

Components of the Hydrogeologic Conceptual Model

Technical Webinar-Preliminary Basin Setting Results
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Hydrogeologic Conceptual Model (HCM) Fundamentally:

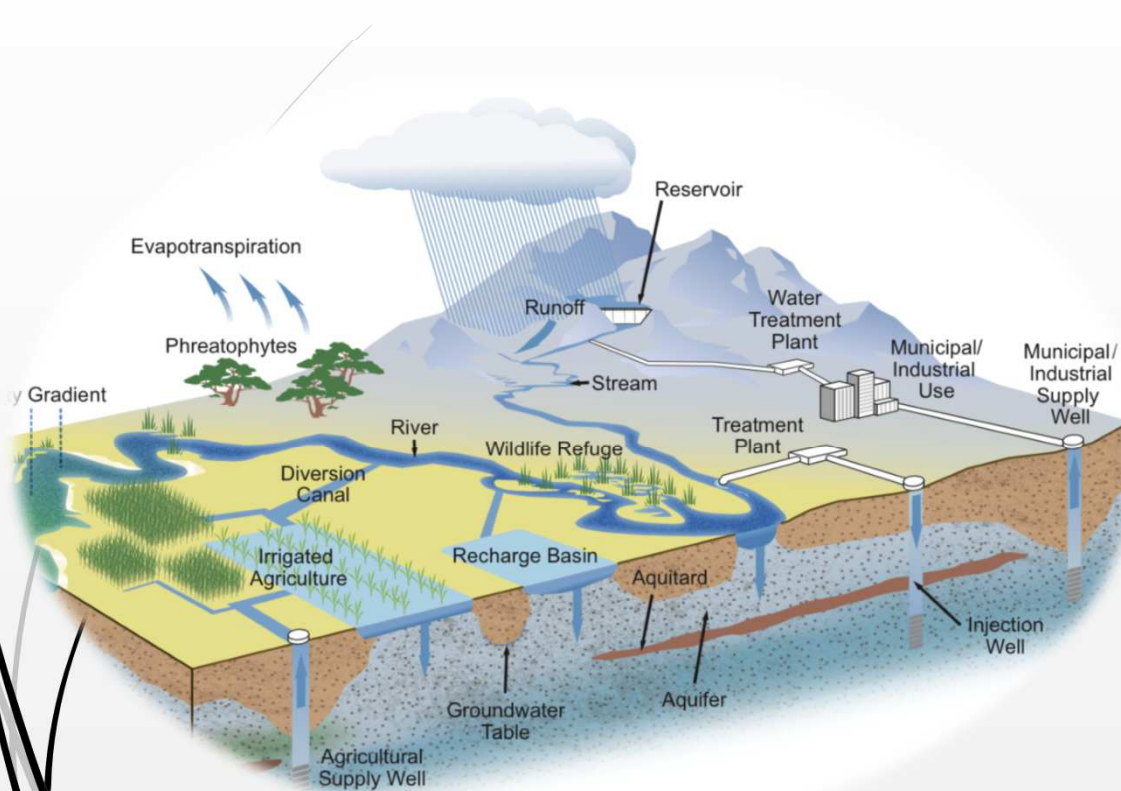
Provides an understanding of the general physical characteristics related to regional hydrology, land use, geology and geologic structure, water quality, principal aquifers, and principal aquitards of the Basin Setting

Provides the context to develop water budgets, mathematical models (ex. Butte Basin Groundwater Model), and monitoring networks

Excerpt from Hydrogeologic Conceptual Model BMP

https://water.ca.gov/LegacyFiles/groundwater/sgm/pdfs/BMP_HCM_Final_2016-12-23.pdf

