



Kern River Groundwater Sustainability Agency (KRGSA)

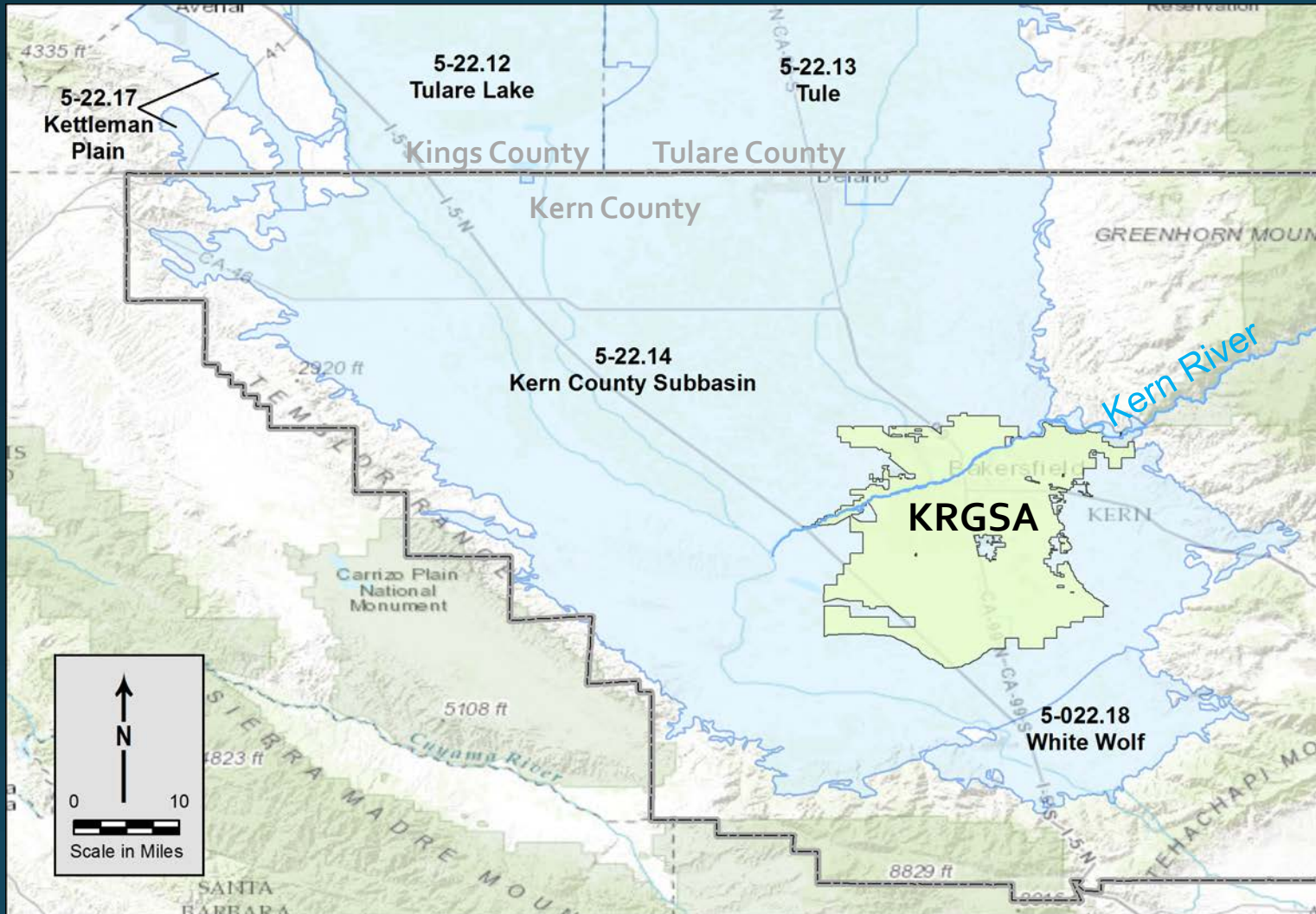
Groundwater Supply Workshop Groundwater Sustainability Plan (GSP)

July 13, 2017

Workshop Presentation

- ▶ KRGSA Formation
- ▶ Contents of a Groundwater Sustainability Plan (GSP)
- ▶ Sustainability Criteria
- ▶ KRGSA Planning Area
- ▶ Request for information on groundwater supply and demand
- ▶ Schedule

KRGSA and Groundwater Basins

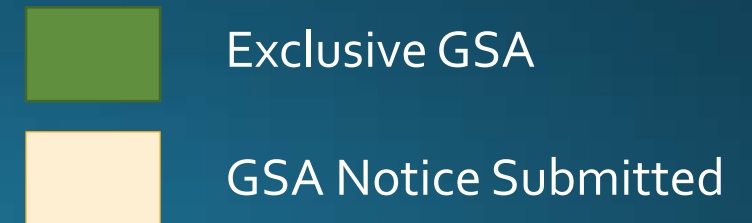


- ▶ Located in Kern County Subbasin
- ▶ DWR critically-overdrafted basin
- ▶ KRGSA
 - ▶ 357 square miles
 - ▶ Kern River

GSAs in Kern County Subbasin



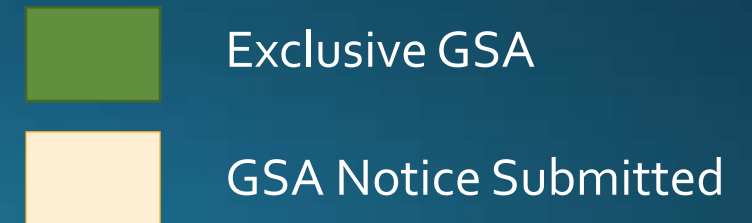
- ▶ GSAs cover entire subbasin
- ▶ KRGSA Exclusive GSA December 2016
- ▶ Others recently formed



GSAs in Kern County Subbasin



- ▶ GSAs must form *Groundwater Sustainability Plans (GSP)* by 2020
- ▶ Achieve sustainability by 2040



What is in a Groundwater GSP?

