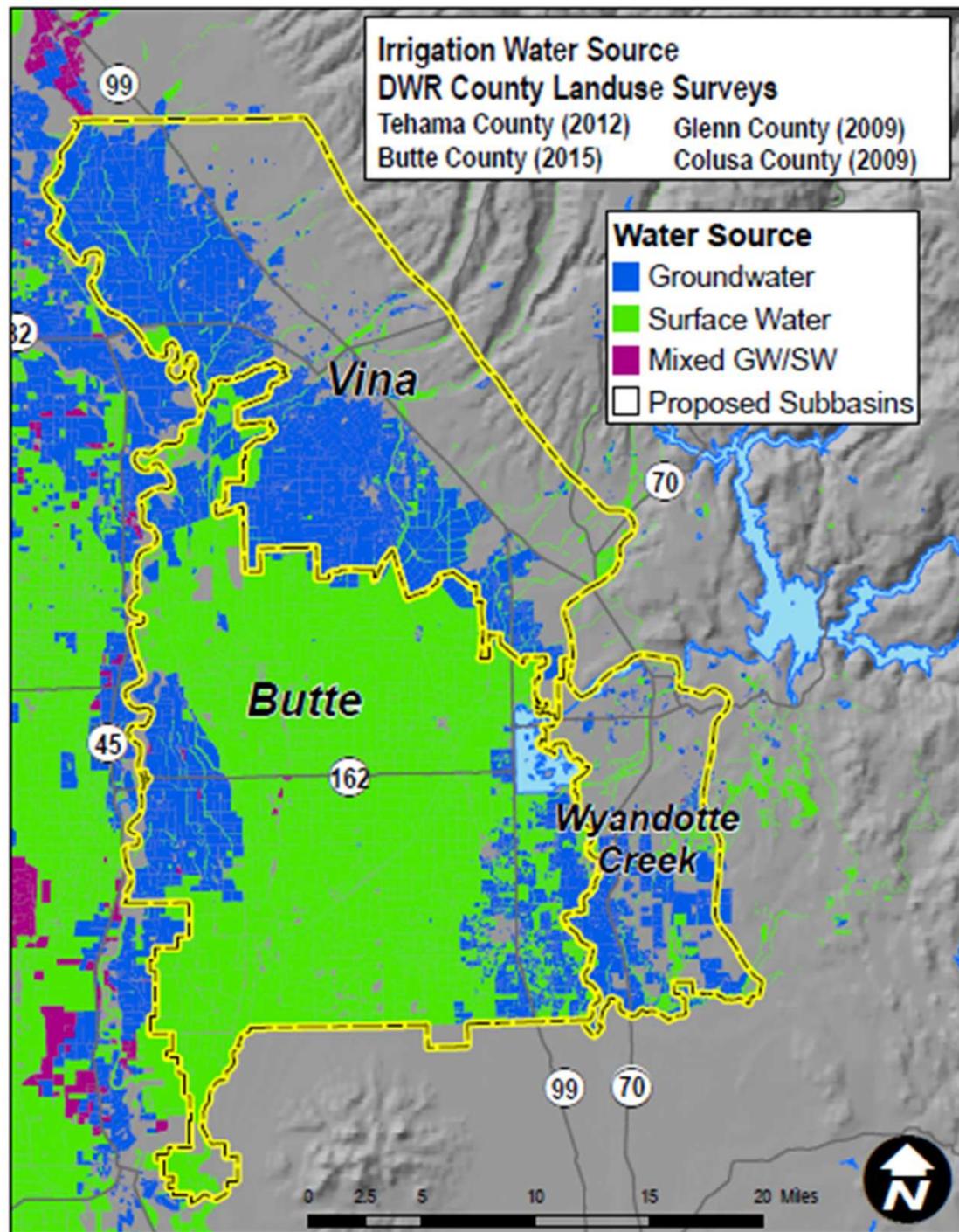


BUTTE COUNTY Basin Management Objective Program Spring 2019 Alert Stages



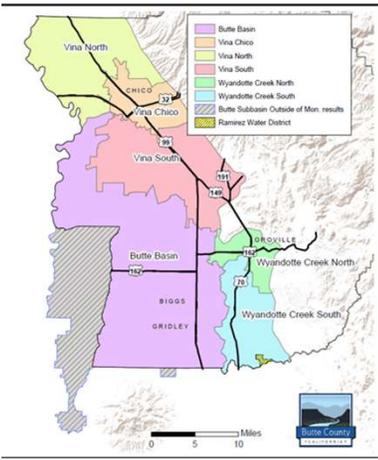
revised 1/31/2020 DWRC





Fall 2019 Groundwater Level Conditions

Fall 2018 Depth to Water (DTW) Conditions



Vina North (18)

