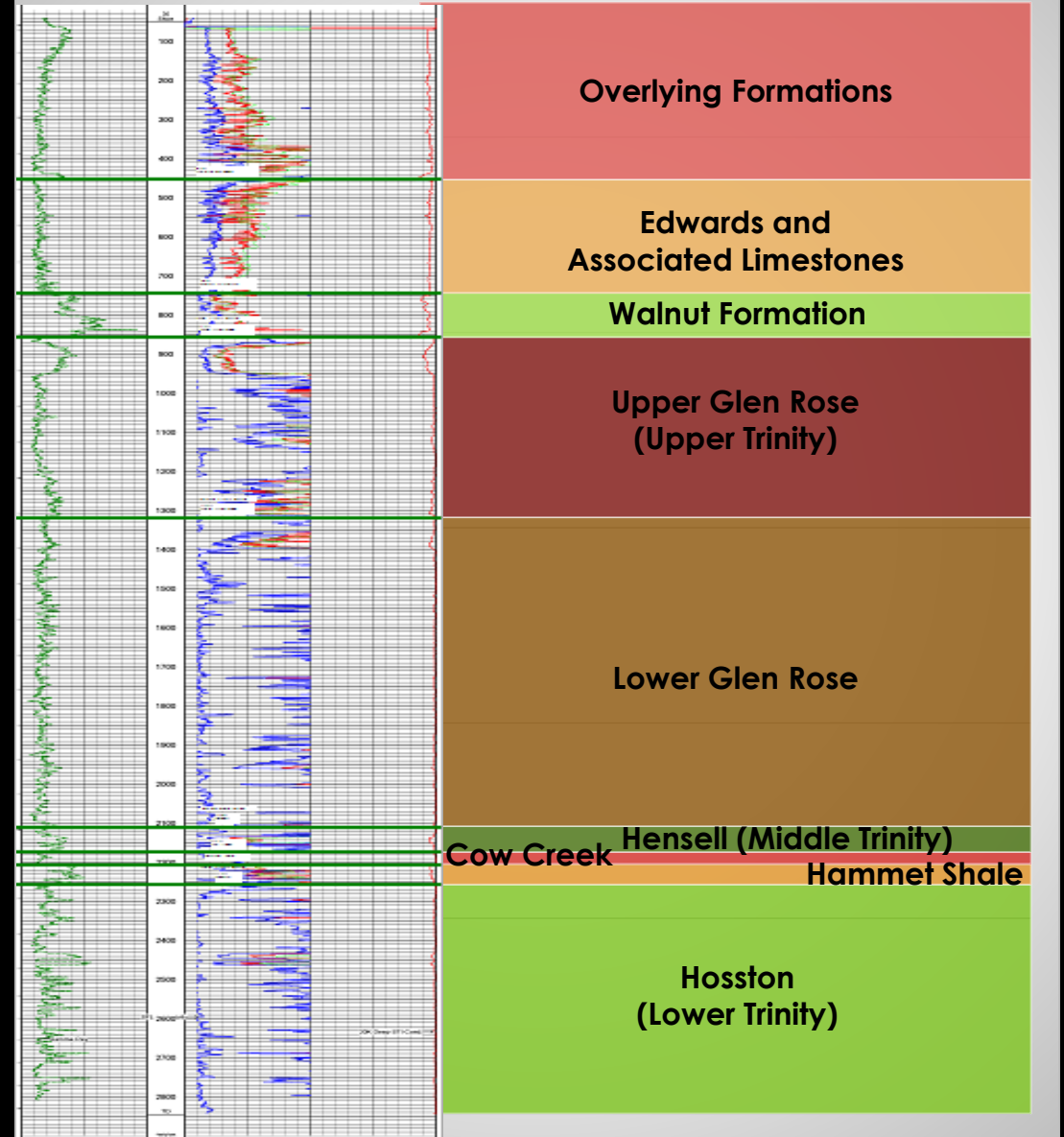


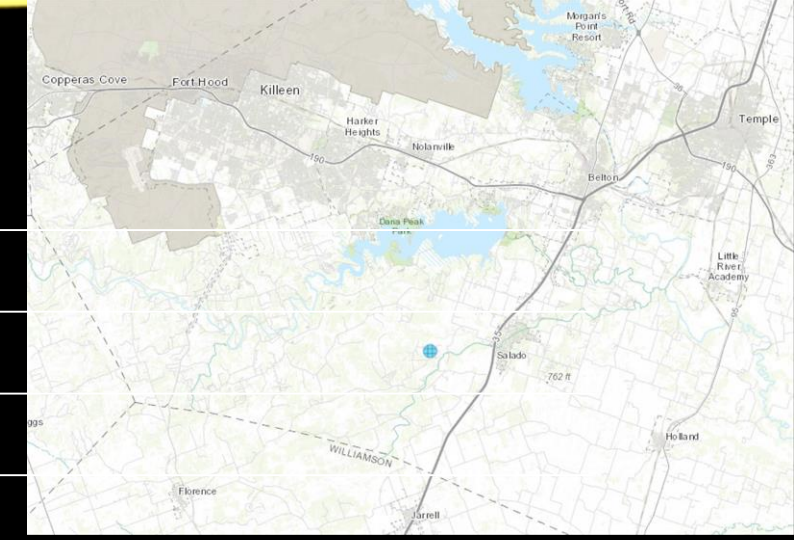
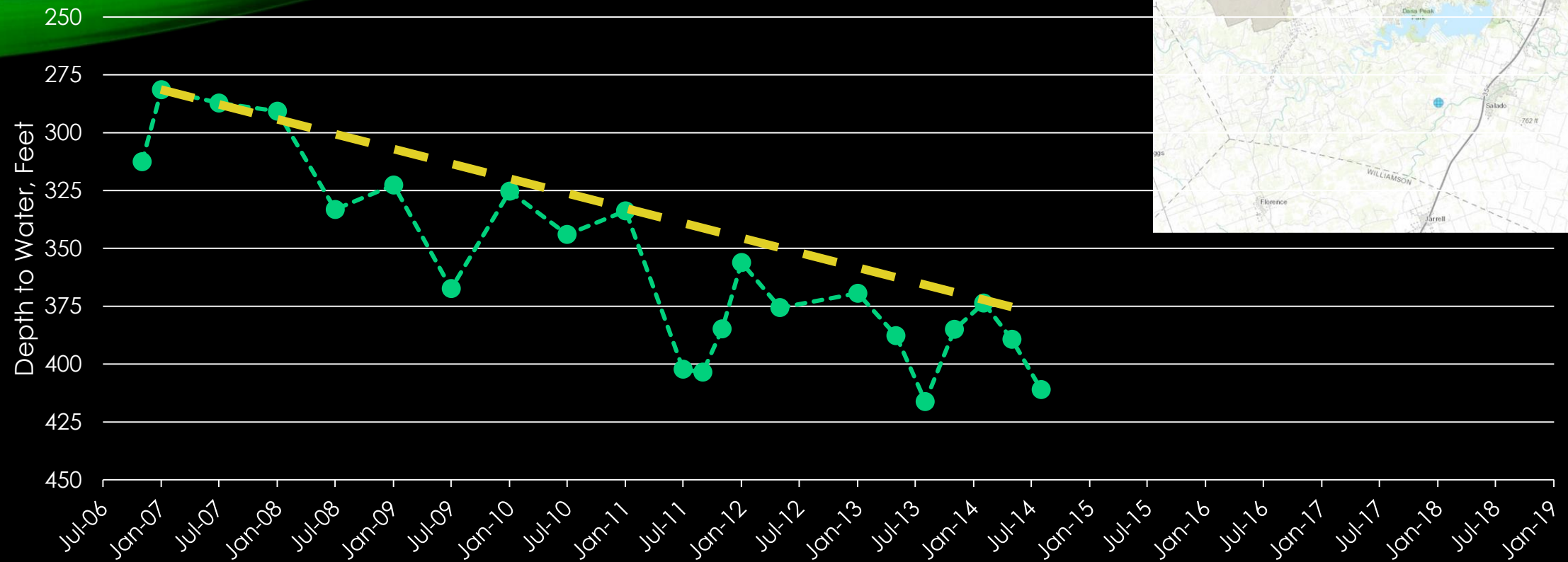
# STATUS OF THE TRINITY AQUIFER IN CENTRAL TEXAS

18th Annual Bell County Water Symposium – November 15, 2018

Michael Keester, P.G.