Data Compilation / Data
Management System

Institutional Setting –
Water Supply / Plan Area

Workshop

Hydrogeologic Conceptual
Model / Groundwater

Water Budget (Current
and Historical)

Sustainability Goals and
Criteria

Management Scenarios
Projected Water Budget

Monitoring Networks
Plan Development

Sustainability Indicators



Chronic lowering of water levels



Depletion of groundwater in storage



Degradation of groundwater quality



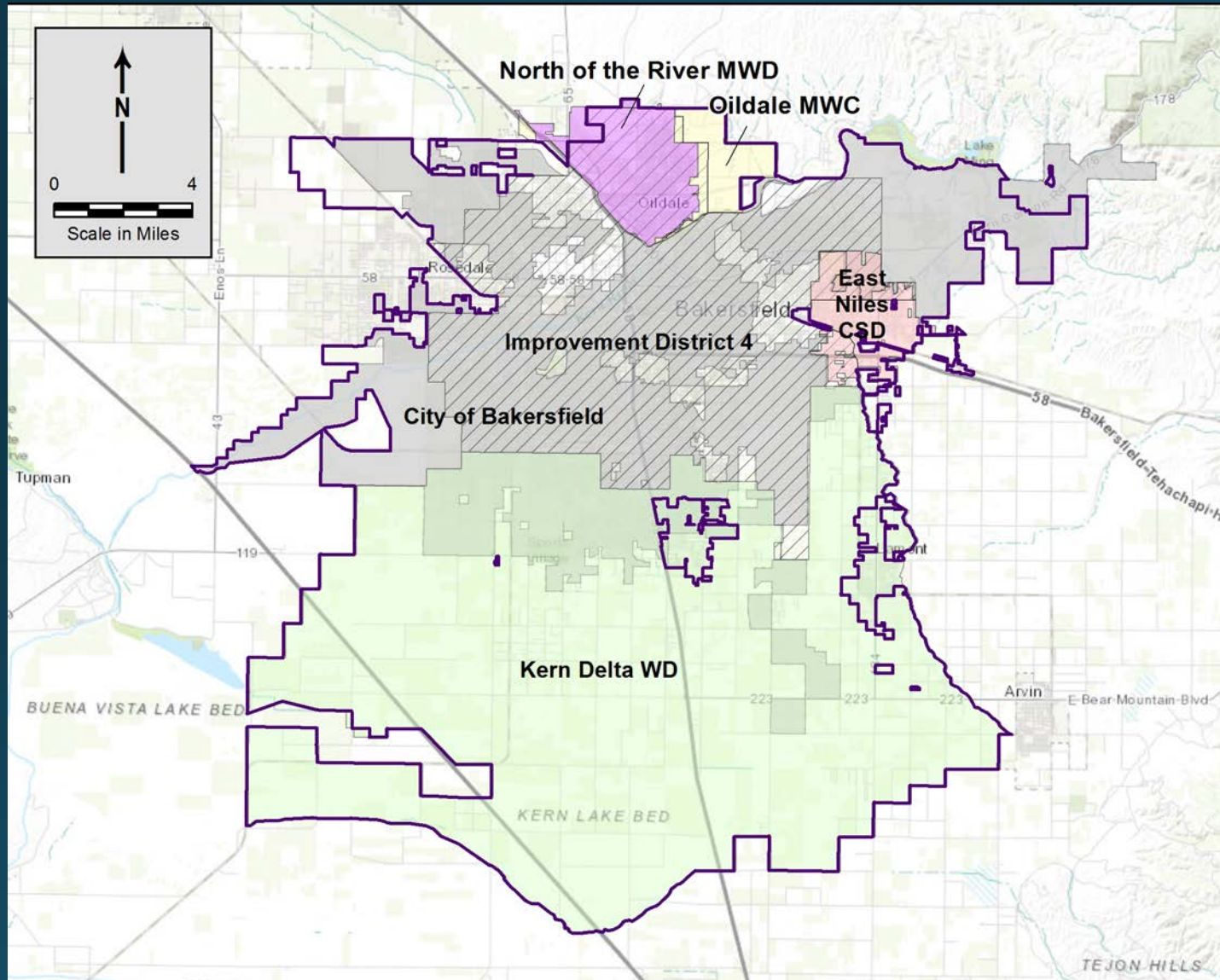
Land subsidence from groundwater pumping



Depletion of interconnected surface water affecting beneficial uses

An indicator is an undesirable result if determined to be “significant and unreasonable”

