

Kinder Morgan Permian Highway Pipeline

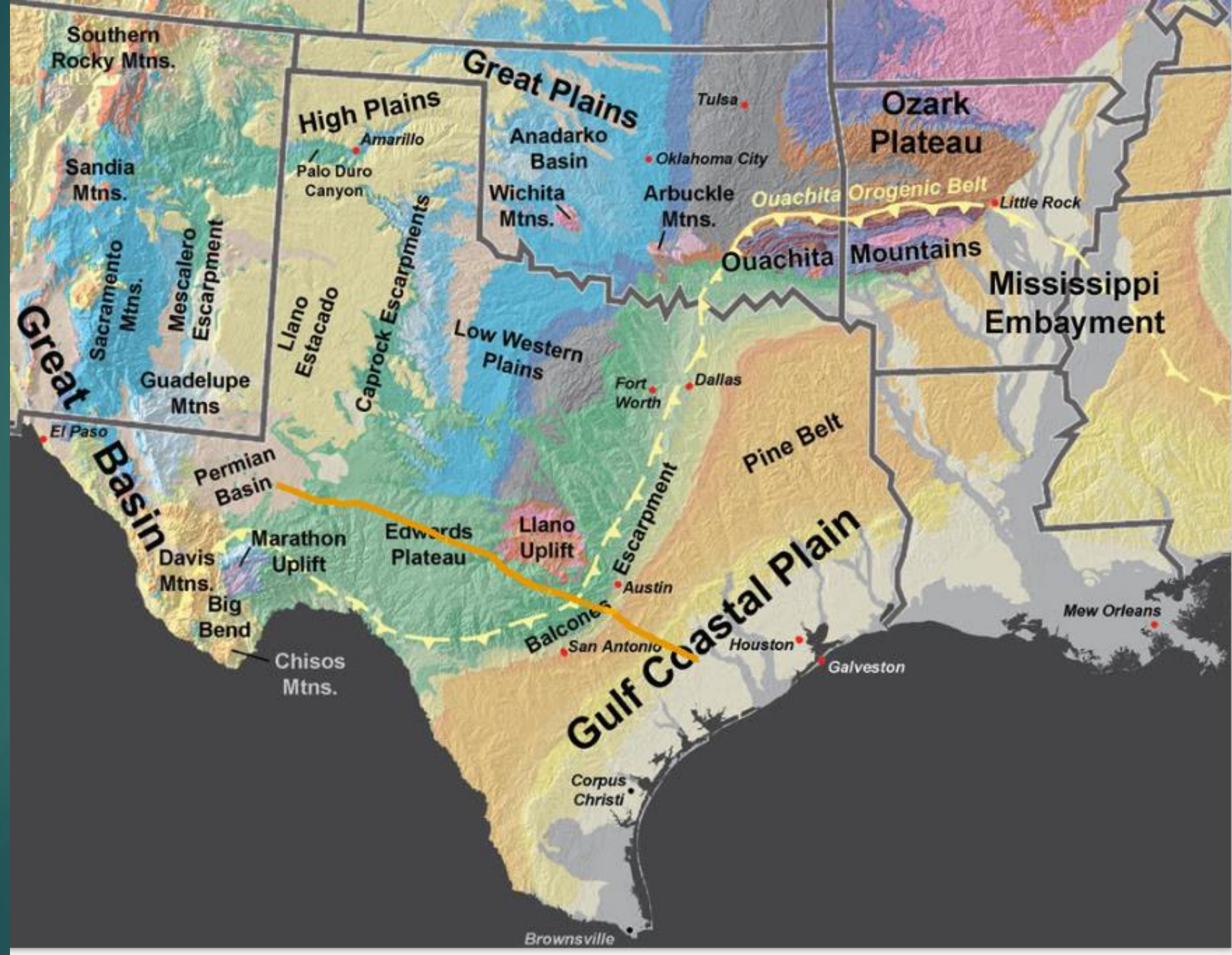
San Marcos City Council



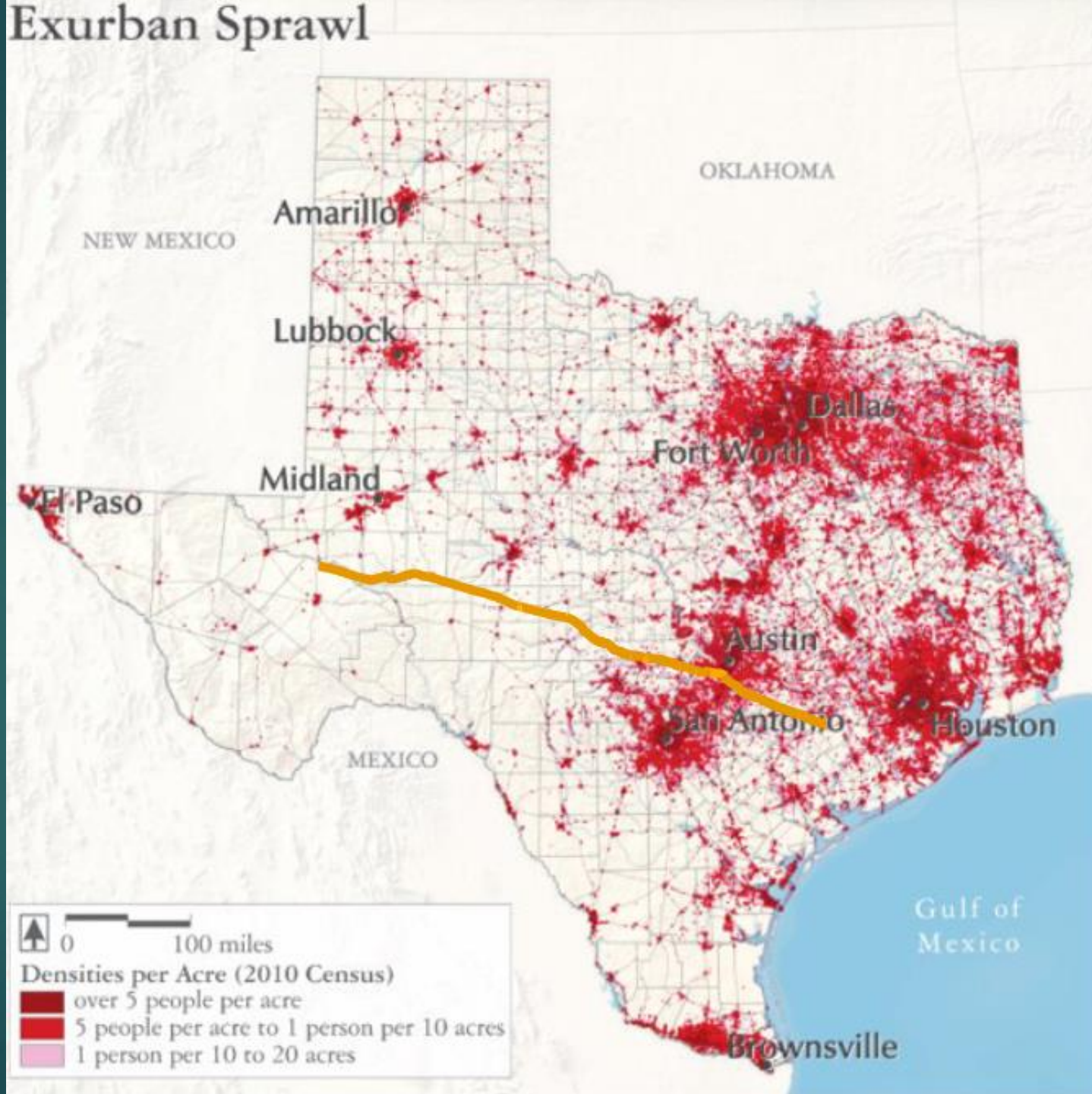


Map provided by Kinder-Morgan.