- What is the aquifer status
- What is the cause of the current status
- What can aquifer users expect in the future





# NOVEMBER 2014 ANALYSIS

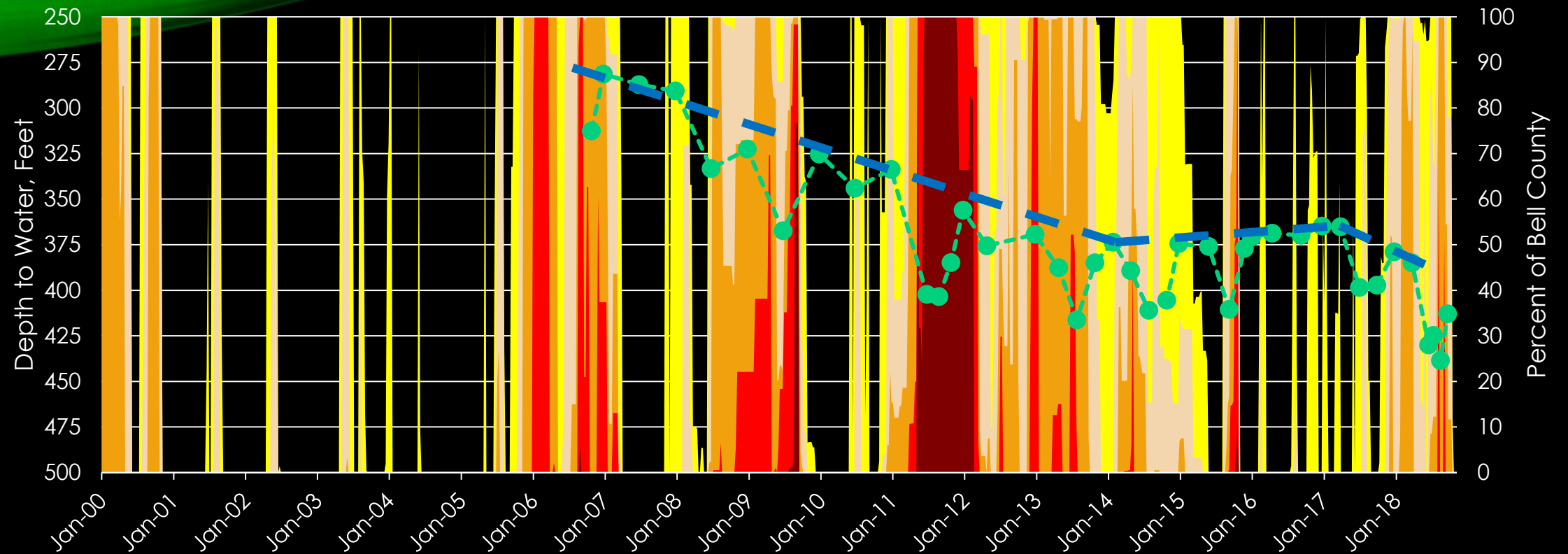
District Monitoring Well E-05-083P (Middle Trinity)