KRGSA and Member Agencies



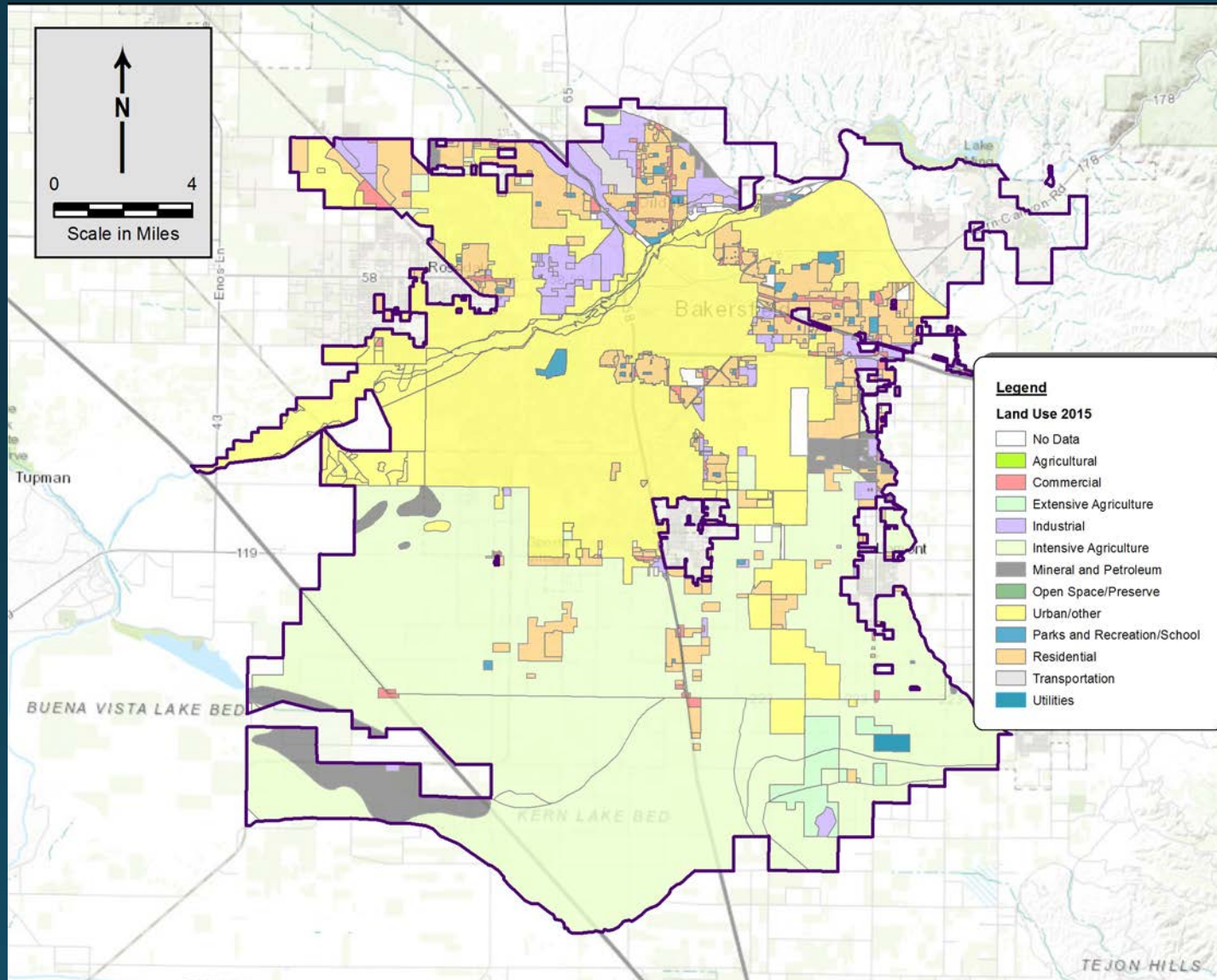
▶ BOARD/MANAGEMENT:

- ▶ City of Bakersfield
- ▶ Kern County Water Agency, Improvement District 4 (ID4)
- ▶ Kern Delta Water District

▶ PARTICIPATING AGENCIES:

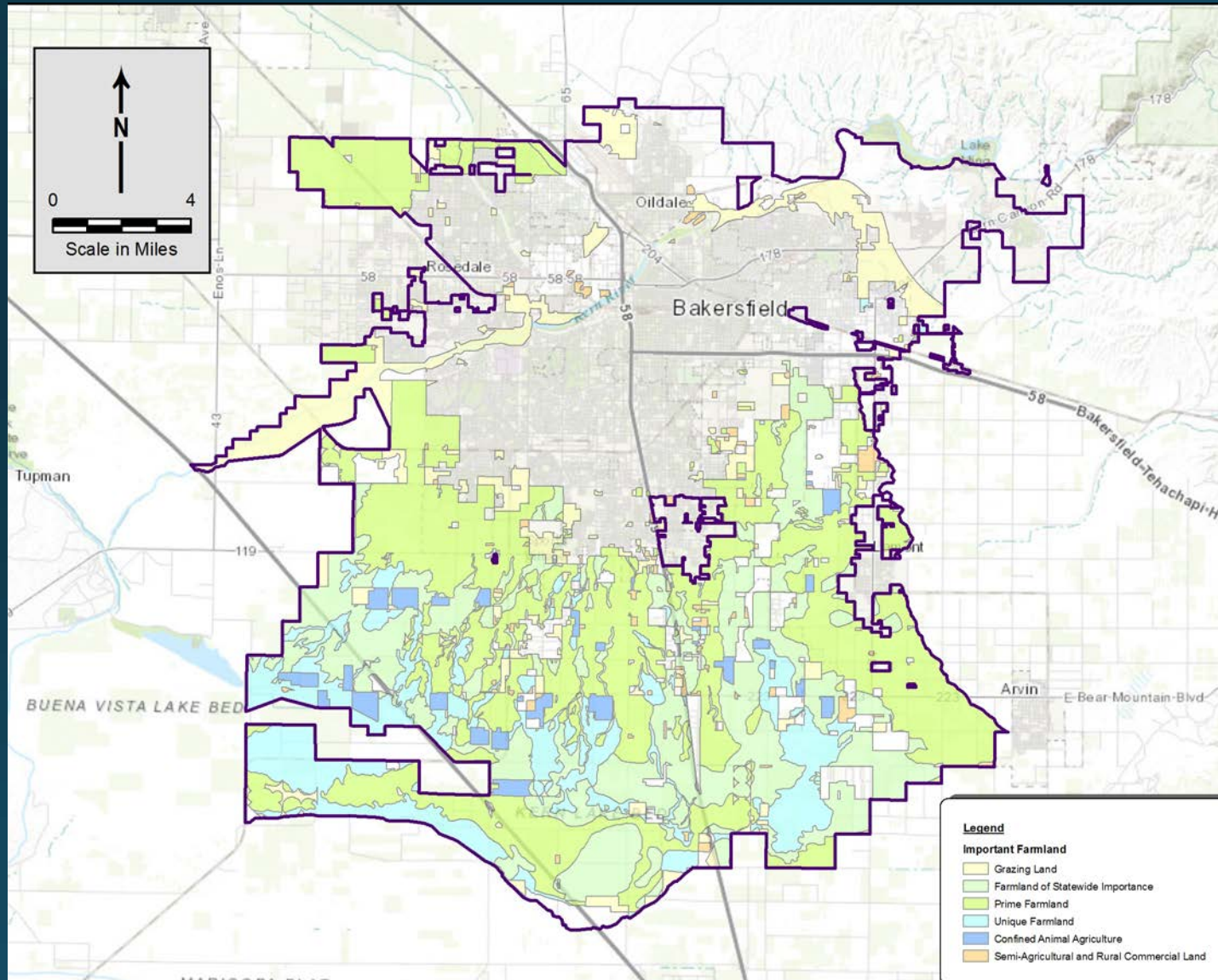
- ▶ East Niles Community Services District (CSD)
- ▶ North of the River Municipal Water District (MWD) / Oildale Mutual Water Company (MWC)
- ▶ CA Water Service Company
- ▶ Vaughn Water Company