Texas Geography

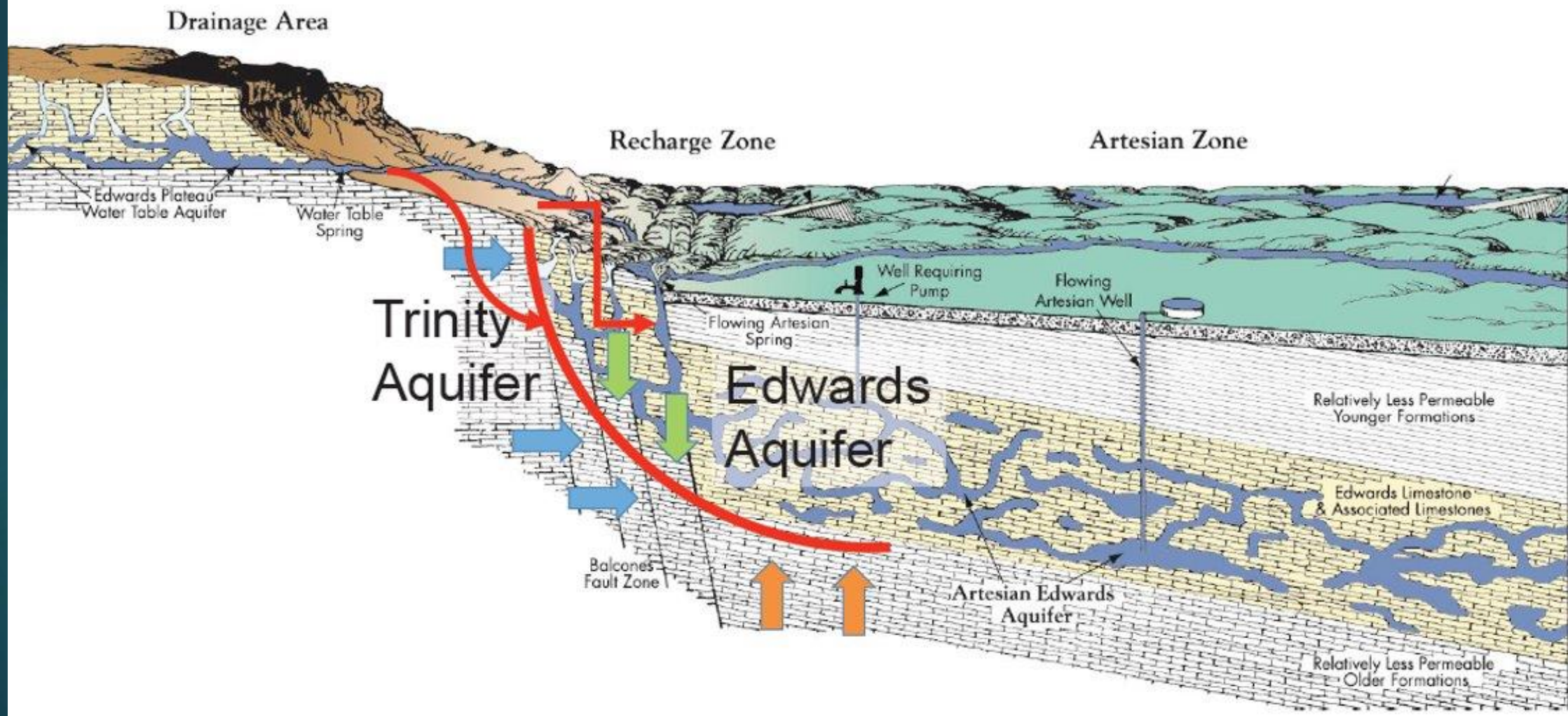


Exurban Sprawl



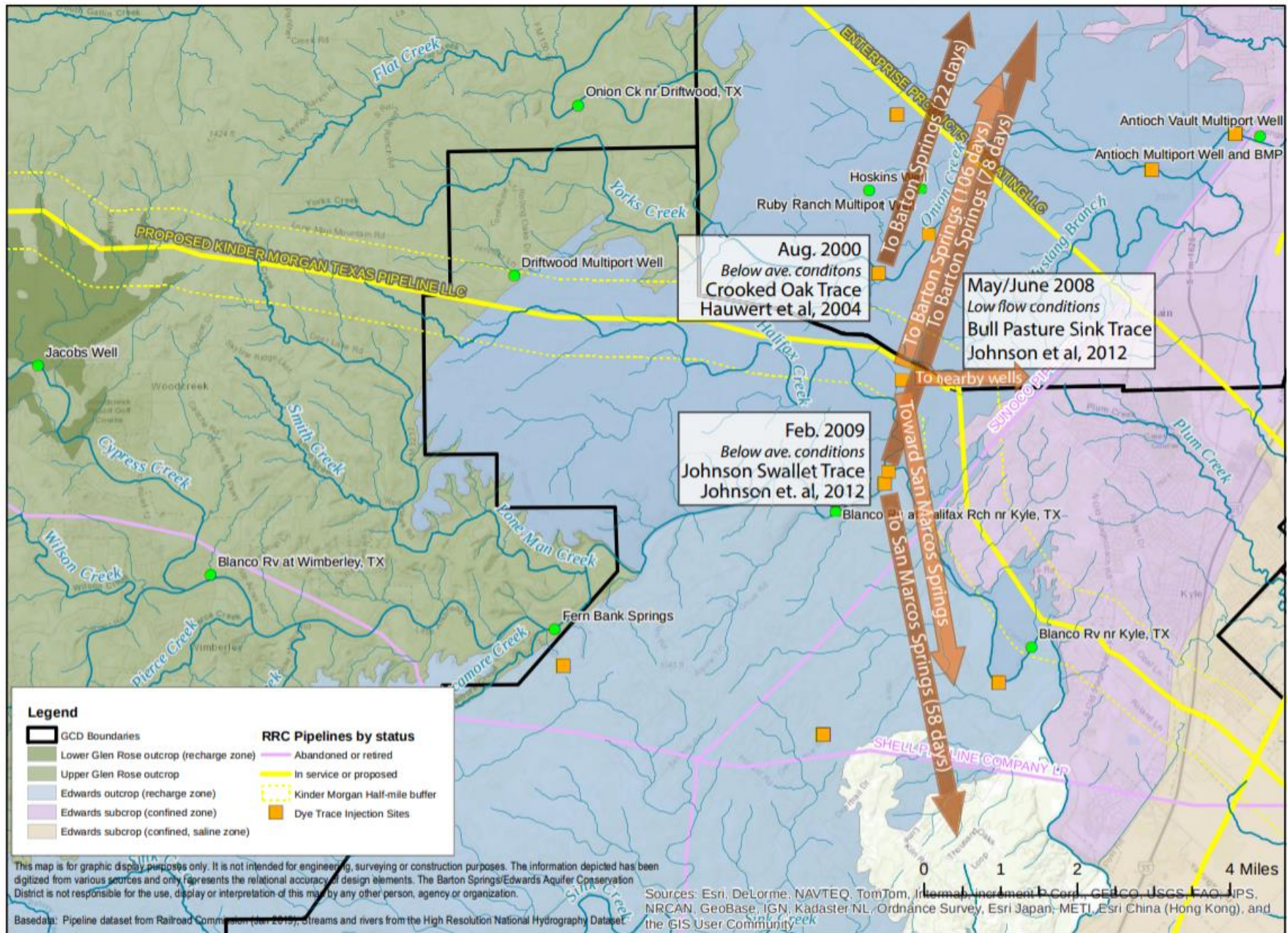