HCM Components- Physical Characteristics

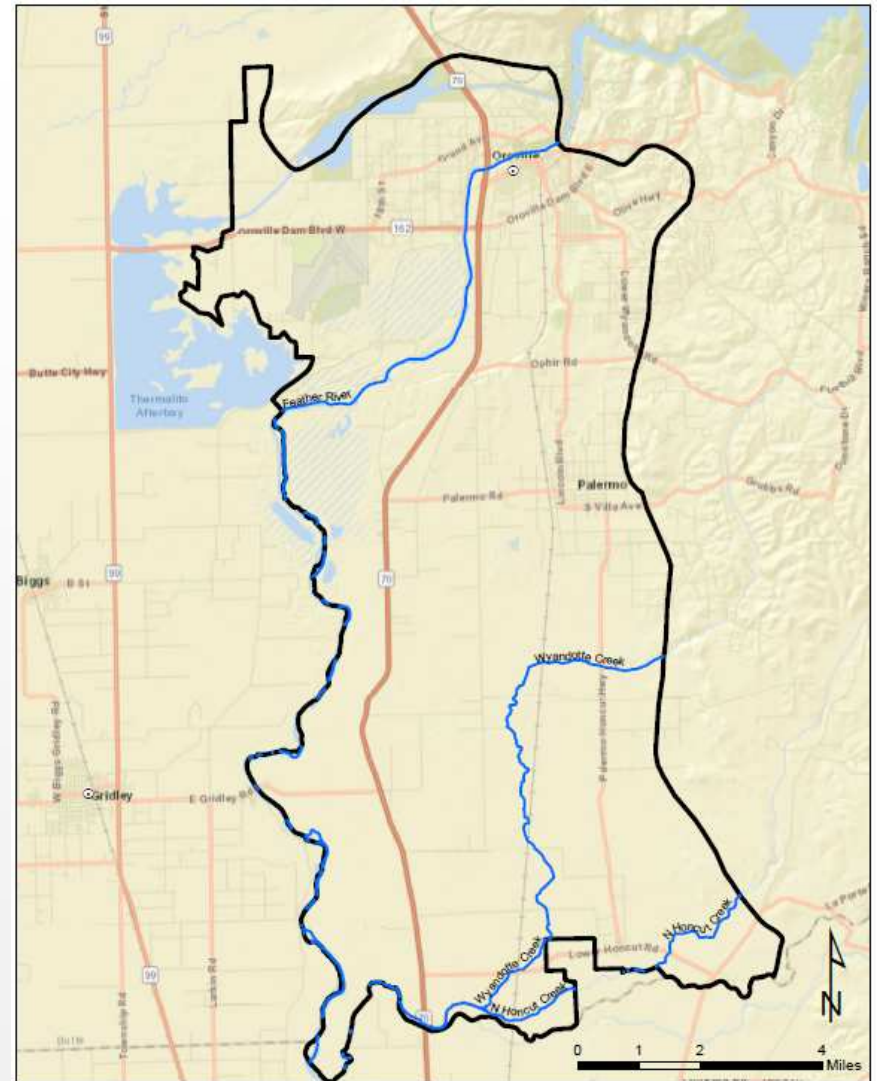


- Graphical and narrative description of the physical components of the basin
- At least two scaled cross-sections
- Map(s) of physical characteristics
 - Topographic information
 - Surficial geology
 - Soil characteristics
 - Delineation of existing recharge areas that substantially contribute to the replenishment of the basin, potential recharge areas, and discharge areas
 - Surface water bodies
 - Source and point of delivery for local and imported water supplies

Wyandotte Creek Subbasin

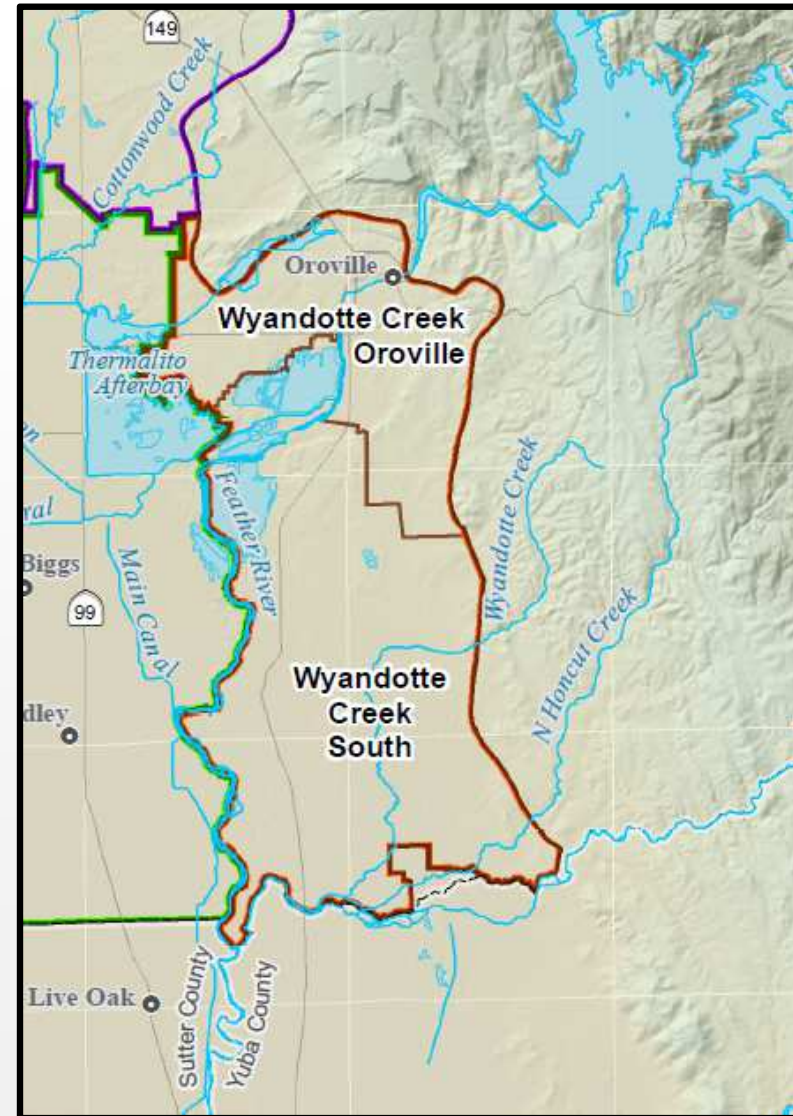
- Irrigated agriculture
- City of Oroville
- Rural residential (ex. Palermo)
- Major River: Feather River
- Creeks and Streams (ex. North Honcut Creek)
- Riparian areas and ecosystems