Land Use



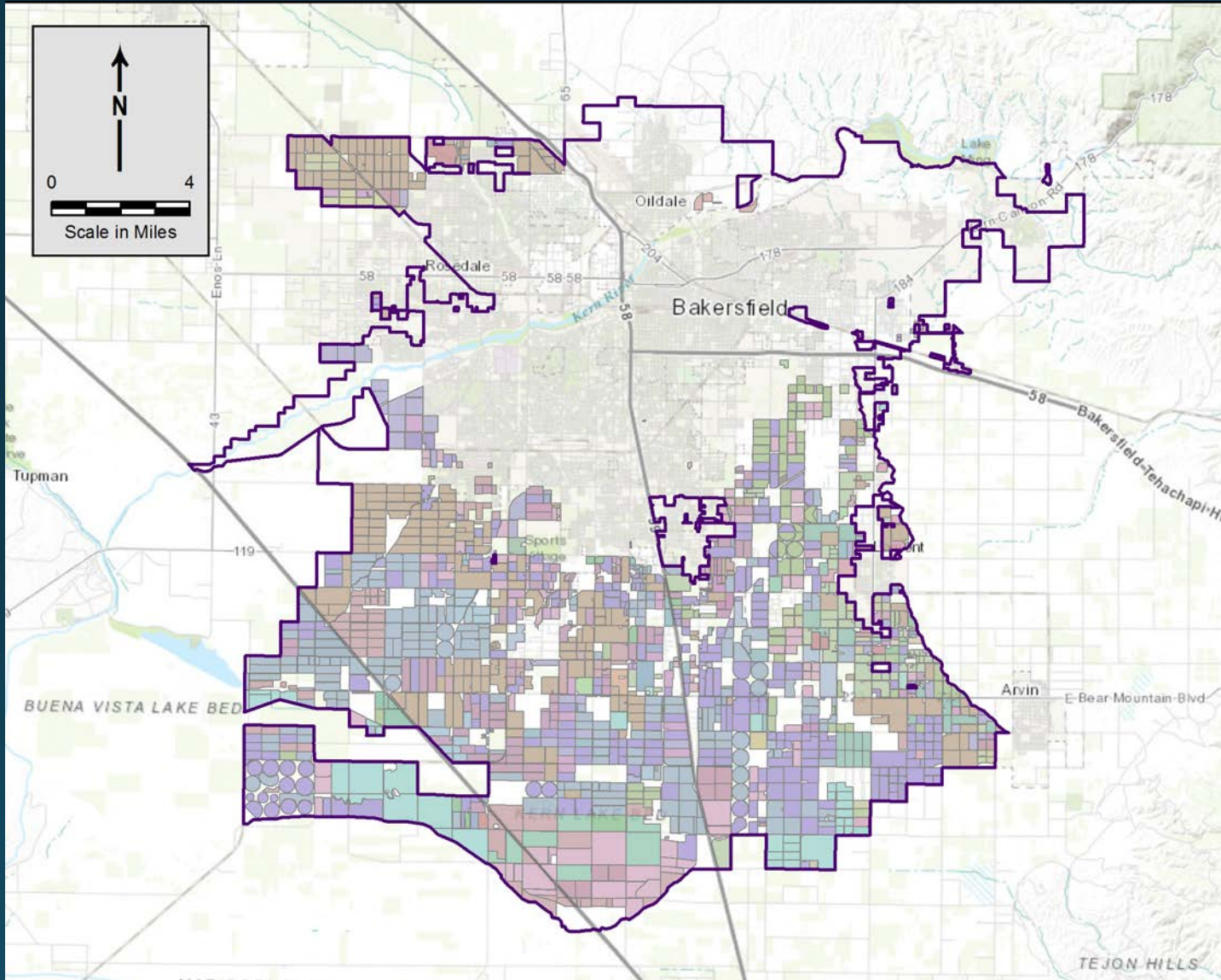
- ▶ Mix of Land Uses
- ▶ Large urban center
- ▶ Residential and industrial
- ▶ Large agricultural area
- ▶ Some petroleum resources