Contributing Zones of the Aquifer

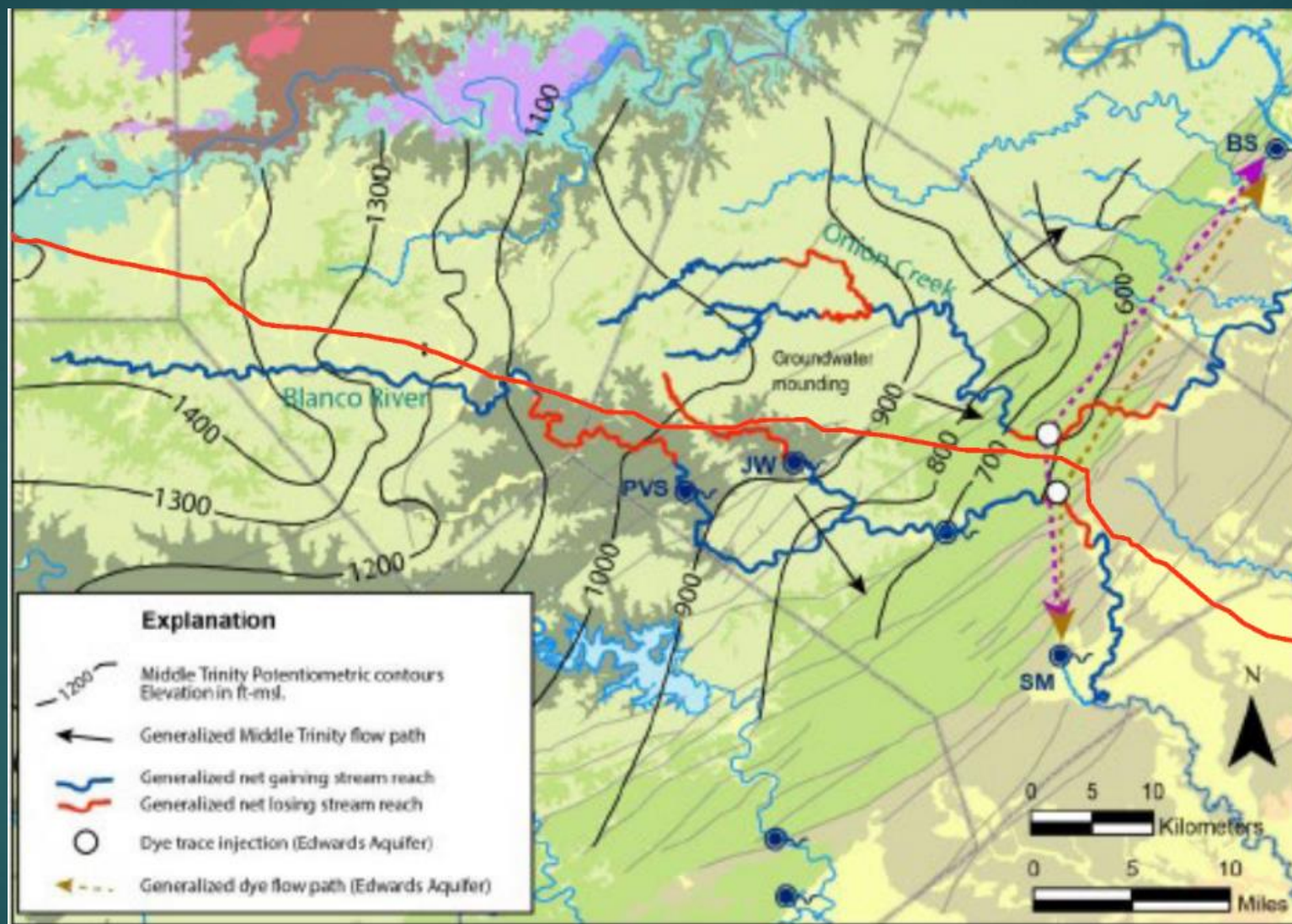




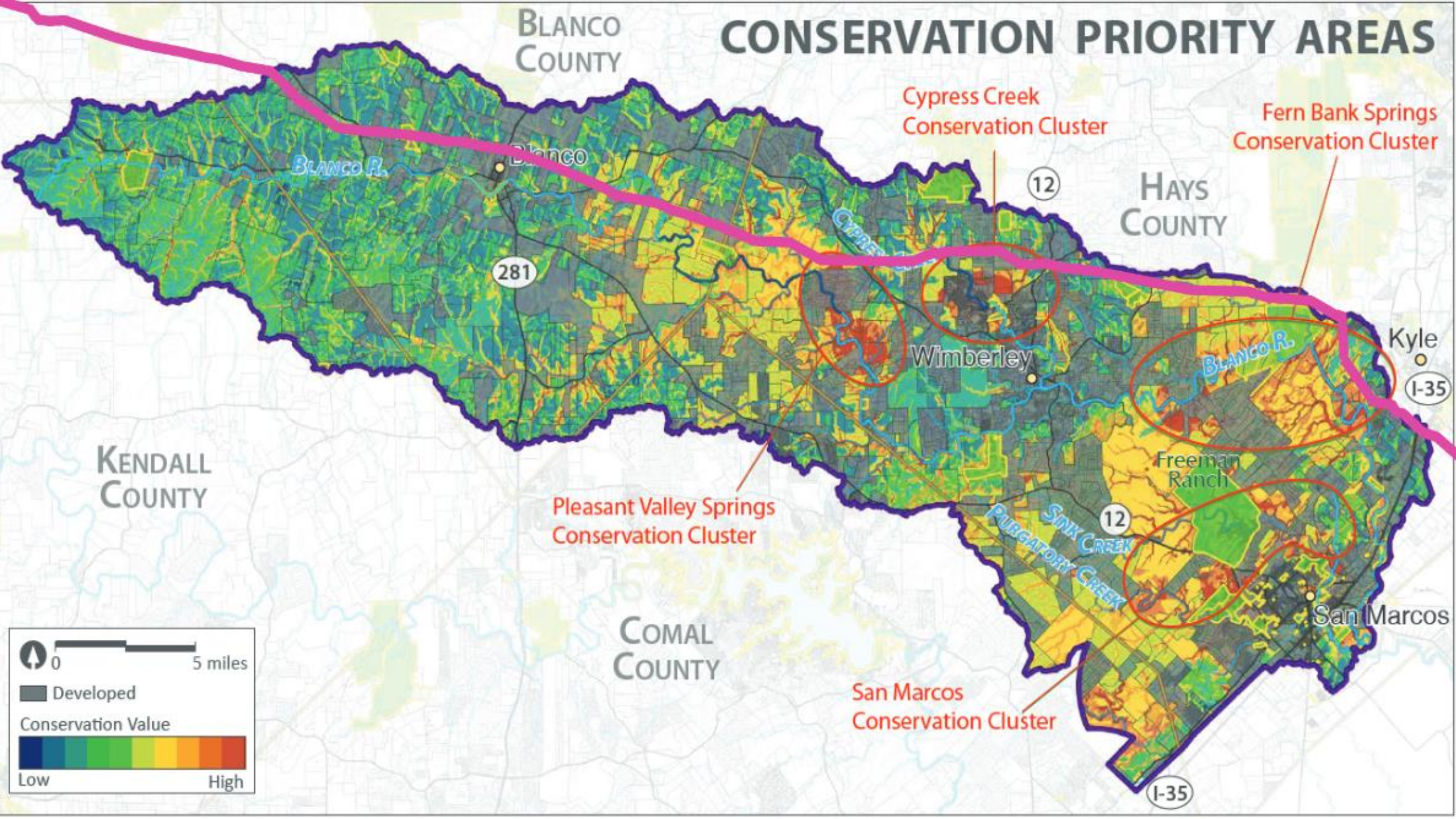


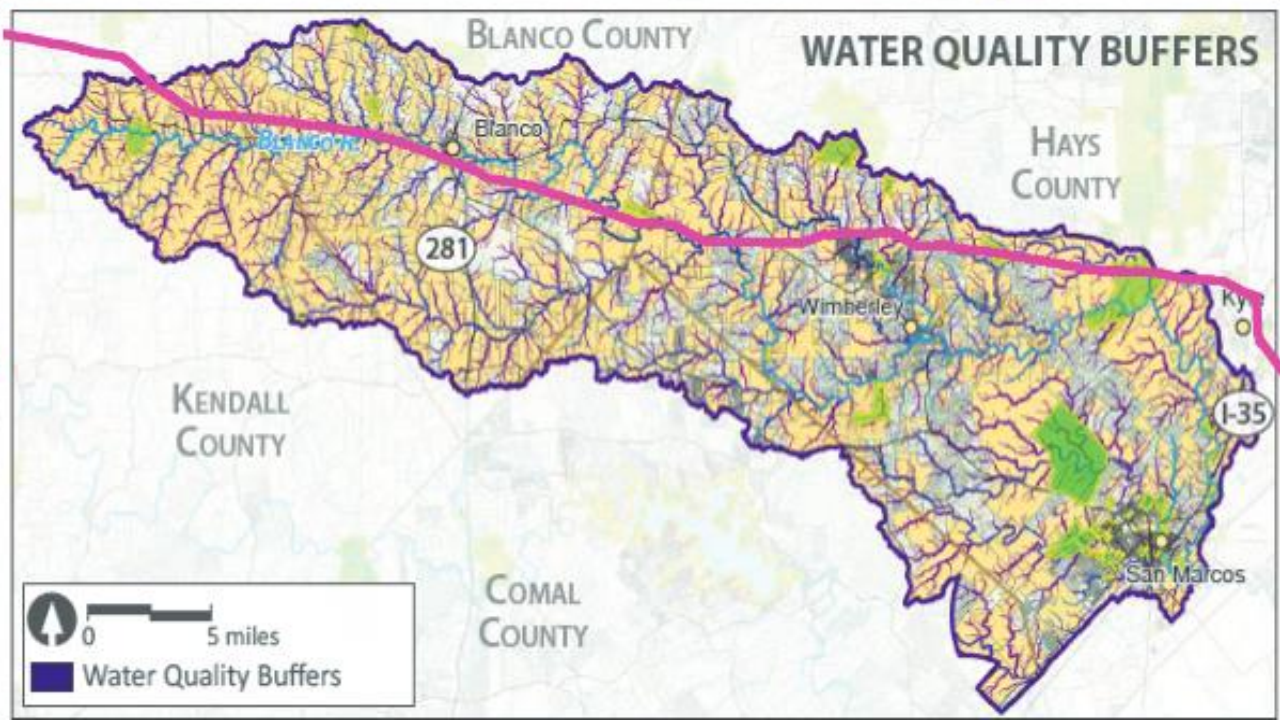