# OCTOBER 2018 ANALYSIS

District Monitoring Well E-05-083P (Middle Trinity)



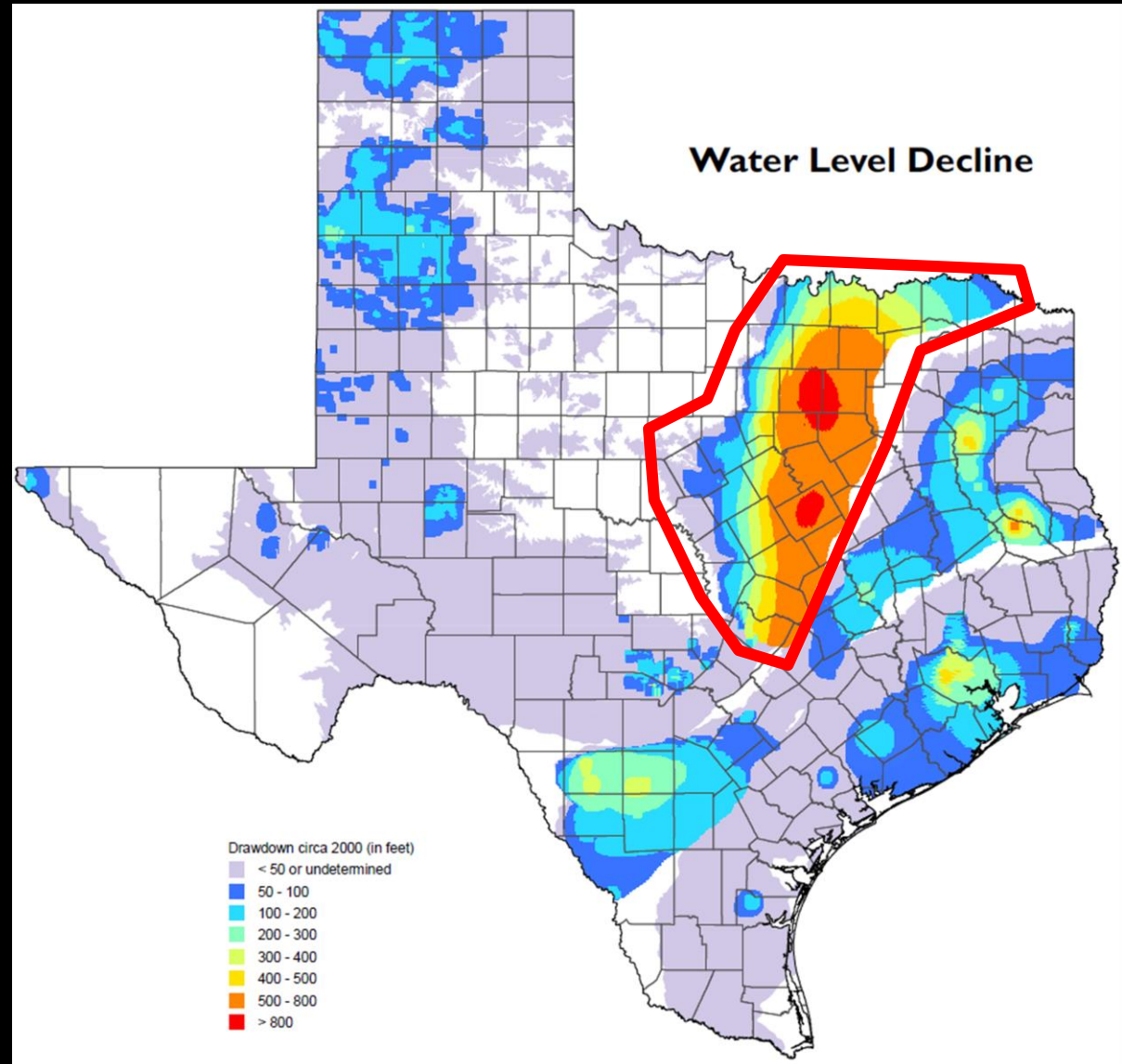


# BELL COUNTY DROUGHT CONDITIONS

District Monitoring Well E-05-083P (Middle Trinity)

Darker colors indicate more extreme drought

- Trinity Aquifer has a large geographic extent
- Pumping from the aquifer has occurred for more than a century
- Long-term declines near Dallas are nearly 1,000 feet