Farmland of State Importance



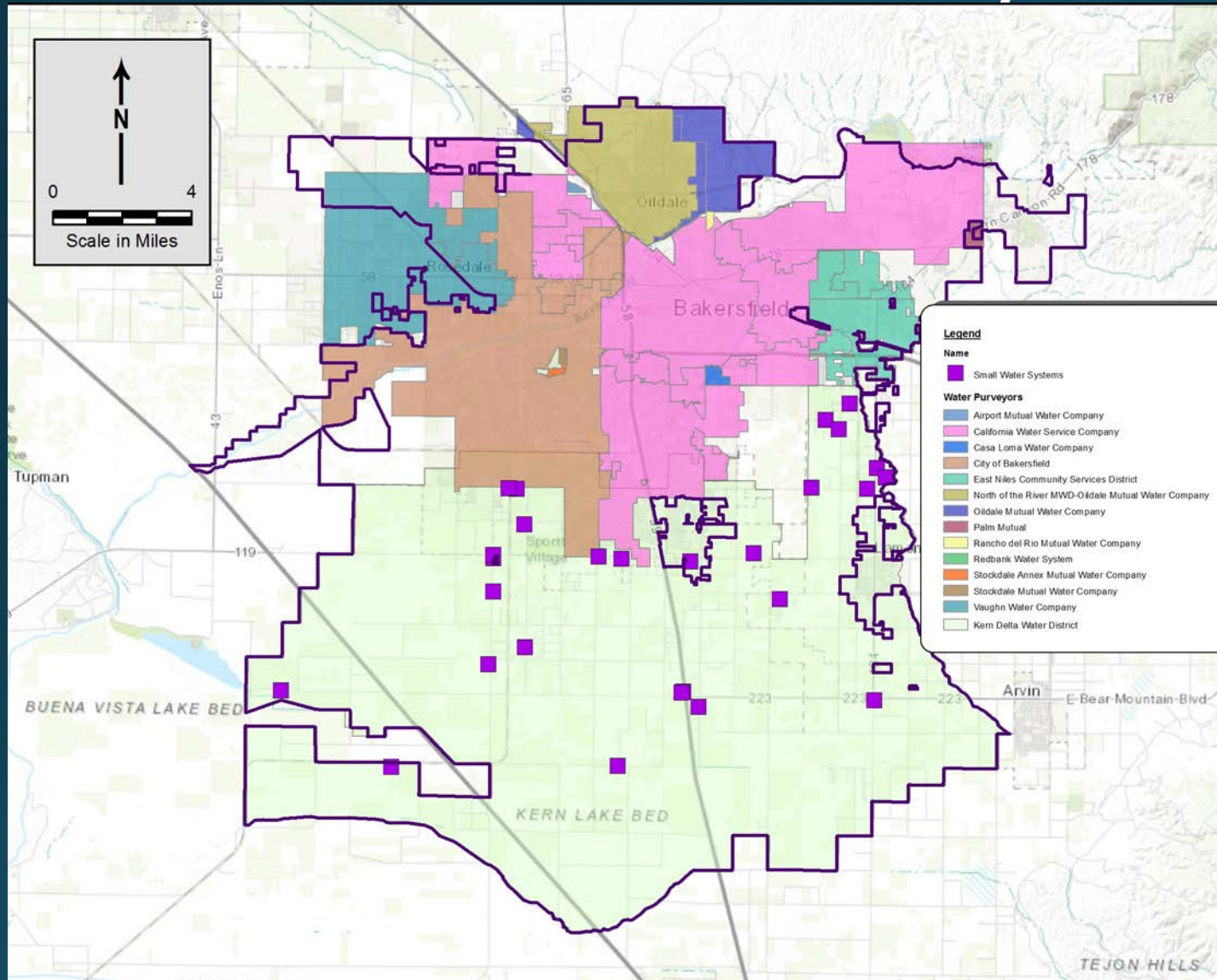
- ▶ Prime and unique Farmland
- ▶ Some Grazing Lands
- ▶ Dairies