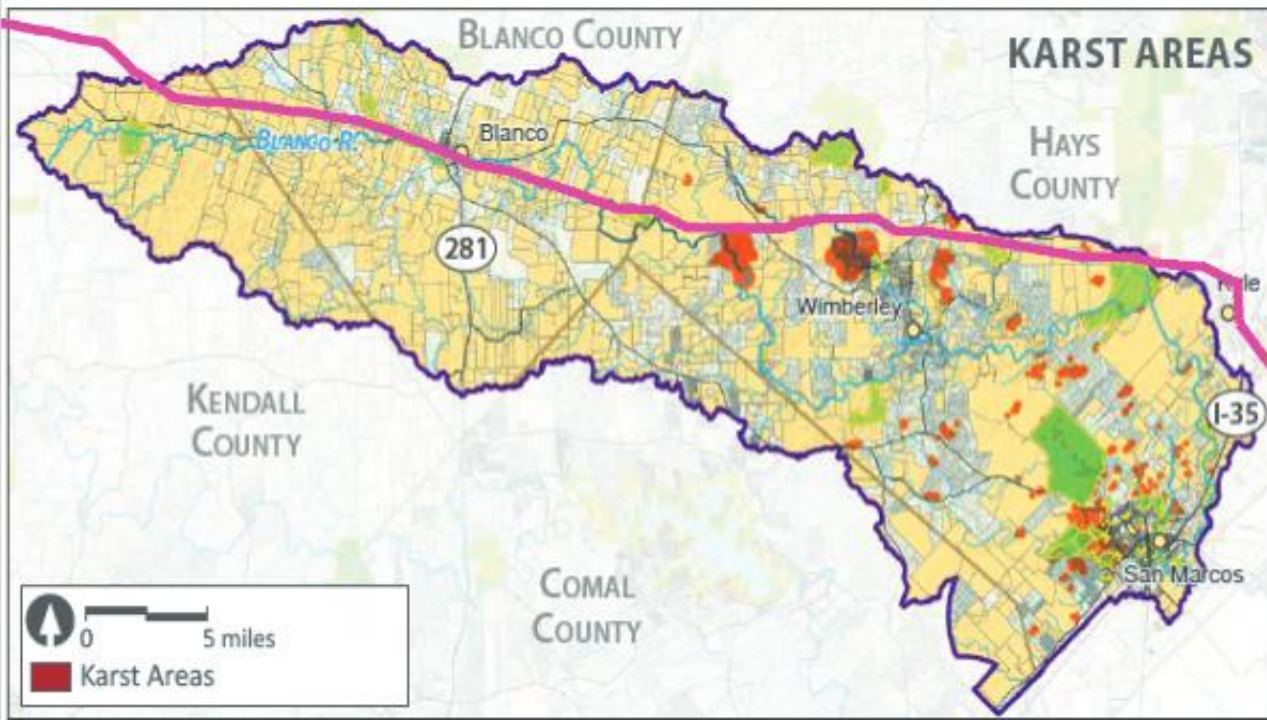
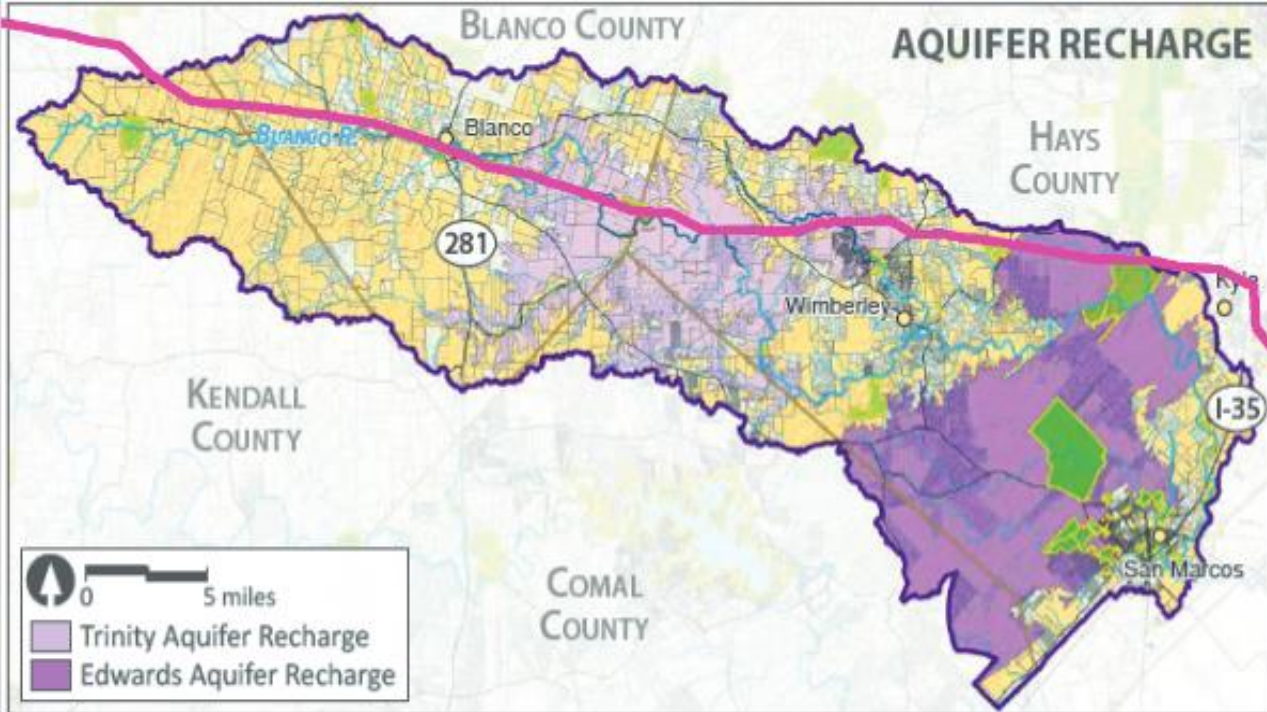
Selected Dye Trace Studies