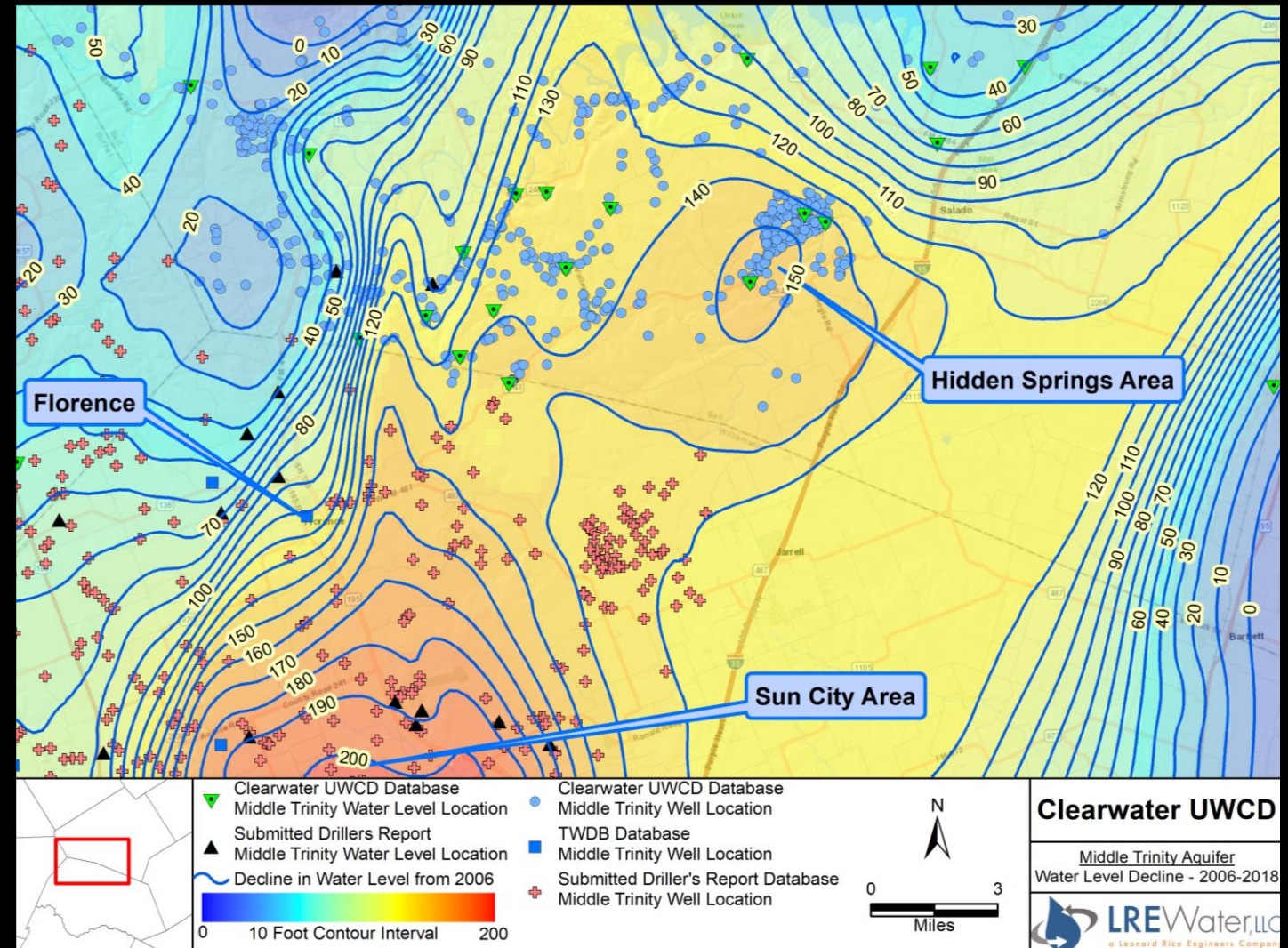
# CURRENT STATUS

- Water level data
  - District monitoring wells
  - TWDB monitoring wells
  - Submitted driller's reports
- Aquifer structure
- Mapped “current” water level and compared with previous analyses