Agricultural Crops

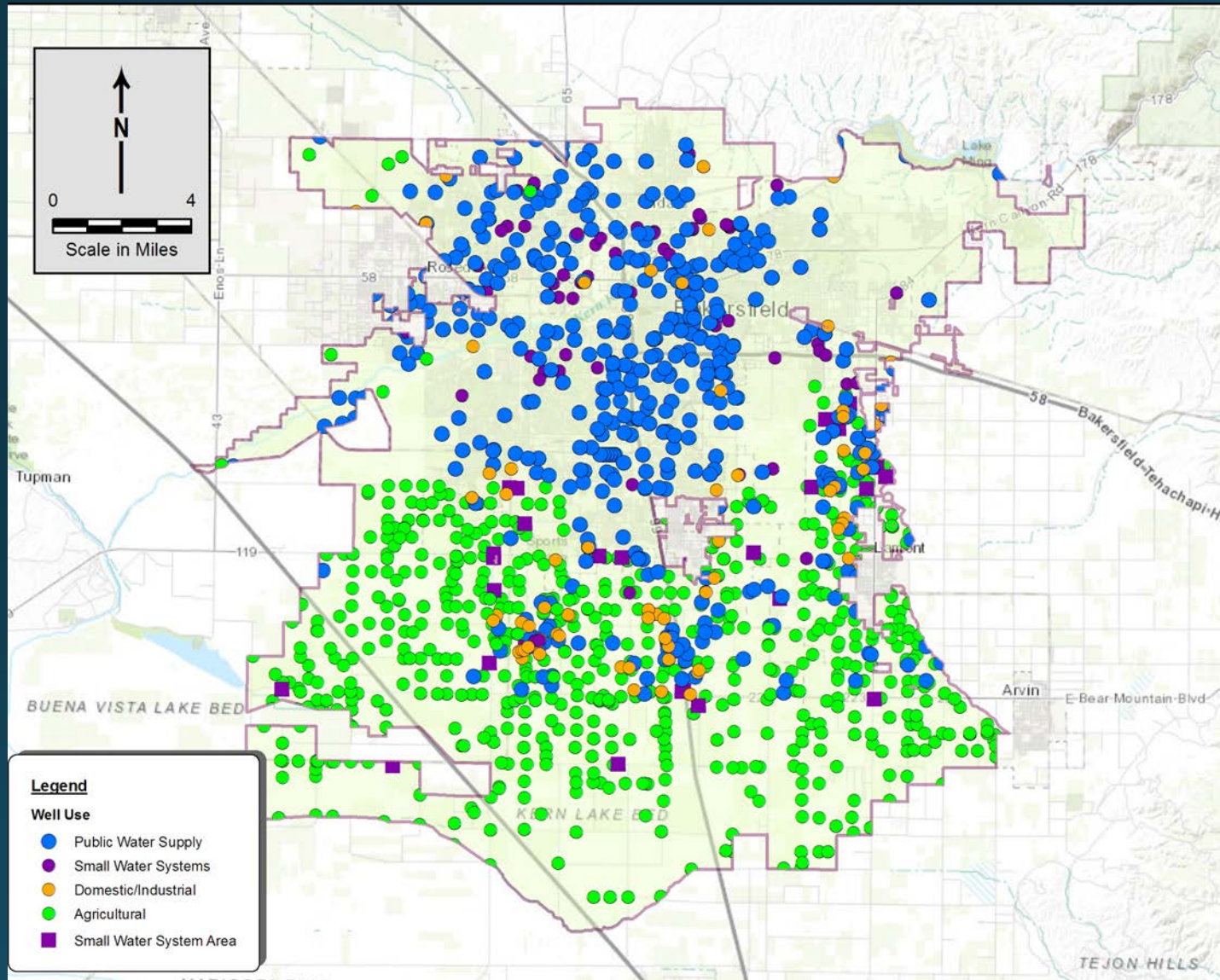


- ▶ Mix of agricultural crops
- ▶ Increasing permanent crops

Local Water Purveyors

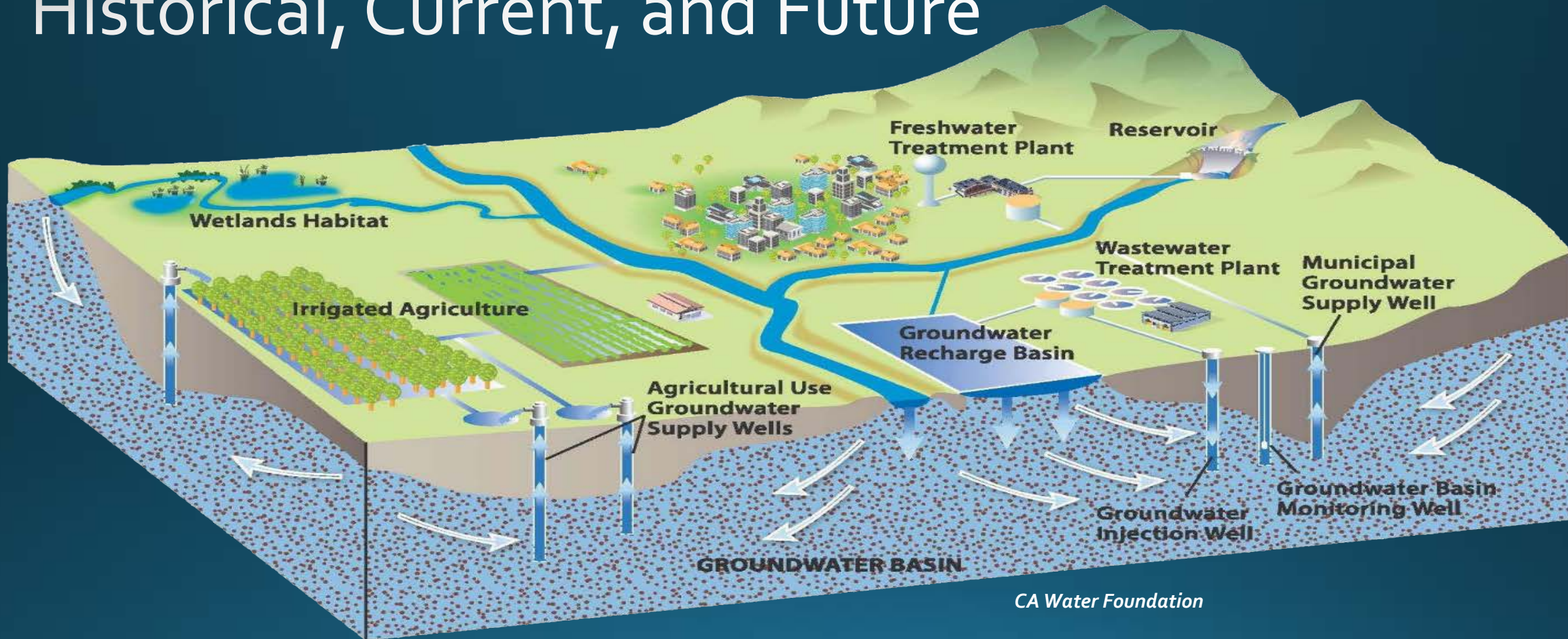


Active Wells in the KRGSA >1,100



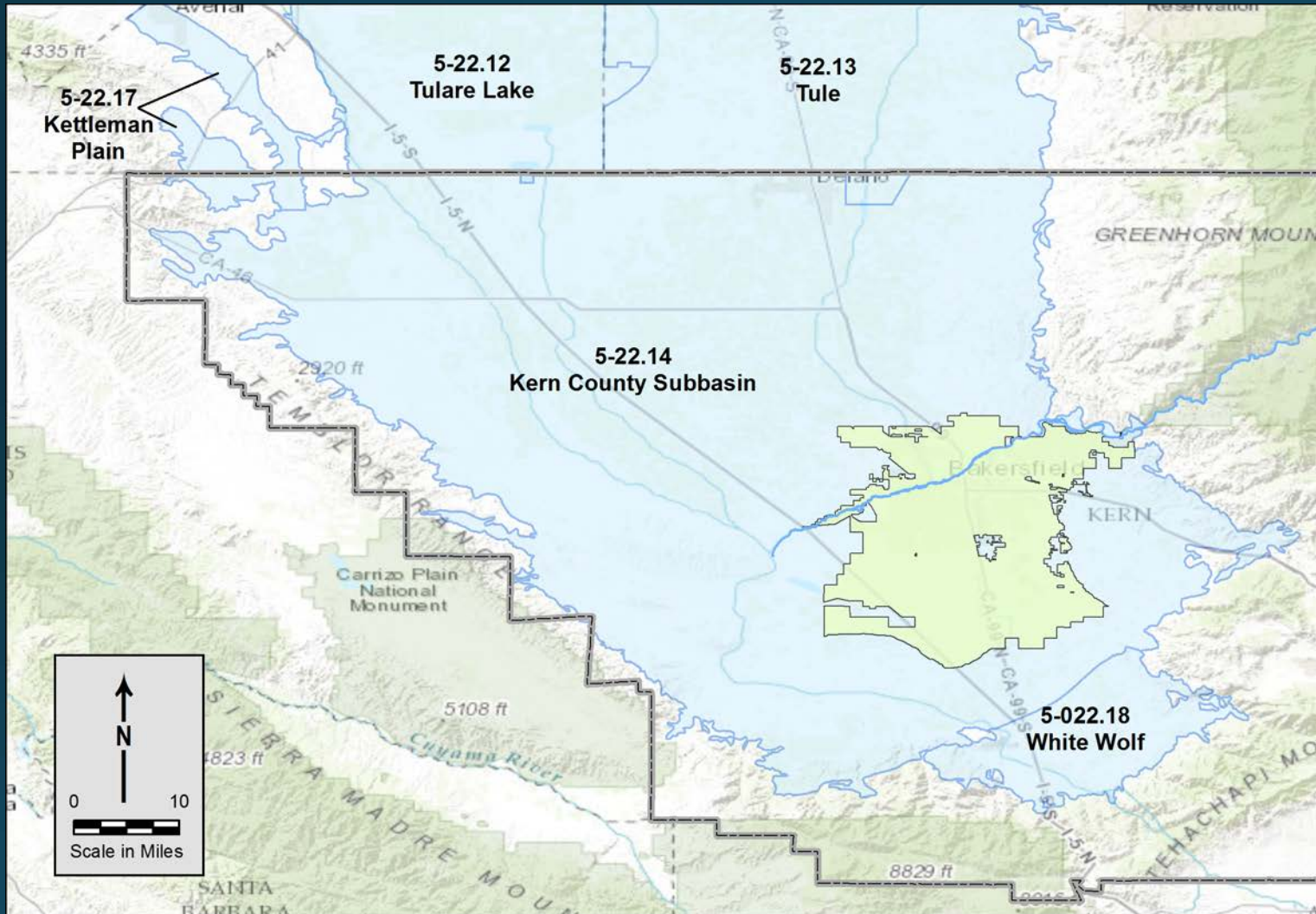
- ▶ 300+ municipal water supply wells
- ▶ 93+ small water system wells