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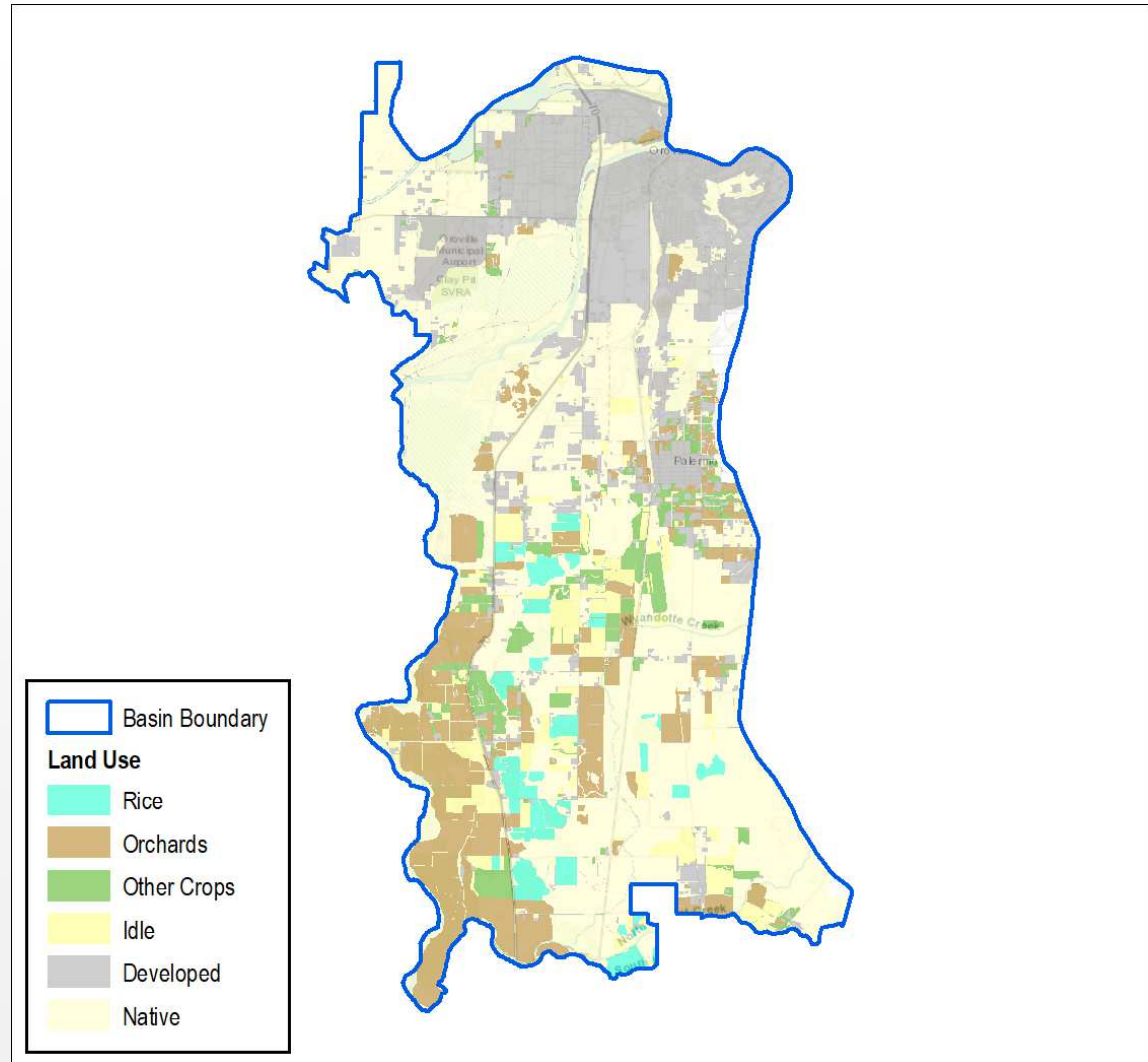