# MIDDLE TRINITY - DRAWDOWN

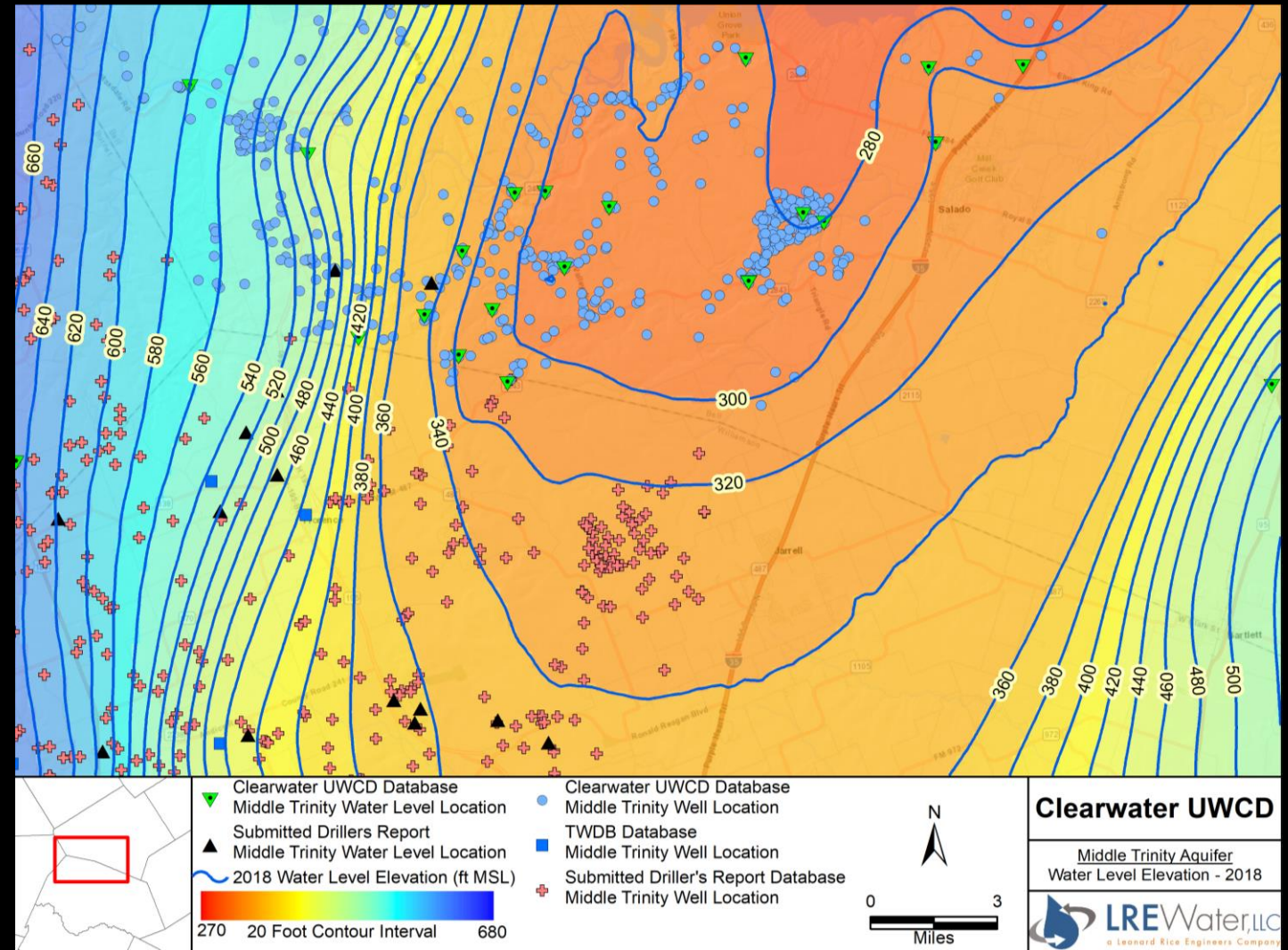
- 150 feet decline in Hidden Springs
- 100+ feet decline near Florence
- 200 feet decline near Sun City





# MIDDLE TRINITY – WATER LEVEL

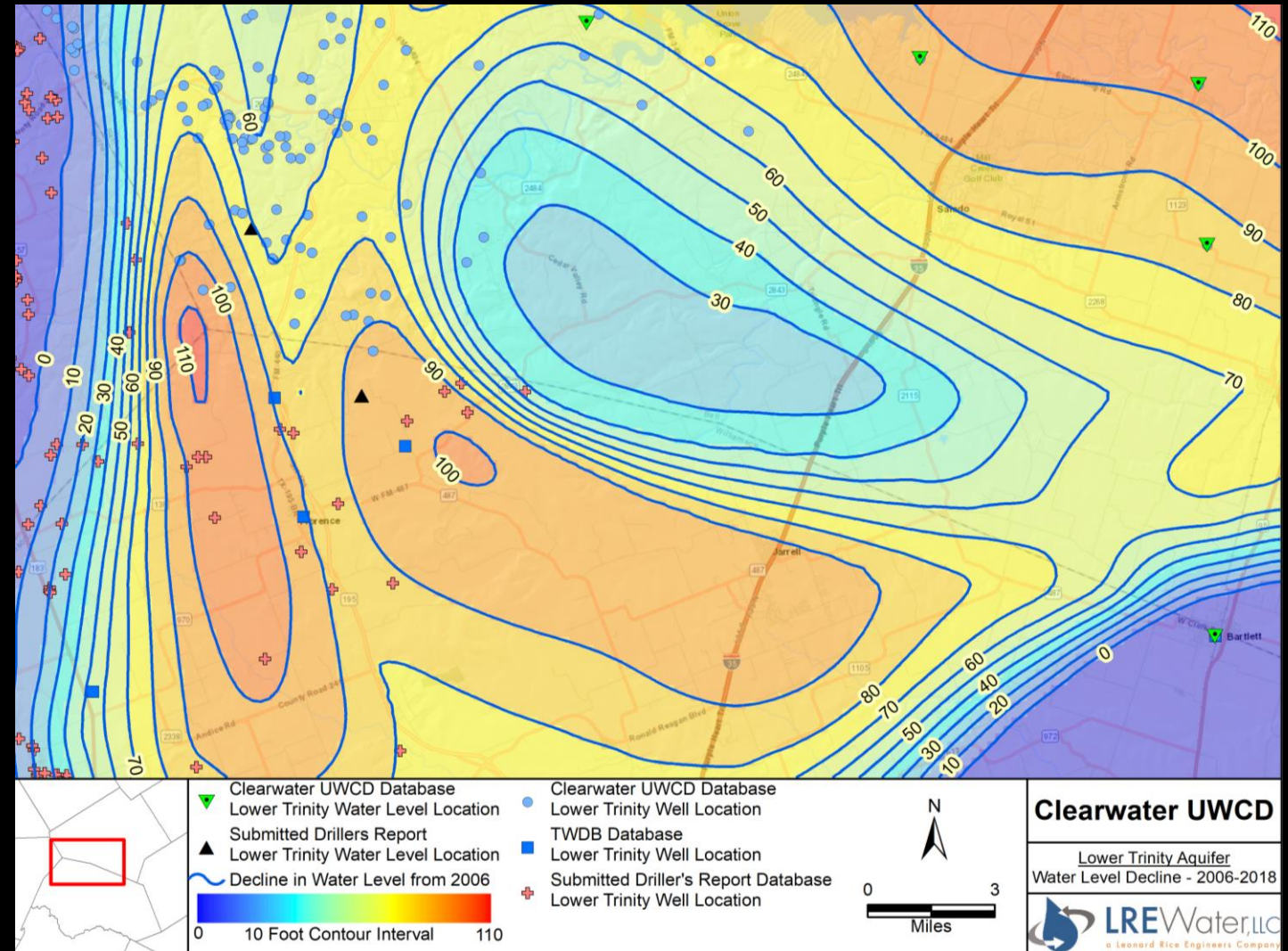
- Lowest water levels to north
- Regional declines from historical pumping
- Flow is generally south to north