- ▶ 106 domestic / industrial wells
- ▶ 642 agricultural wells
- ▶ GSP regulations require well identification and mapping

GSP Requires Detailed Water Budgets: Historical, Current, and Future



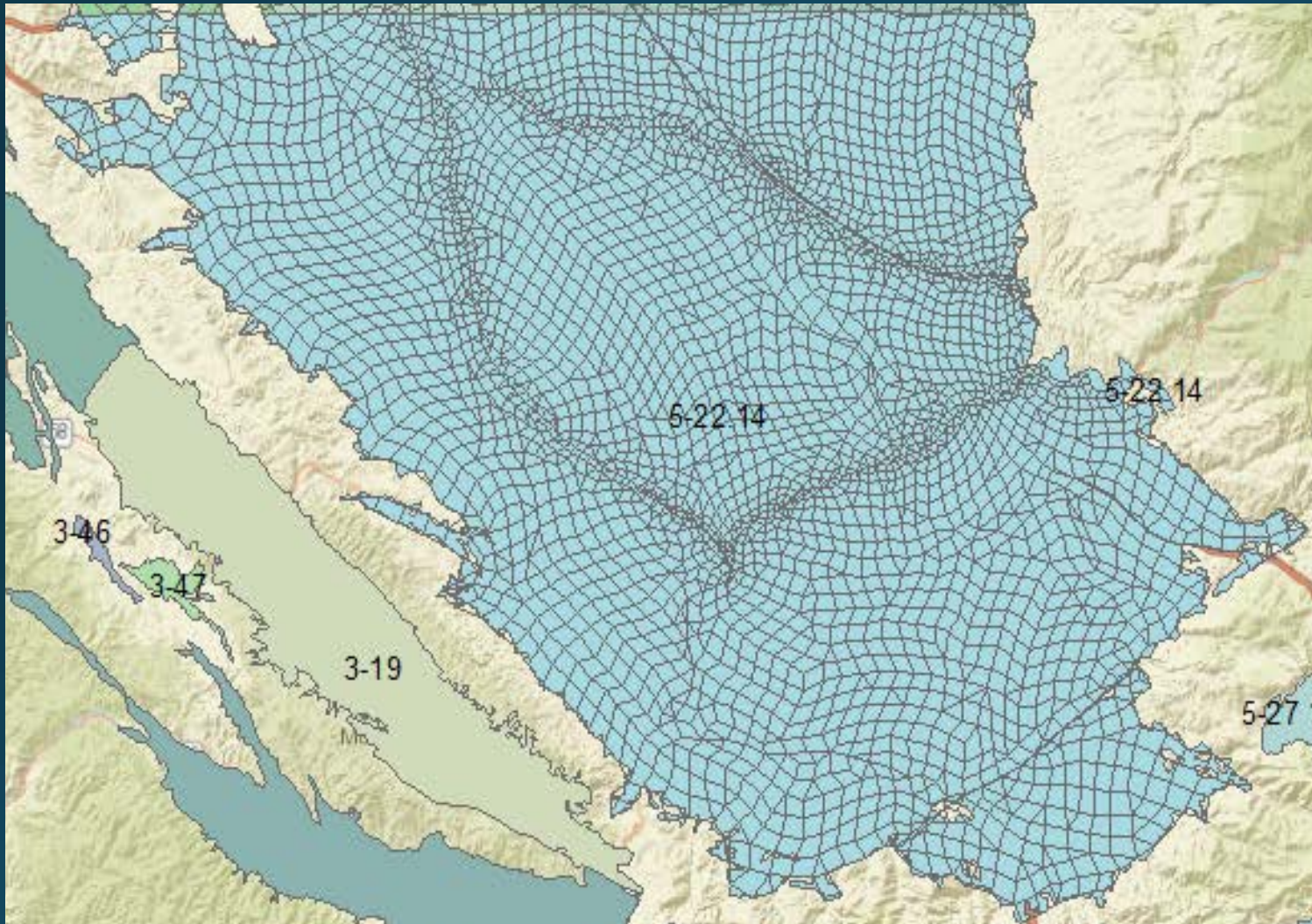
Tabulate inflows and outflows for the KRGSA groundwater system
Document surface water entering and leaving the GSA