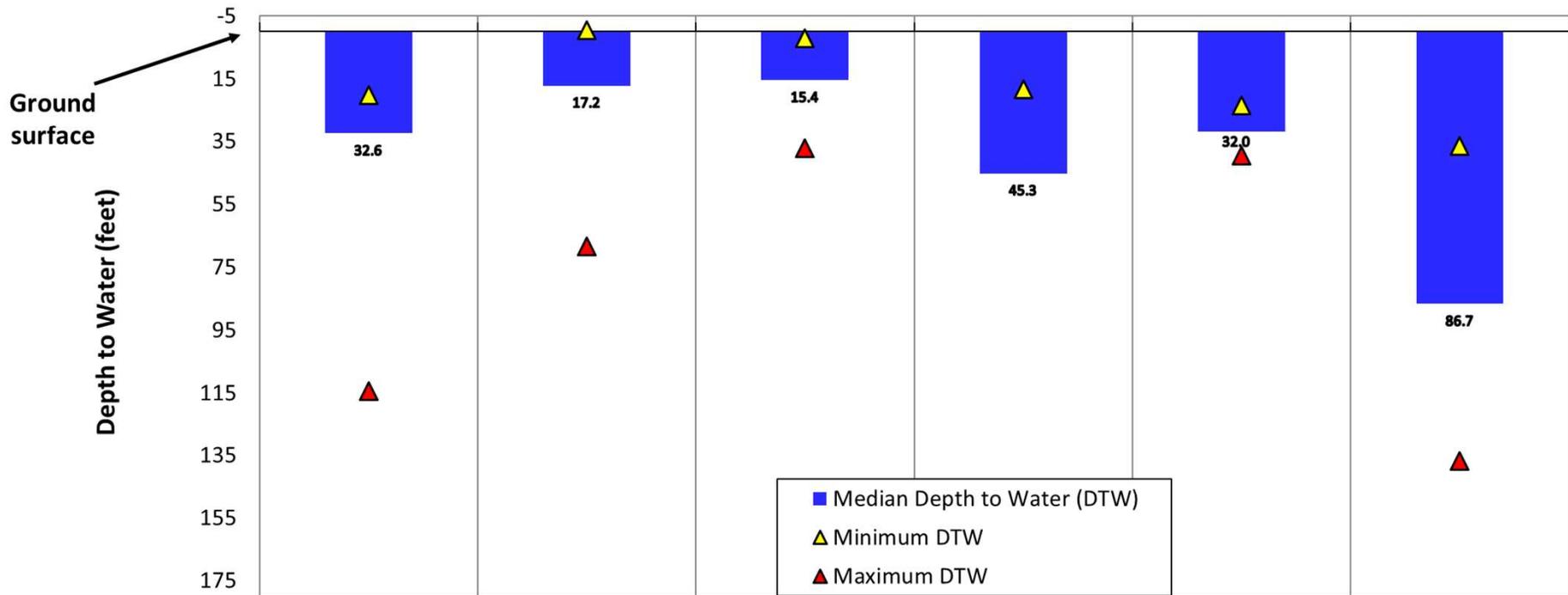
Vina Chico (15)

Vina South (30)

Butte* (56)

Wyandotte Crk. Oroville (4)

Wyandotte Crk. South (3)



Note: Bars show median DTW fall average and are labeled, triangles show range. Questionable measurements are included in data. Number after subbasin area indicates number of wells measured
 Indicates areas primarily served by surface water

Fall Monitoring Data and BMOs

Groundwater Level Elevation Change – Fall 2018 to Fall 2019

Number of wells		Change (ft.)	Area
116	Average GWL Change	3.2	
	Median GWL Change	3.6	
99	Average Increase	4.4	
	Median Increase	4.4	
	Max Increase	11.5	Vina South
14	Average Decrease	-4.9	
	Median Decrease	-2.2	
	Max Decrease	-22.8	Vina South