Surface Water Hydrology

- ▶ Feather River
- ▶ Wyandotte Creek
- ▶ Honcut Creek



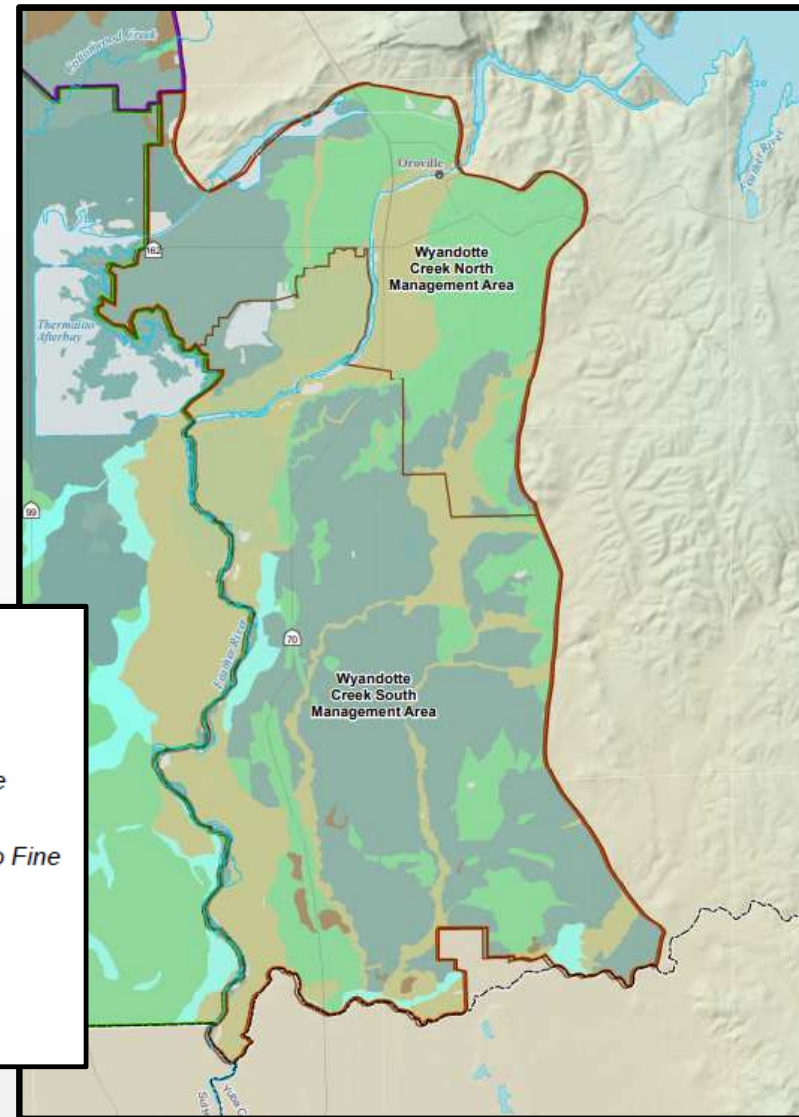
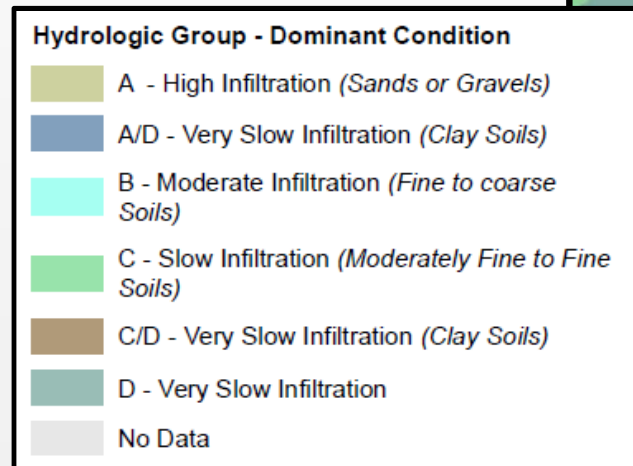
Land Use