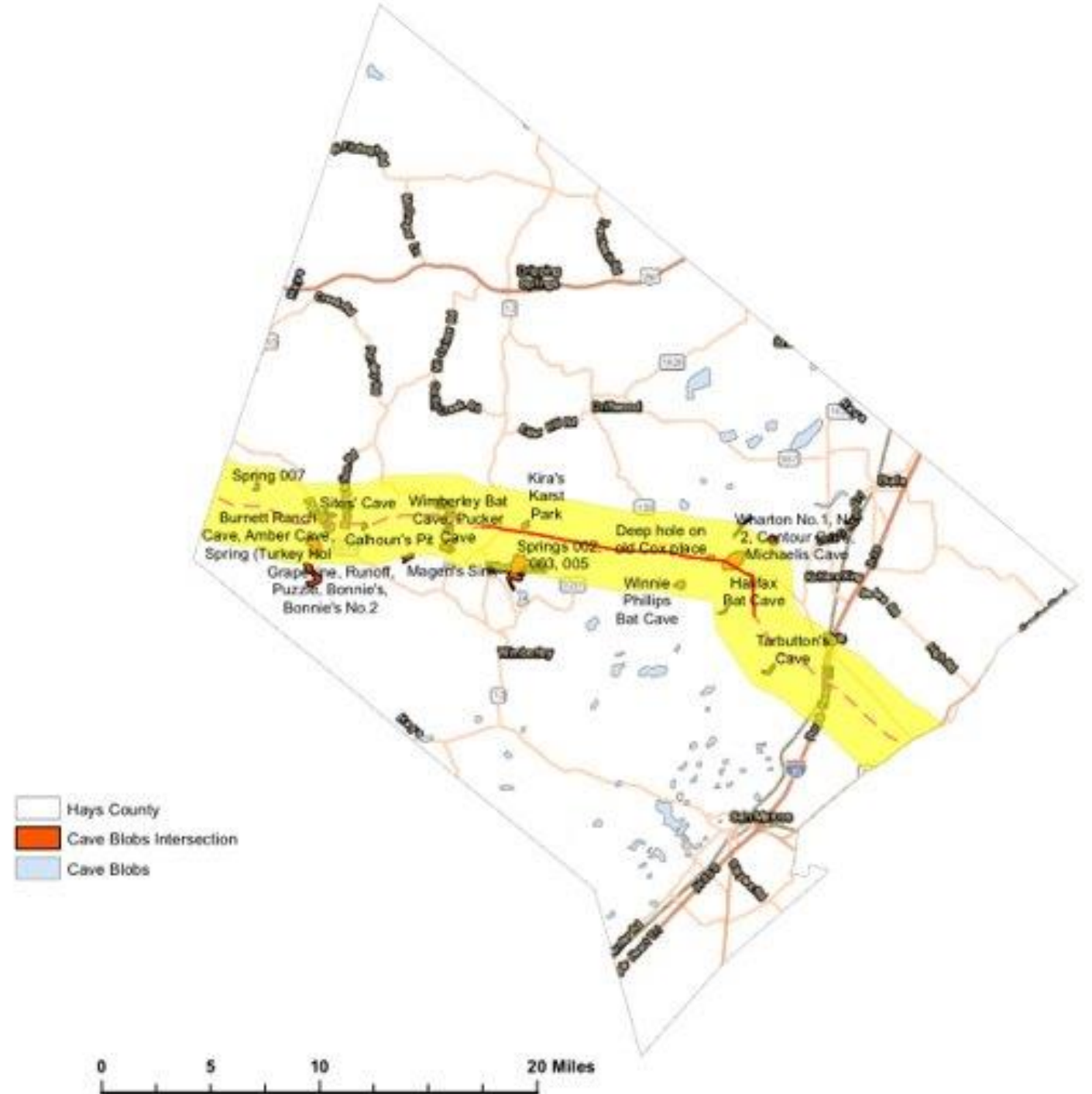


CONSERVATION PRIORITY AREAS

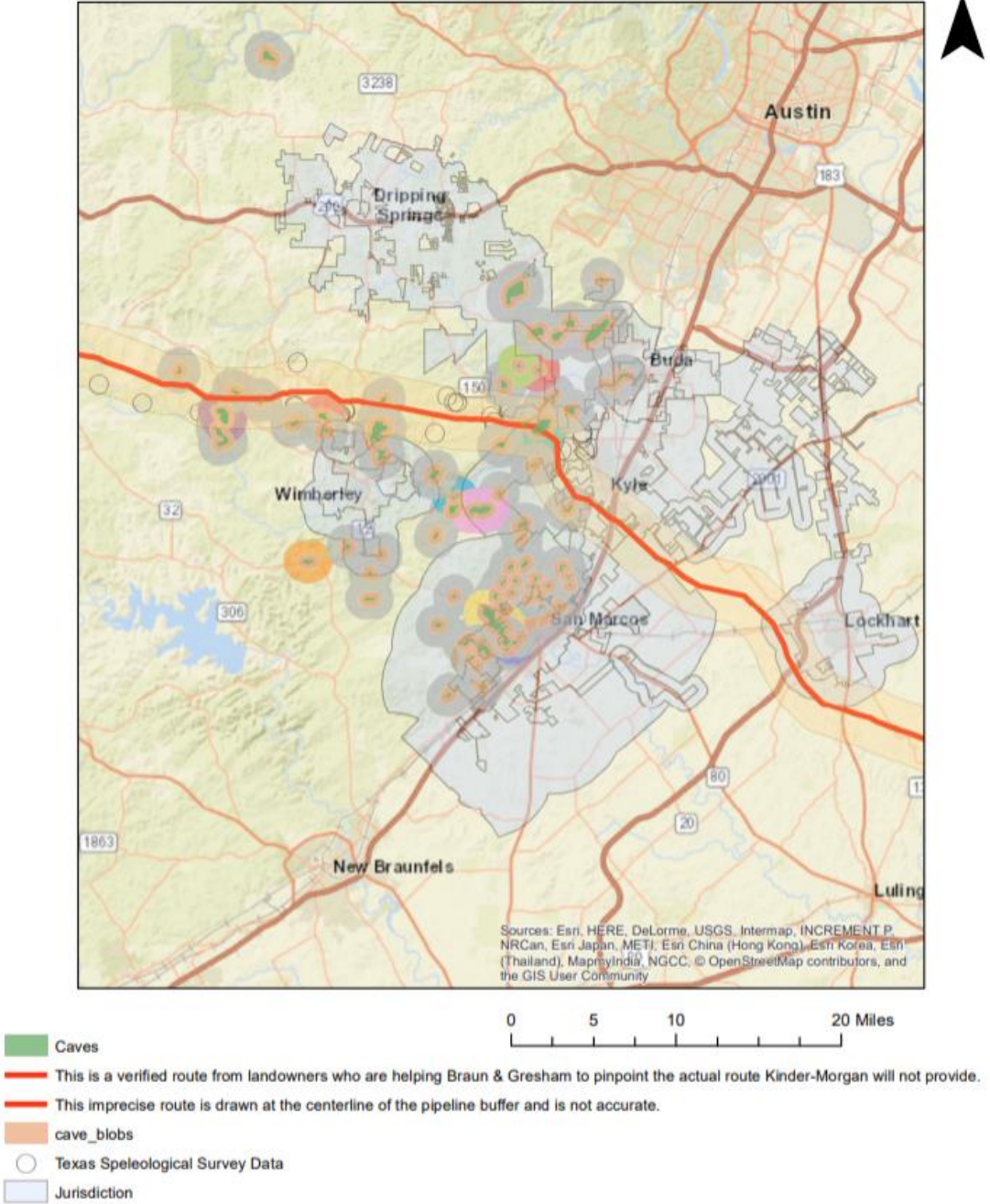


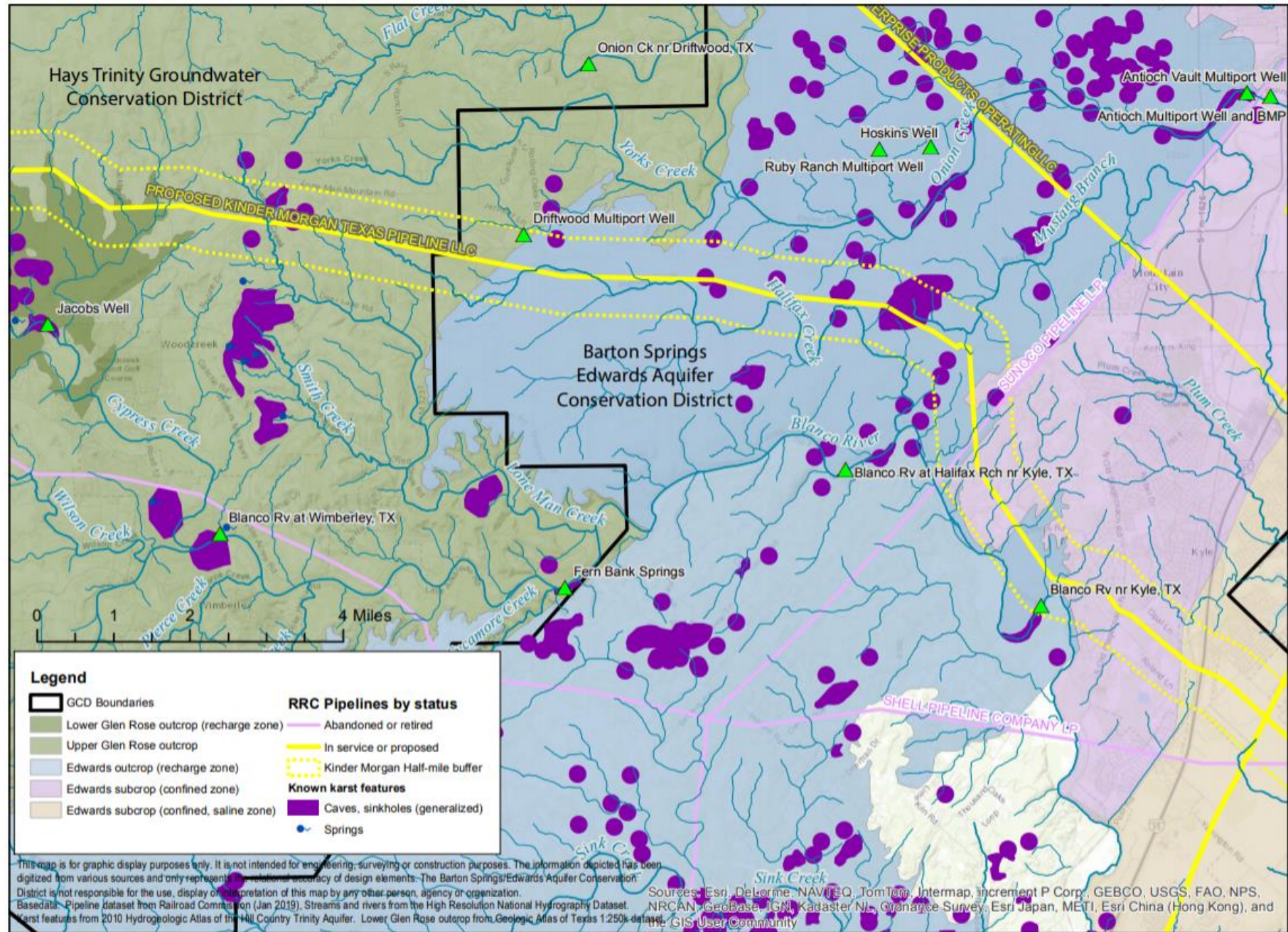


Watershed Boundaries & Cave Features/Karst Terranes



Caves and Karst Map with Permian Pipeline



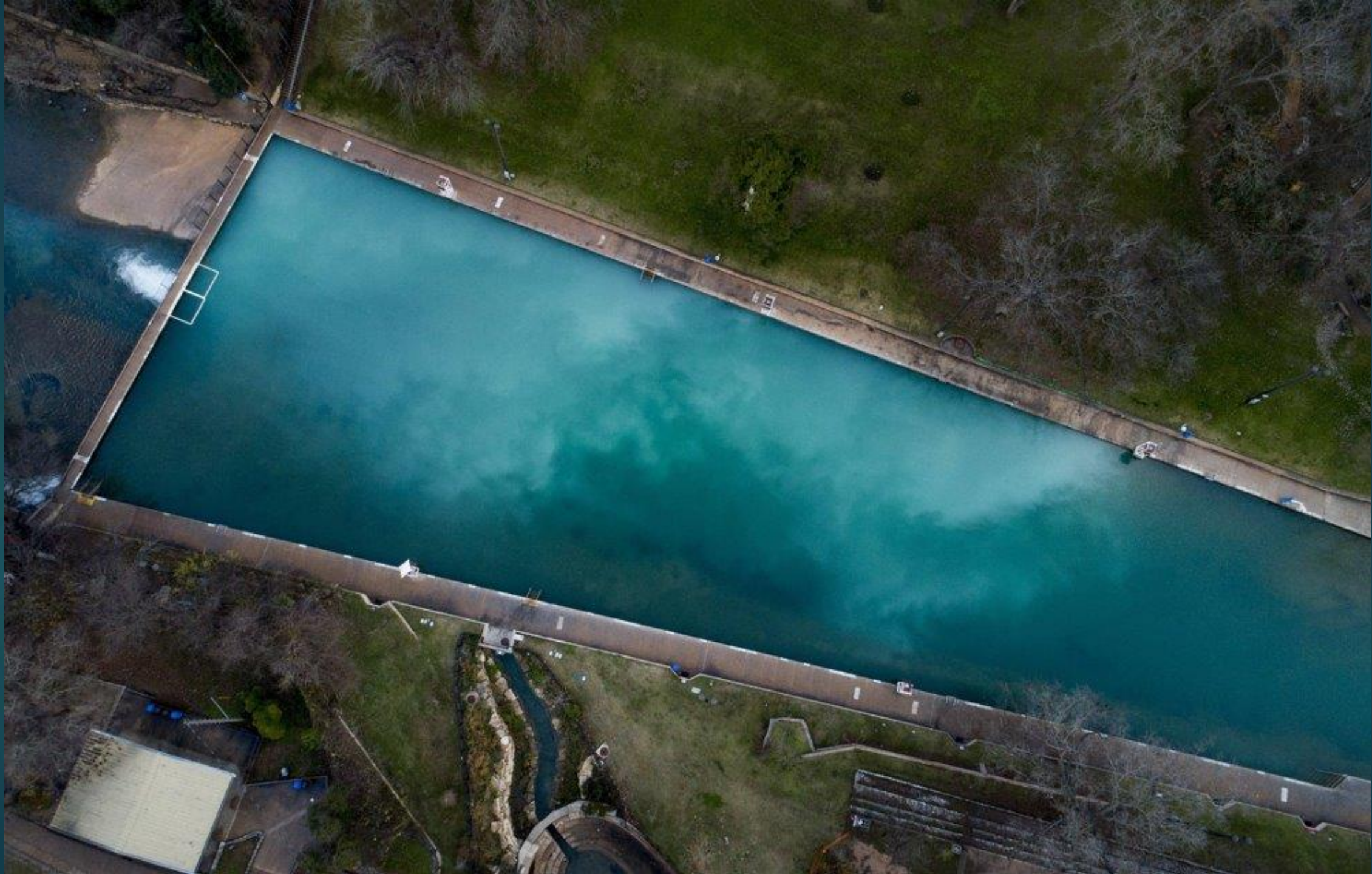


Voids, Caves & Sinkholes

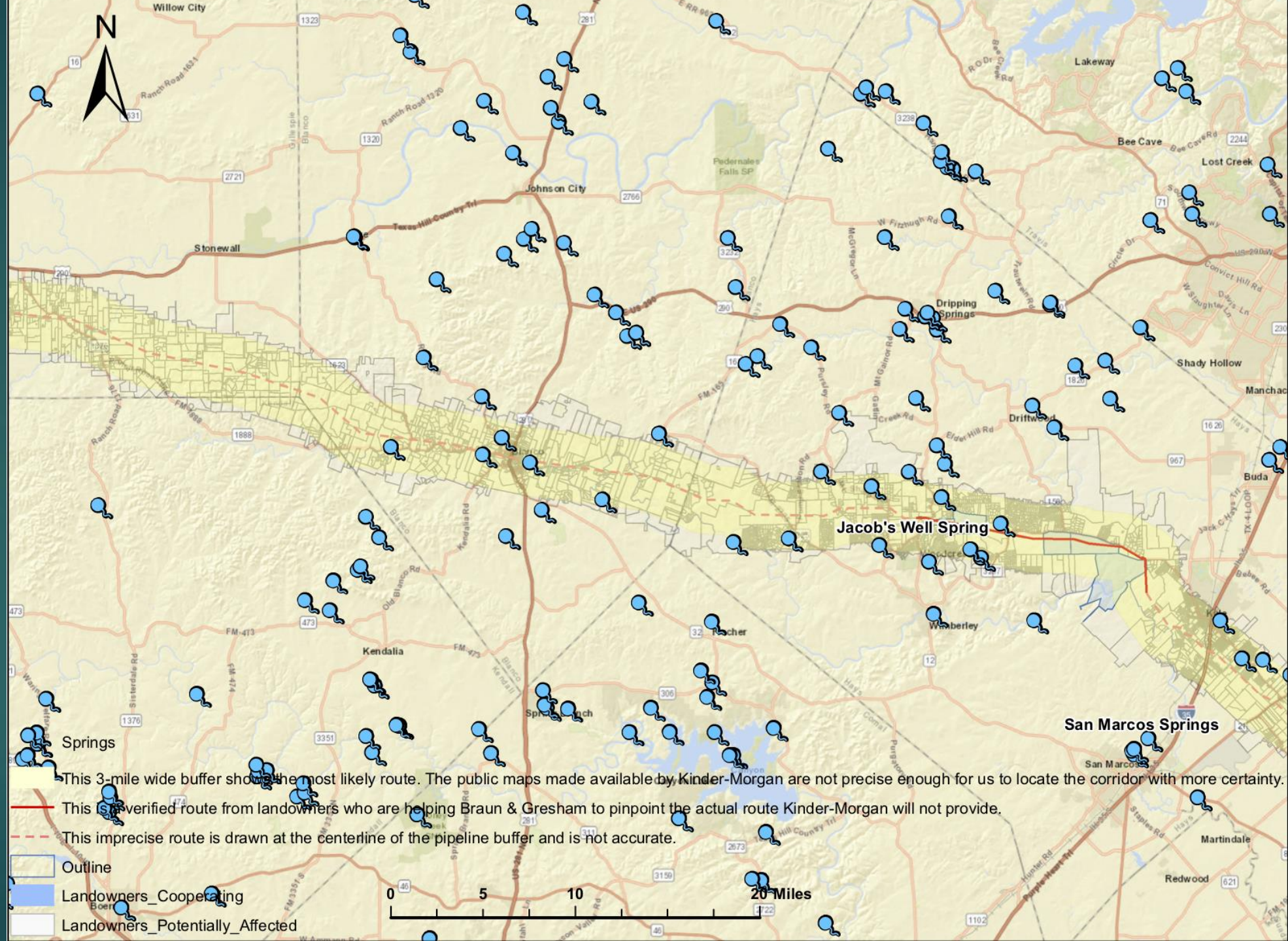




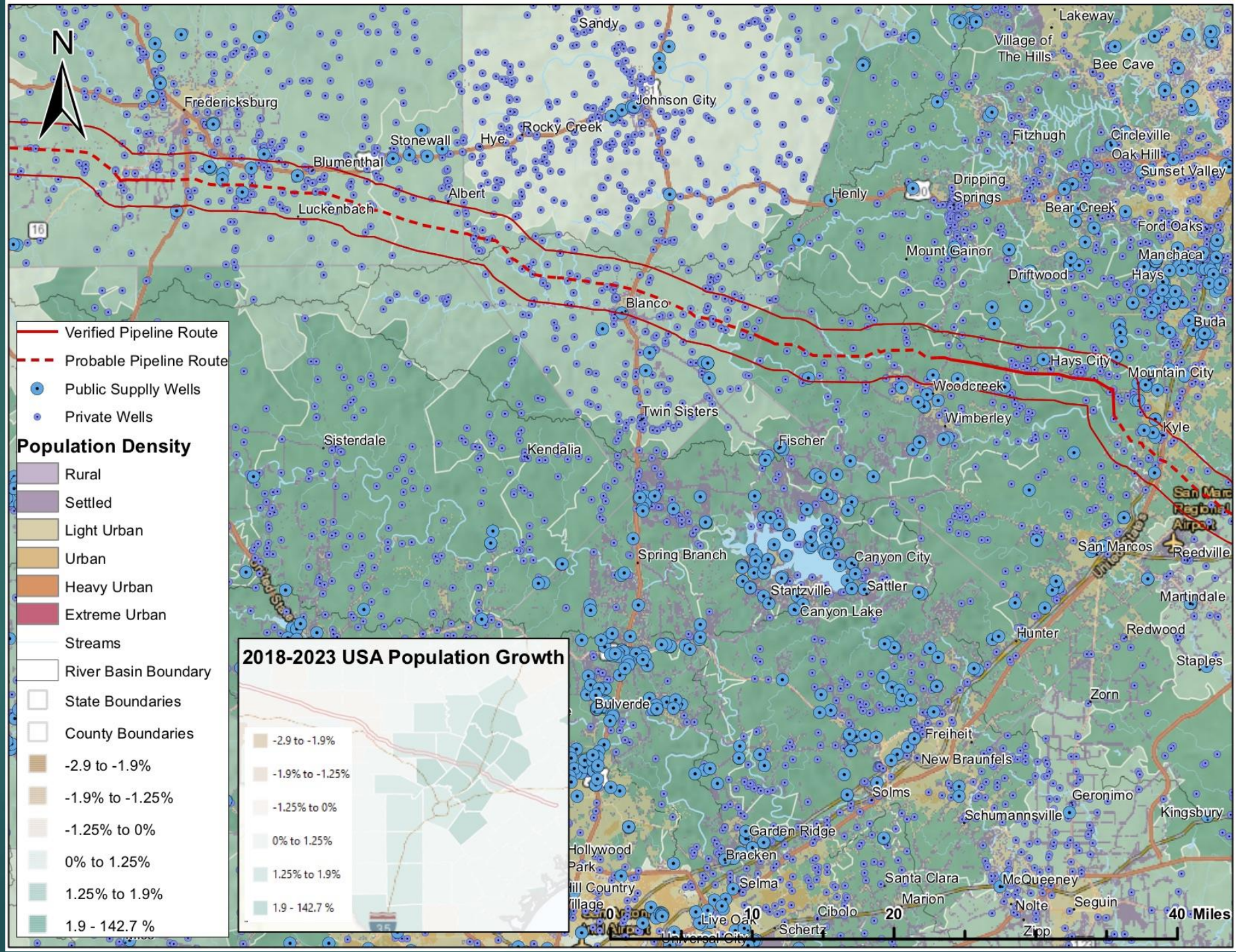




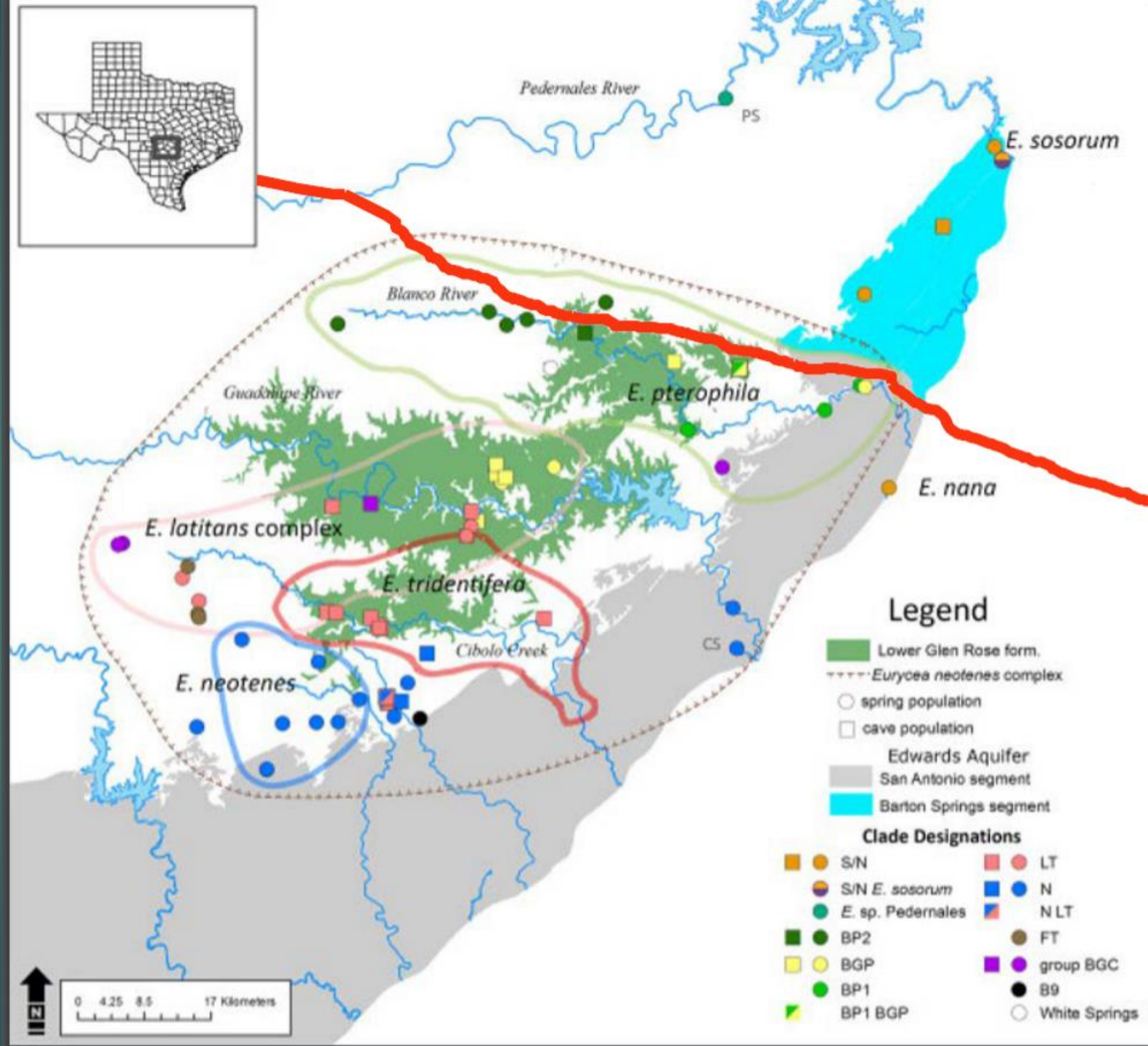
Springs



Public Water Supply Wells

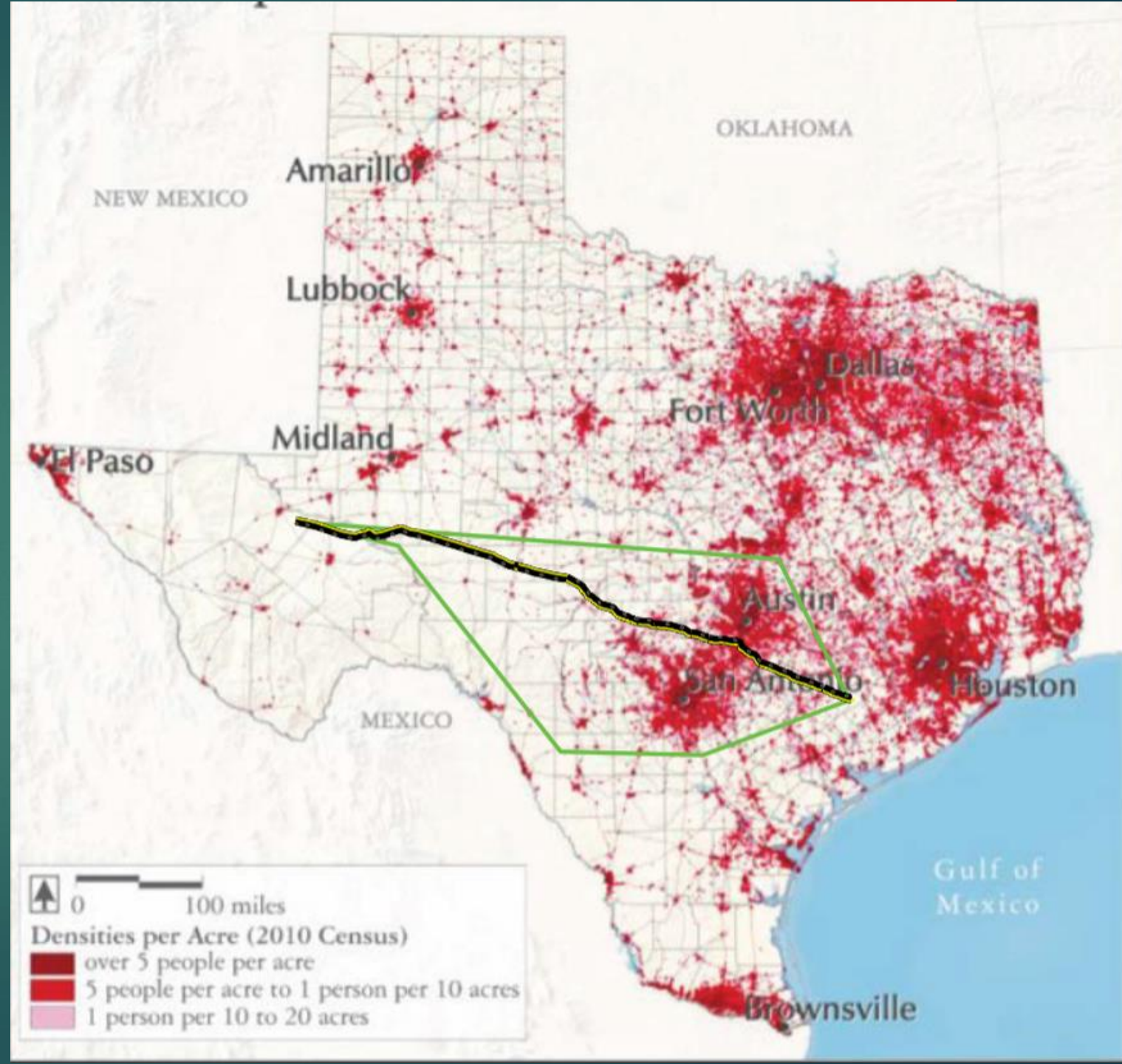