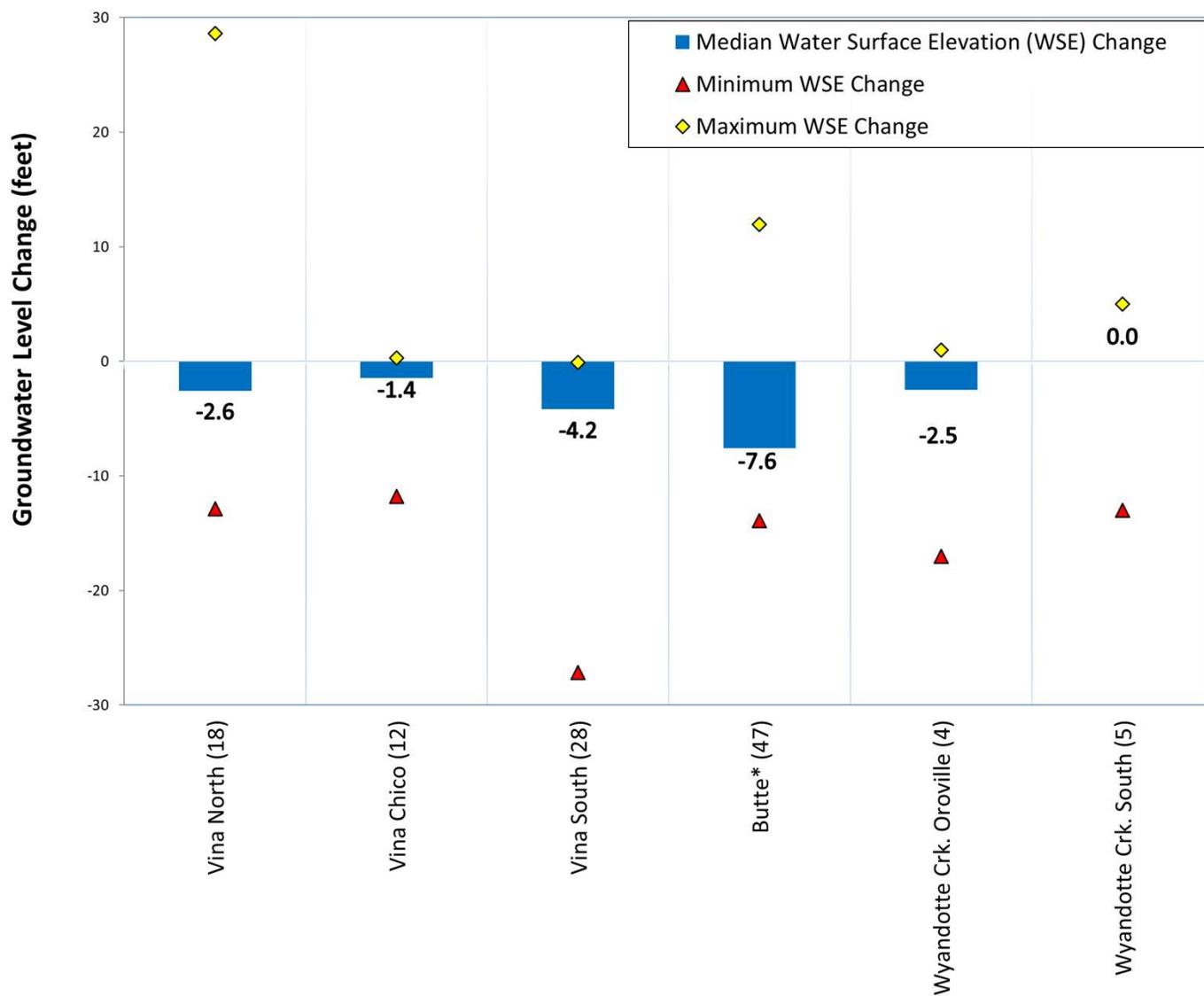
Note: Questionable measurements were not included and 3 wells measured did not change in GWL between Fall of 2018 and Fall of 2019

Groundwater Level [Water Surface Elevation (WSE)] Change Fall 2018 to Fall 2019



Note: Bars show **median DTW** and are labeled, triangles show range. Questionable measurements are not included in data. Number after the subbasin area name indicates number of wells measured. Positive values = increased water surface elevations (WSEs) and negative values = decreased WSEs
 *Areas primarily served by surface water.

Groundwater Level [Water Surface Elevation (WSE)] Change Fall 2011 to Fall 2019



Note: Bars show median DTW and are labeled, triangles show range. Questionable measurements are included in data. Number after the subbasin area name indicates number of wells measured. Positive values = increased water surface elevations (WSEs) and negative values = decreased WSEs *Areas primarily served by surface water.

Fall BMO Alert Frequencies 2008 - 2019