Soils




Soil Characteristics
Affect:

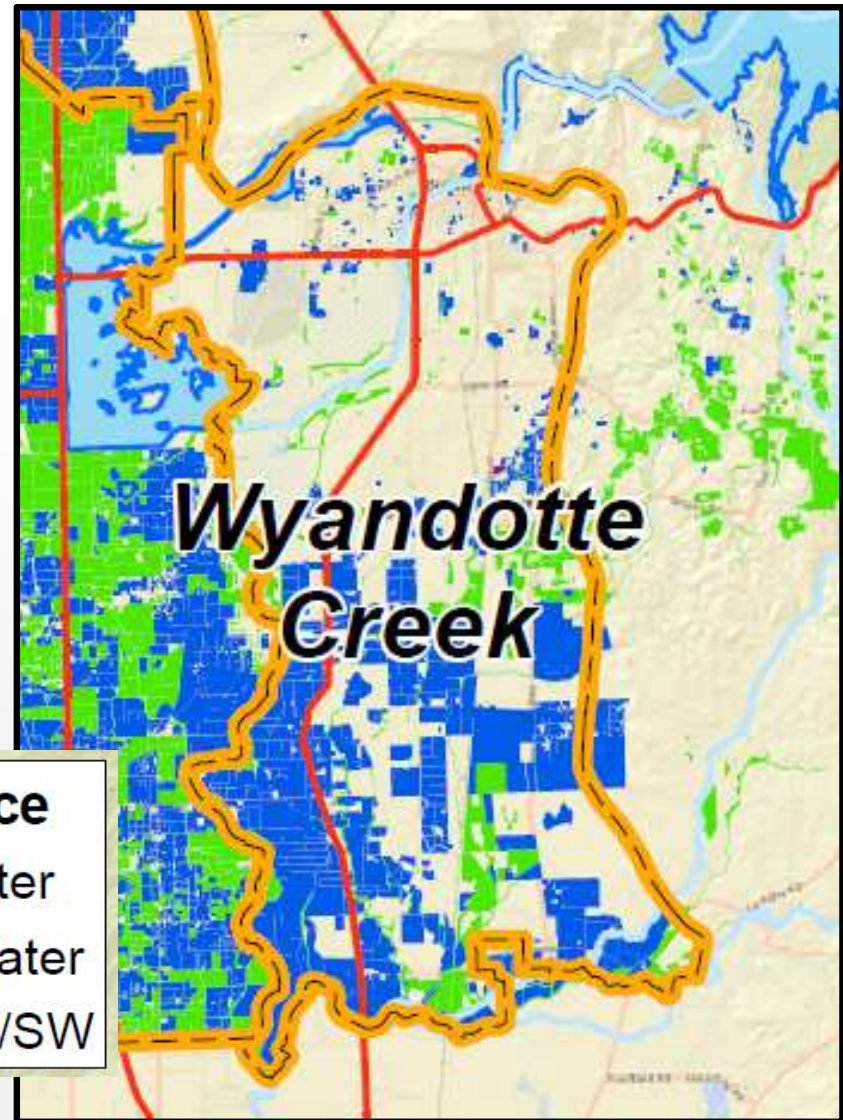
- Land Use: what crops are grown where
- Recharge (percolation rates)