# LOWER TRINITY - DRAWDOWN

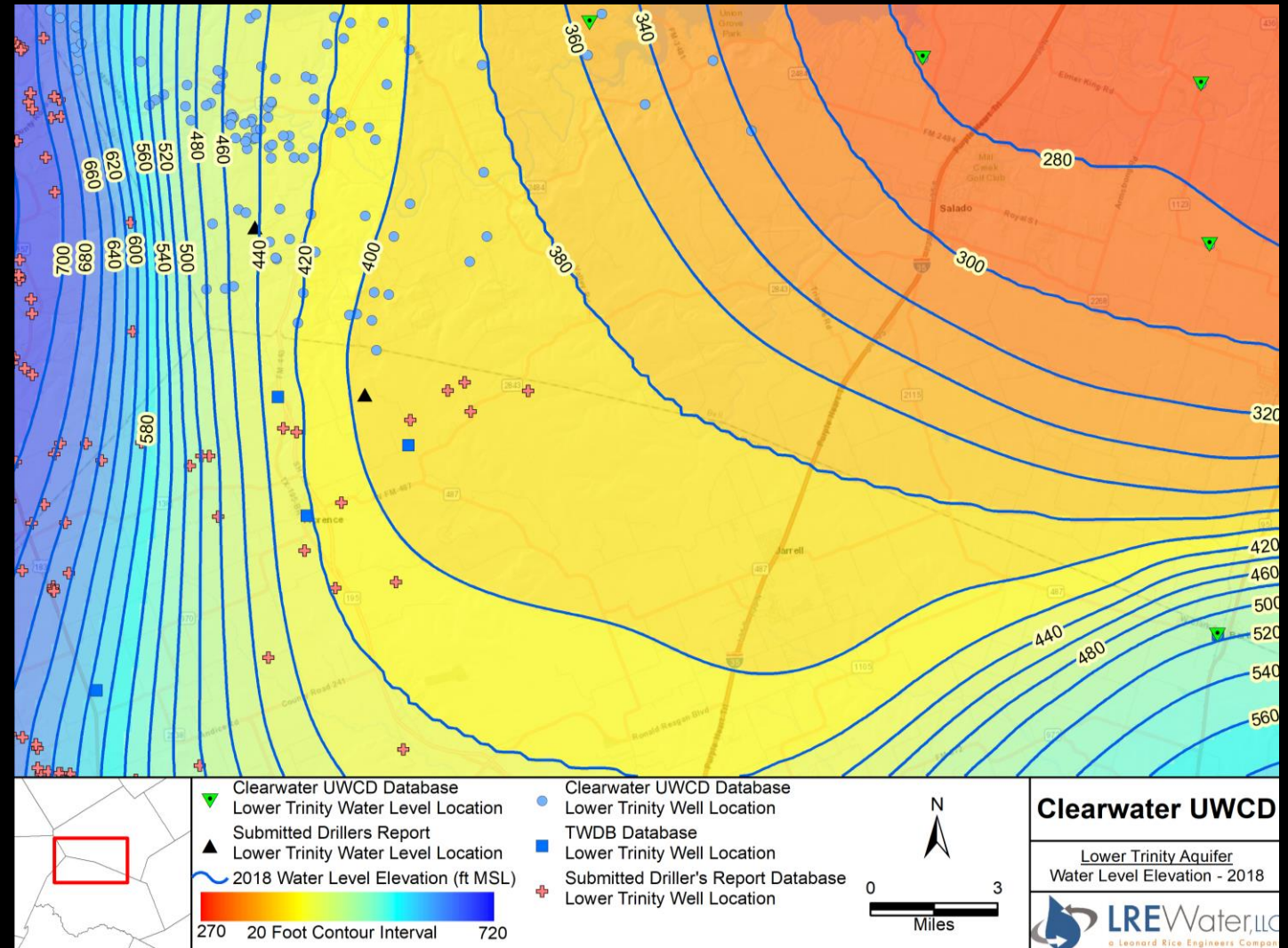
- 100+ feet decline near Florence
- 100+ feet decline in northern area