GSP Basin-wide Water Budgets



- ▶ Account for all inflows, outflows, and change in storage (groundwater and surface water)
- ▶ Current, Historical, and Projected water budgets
- ▶ Must cover the entire subbasin ($>3,000 \text{ mi}^2$)

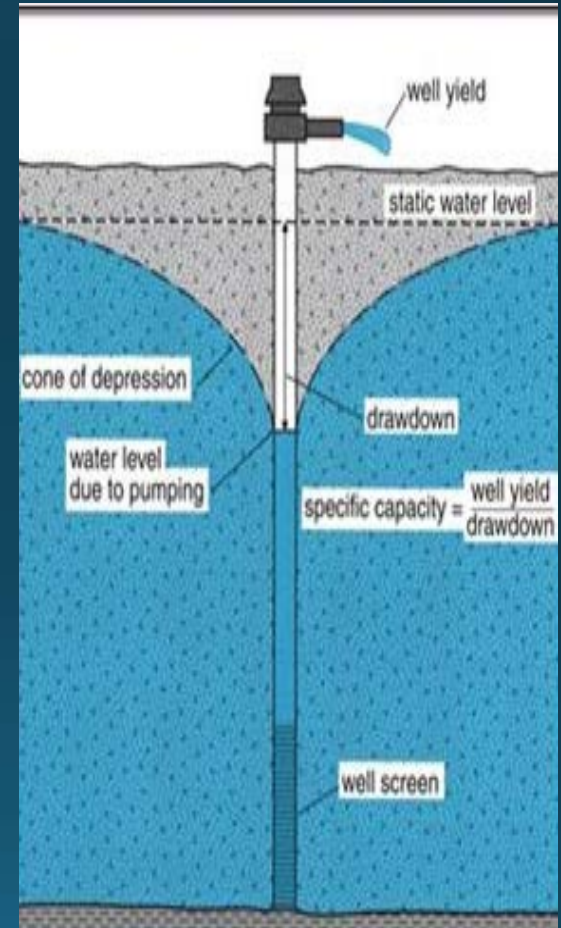
DWR Basin-wide Groundwater Model



- ▶ C2VSim numerical computer model
- ▶ Regional model with incomplete local data
- ▶ Modify local water budgets for KRGSA in model
- ▶ Model Study Period:
WY 1994 – WY 2015

Well and Production Data Needed

- ▶ Wells
 - ▶ Number of wells and location (lat/long, coordinates)
 - ▶ Depth, screen interval, casing diameter and materials
 - ▶ Surface elevation / reference elevation
 - ▶ Capacity and use (active, standby, etc.)
 - ▶ Water use
- ▶ Monthly pumping (by well): October 1994 – Present
- ▶ If monthly data unavailable, will estimate from annual production
- ▶ Other water sources and use



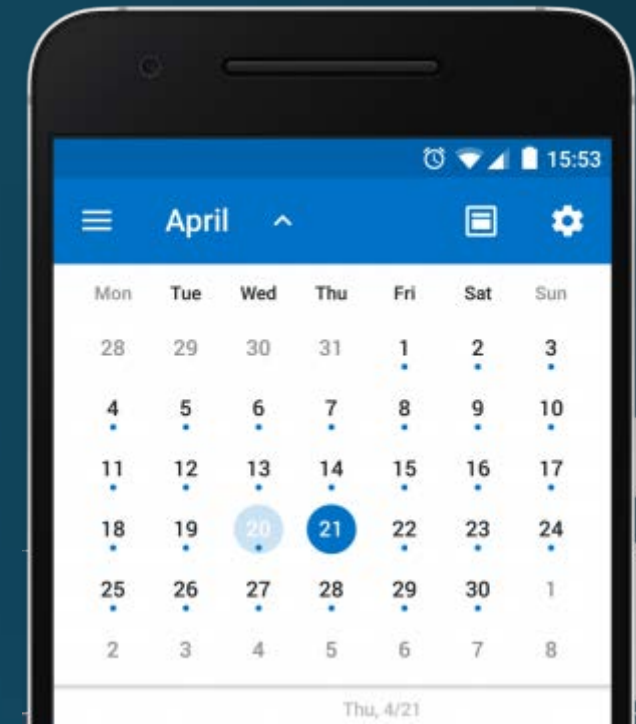
Wastewater and Recycled Water Needed

- ▶ City of Bakersfield
 - ▶ WWTP #2 and #3
 - ▶ Recharge ponds
 - ▶ Irrigation with recycled water
- ▶ Kern Sanitation Authority
- ▶ NOR Sanitary District No. 1
- ▶ Kern County Service Area 71
- ▶ Septic systems – where?



Schedule

- GSP must be completed by 2020
- 2017
 - Describe Plan Area
 - Evaluate hydrogeology and groundwater conditions
 - Develop and analyze water budgets
 - Evaluate sustainability indicators for undesirable results
- 2018
 - Determine Sustainability Criteria
 - Identify and analyze management actions
 - Develop Plan
- 2019
 - Coordinate with other GSPs in the subbasin
 - Develop Monitoring networks
 - Prepare data for plan submittal to DWR



Get Involved

- GSP will contain information on the shared groundwater supply in the KRGSA
- GSP regulations require management and reporting of groundwater extractions
- Monthly Board meetings
- Quarterly information meetings

<http://kernrivergsa.org>



Discussion and Questions