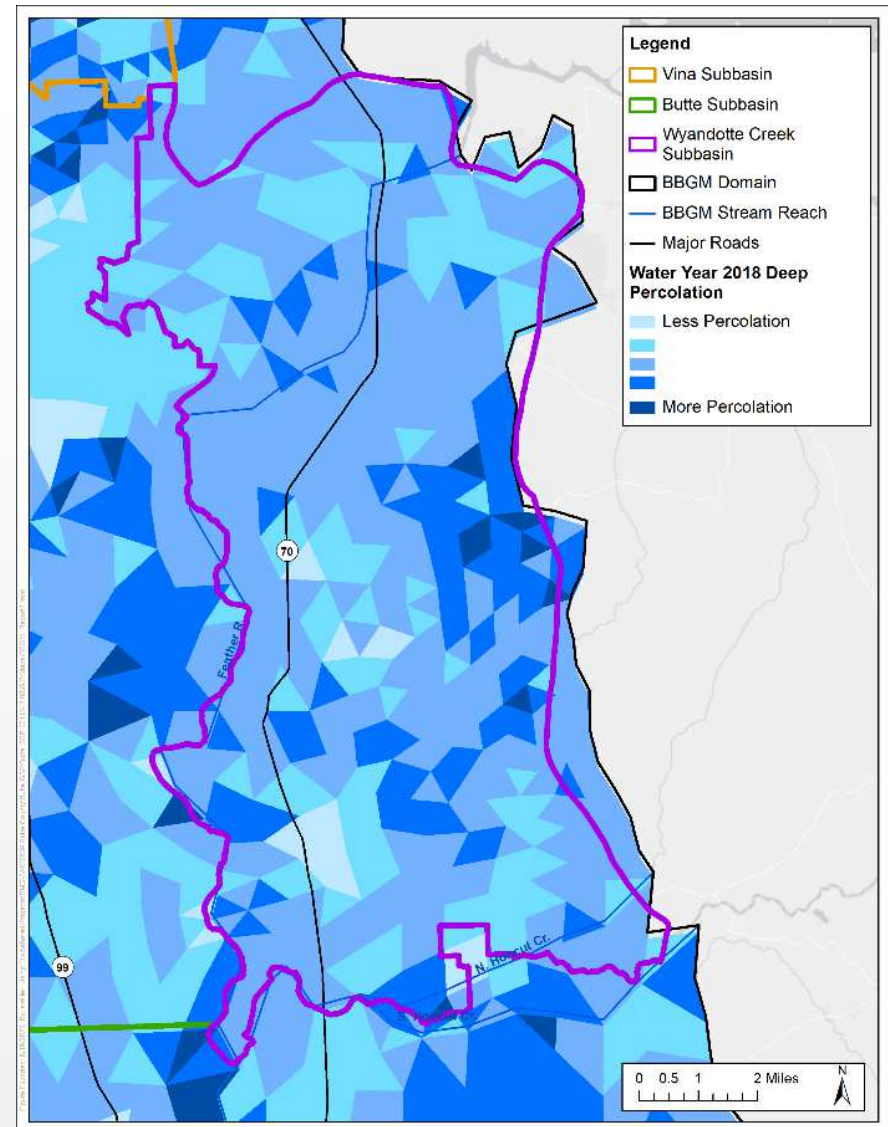
Water Supply Sources

- City of Oroville and irrigation water supply is a mix of groundwater and surface water (Feather River diversions)