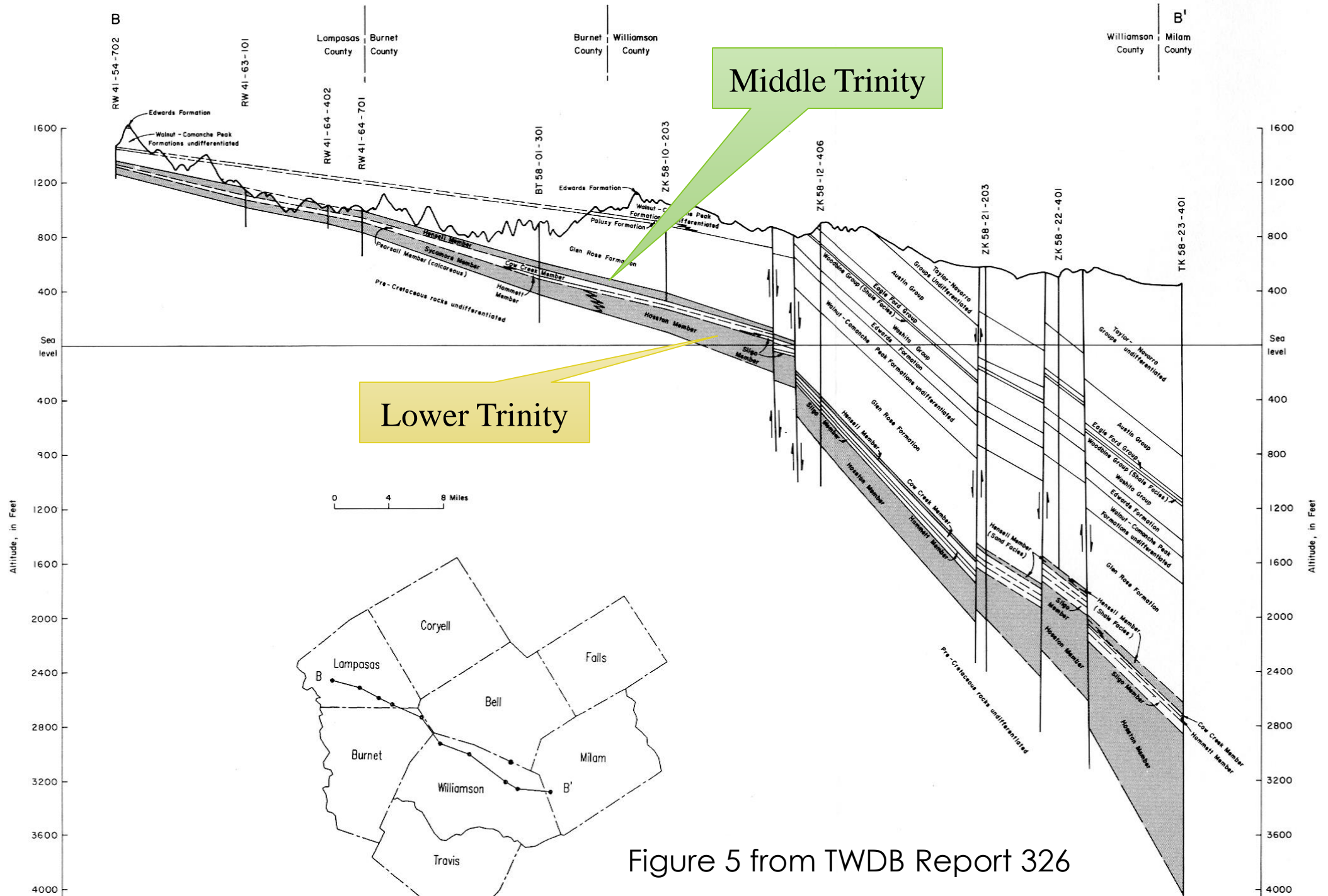


# LOWER TRINITY – WATER LEVELS

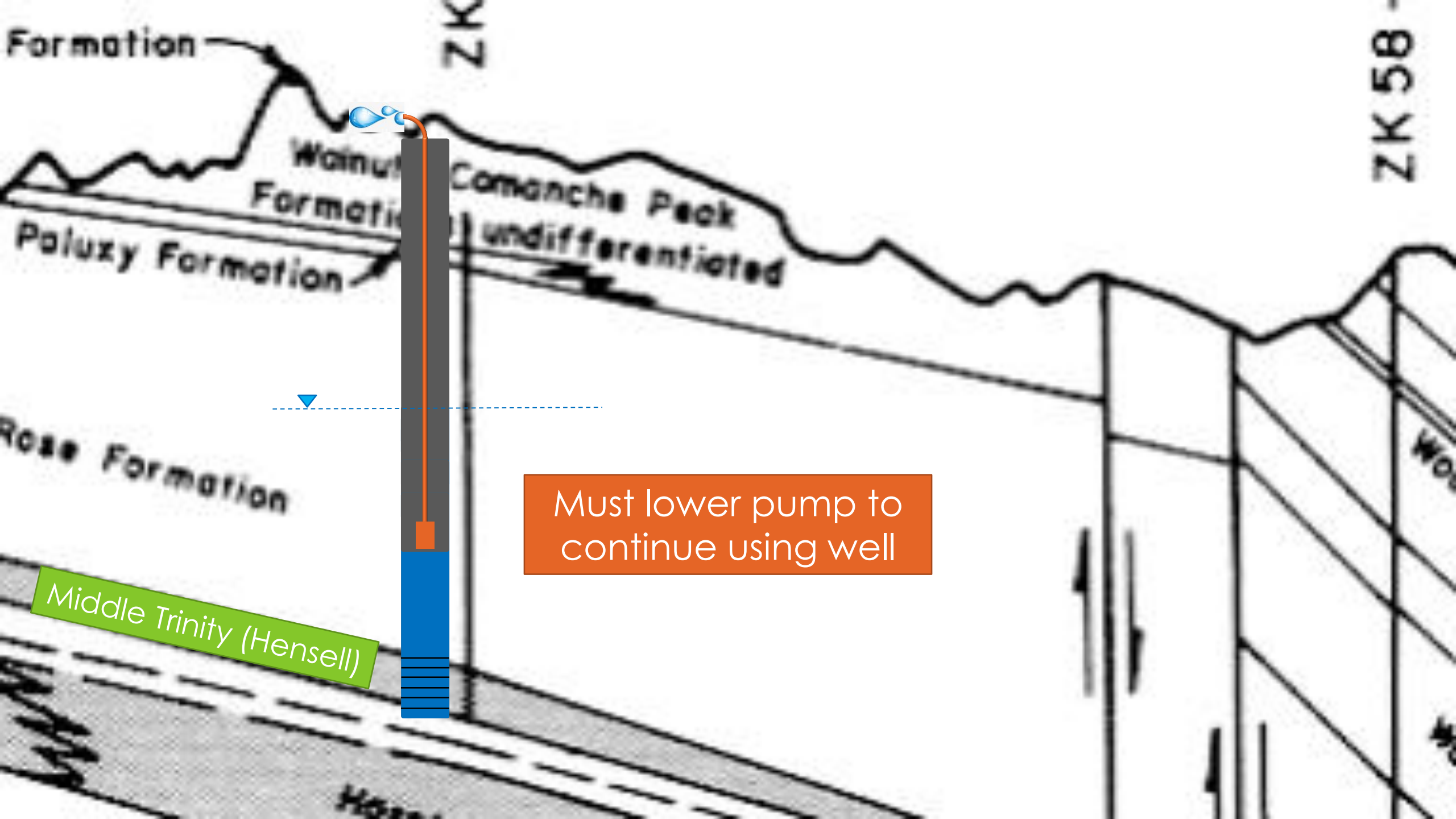
- Lowest water levels to north
- Regional declines from historical pumping
- Flow is generally south to north