Salamander populations in the Aquifer



Alternate Routes

- Avoid the sensitive topography and aquifers of the Hill Country
- Avoid population density and growth
- Are within 30 miles of the current pipeline length



Explosions, Leaks & Evacuations

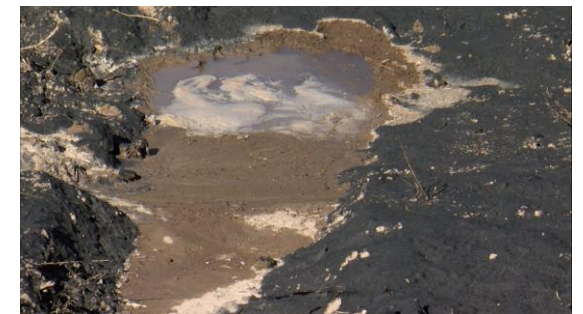


For the Permian Highway Pipeline, the evacuation zone is a **1.4 mile diameter** from the line.

Fire suppression contaminants will enter the aquifer and contaminate groundwater in an event such as this.

New Mexico: Dec. 2018

- ▶ 250,000 gal. Of gasoline were spilled into an agricultural ditch
- ▶ 168,000 gal. Were recovered
- ▶ 82,000 gal. Lost
- ▶ How much oil, gas, and other hydrocarbons would we lose in our karst aquifers?



Questions & Concerns

- ▶ Has KM estimated the number of karst features?
- ▶ What are the construction methods to eliminate potential impacts to karst features?
- ▶ Will KM develop a void mitigation plan?
- ▶ Will background water-quality sampling of wells be conducted?
- ▶ Will the pipeline be double-walled?
- ▶ Will KM conduct ongoing sampling of Trinity & Edwards Aquifer wells for possible pipeline contaminants?
- ▶ What liquids might be in the pipeline and how much could be released if a leak or spill occurs?
- ▶ Will KM notify GCDs if pipeline switches from transporting natural gas to crude or other liquid?
- ▶ What resources will be in place to respond in the event of a leak/contamination?
- ▶ In the event of drinking water contamination, what actions will be taken to protect water users?