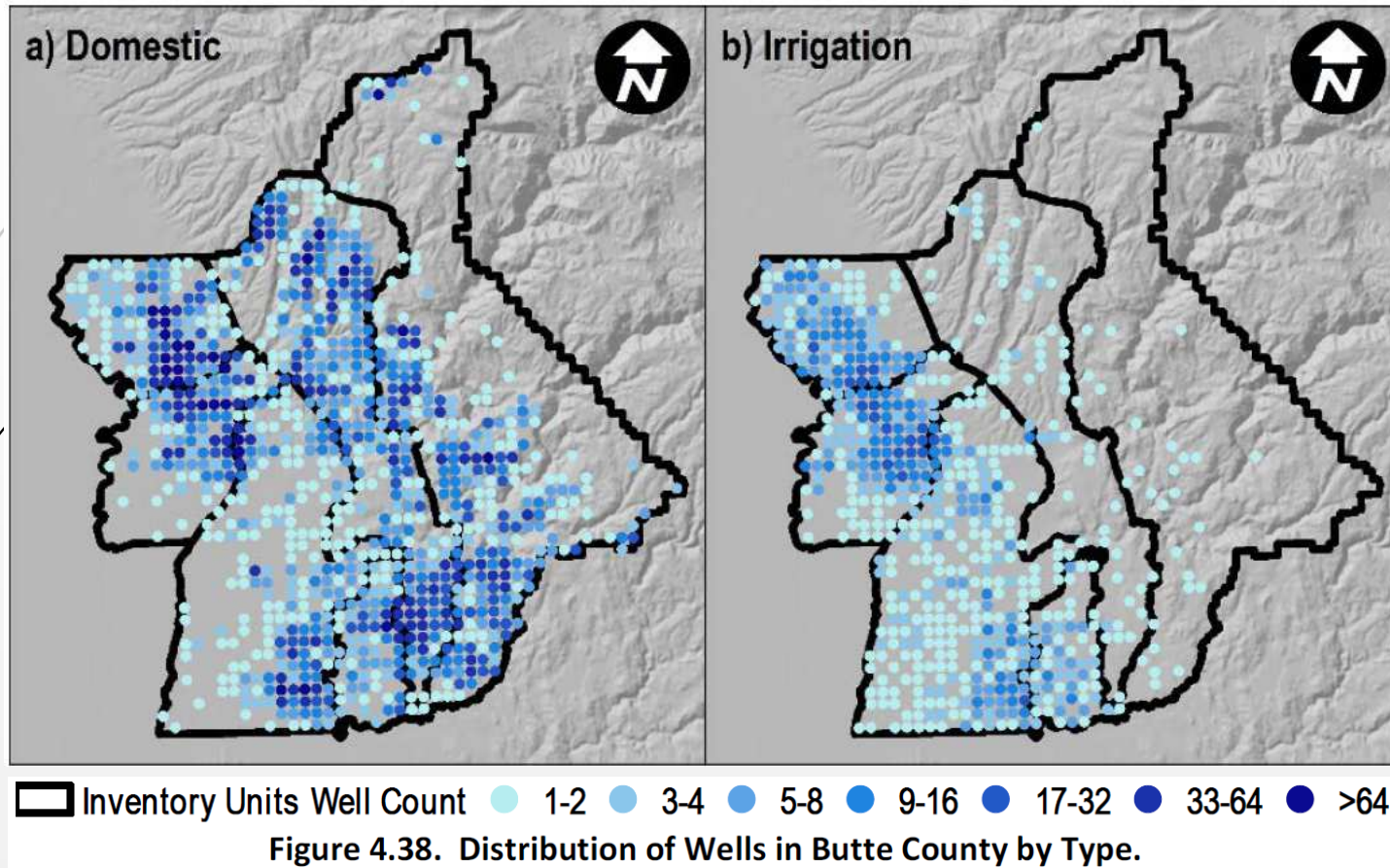
Water Source	
	Groundwater
	Surface Water
	Mixed GW/SW



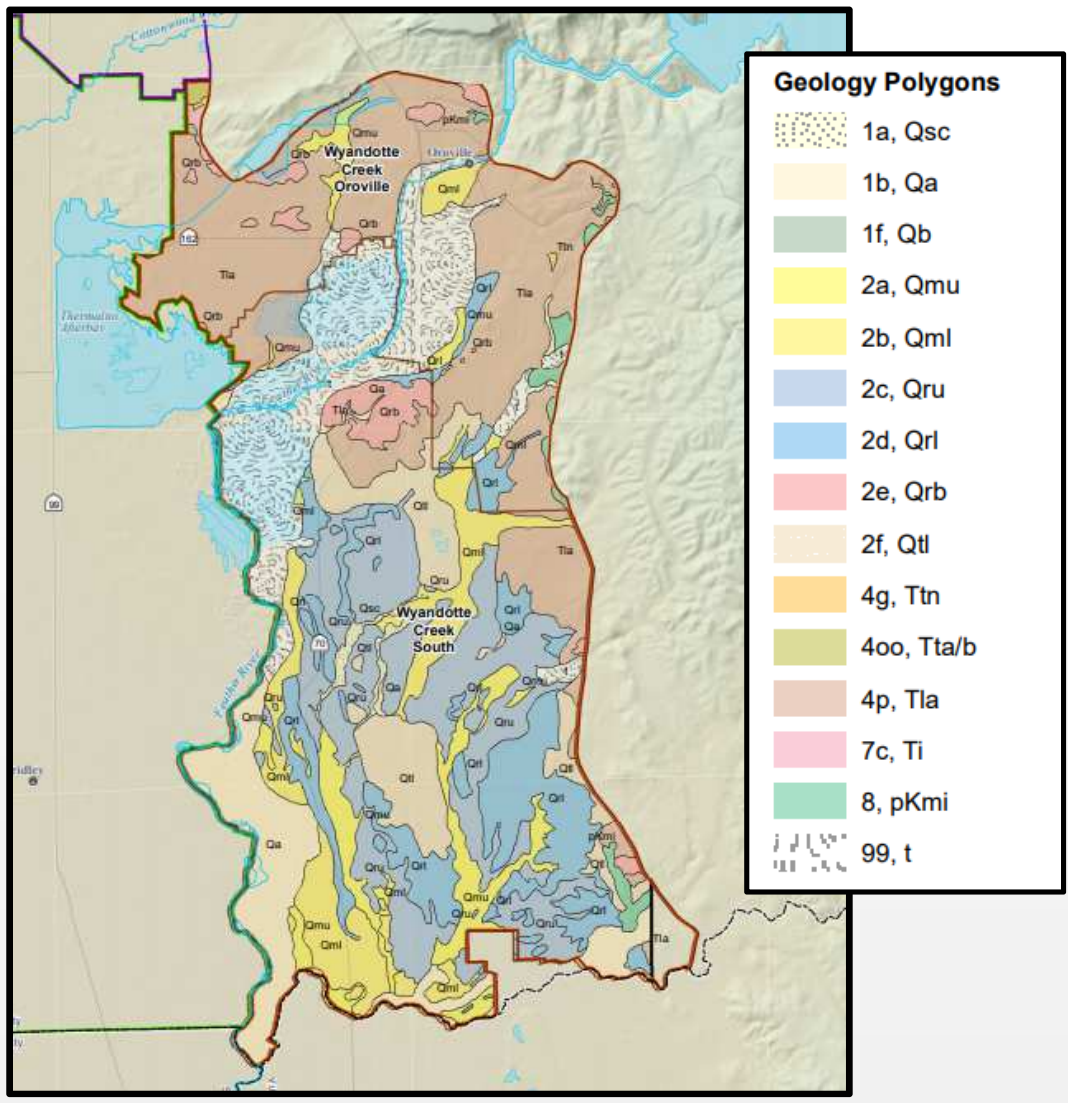
Relative Recharge



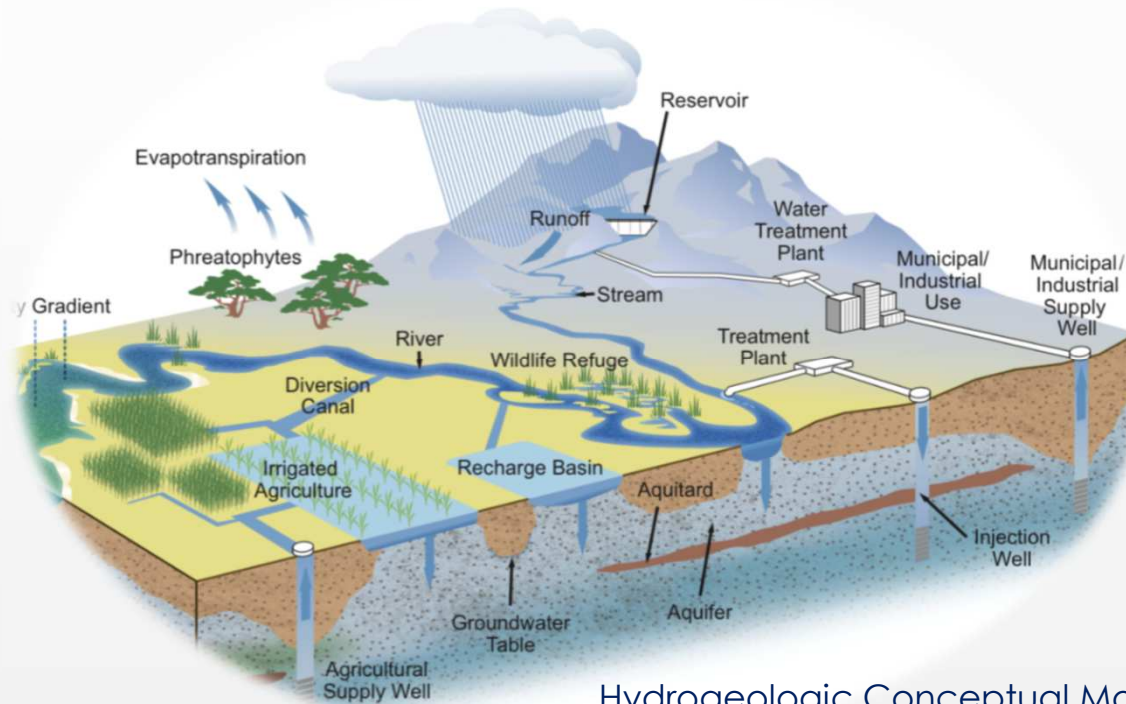
Well Infrastructure



Surficial Geology



Questions?



Hydrogeologic Conceptual Model

Provides context for water budgets, monitoring, and modeling



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