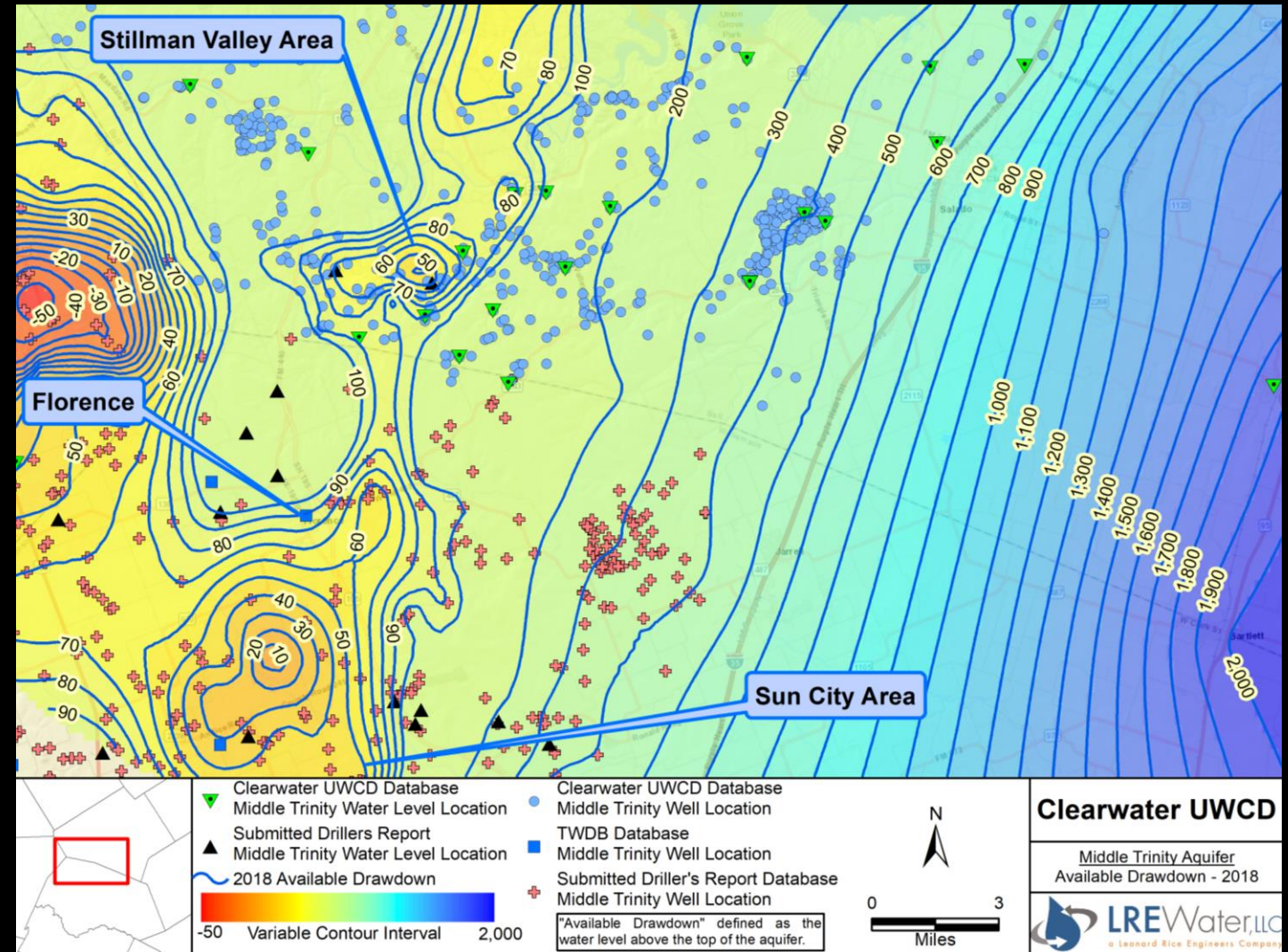






# MIDDLE TRINITY – “AVAILABLE DRAWDOWN”

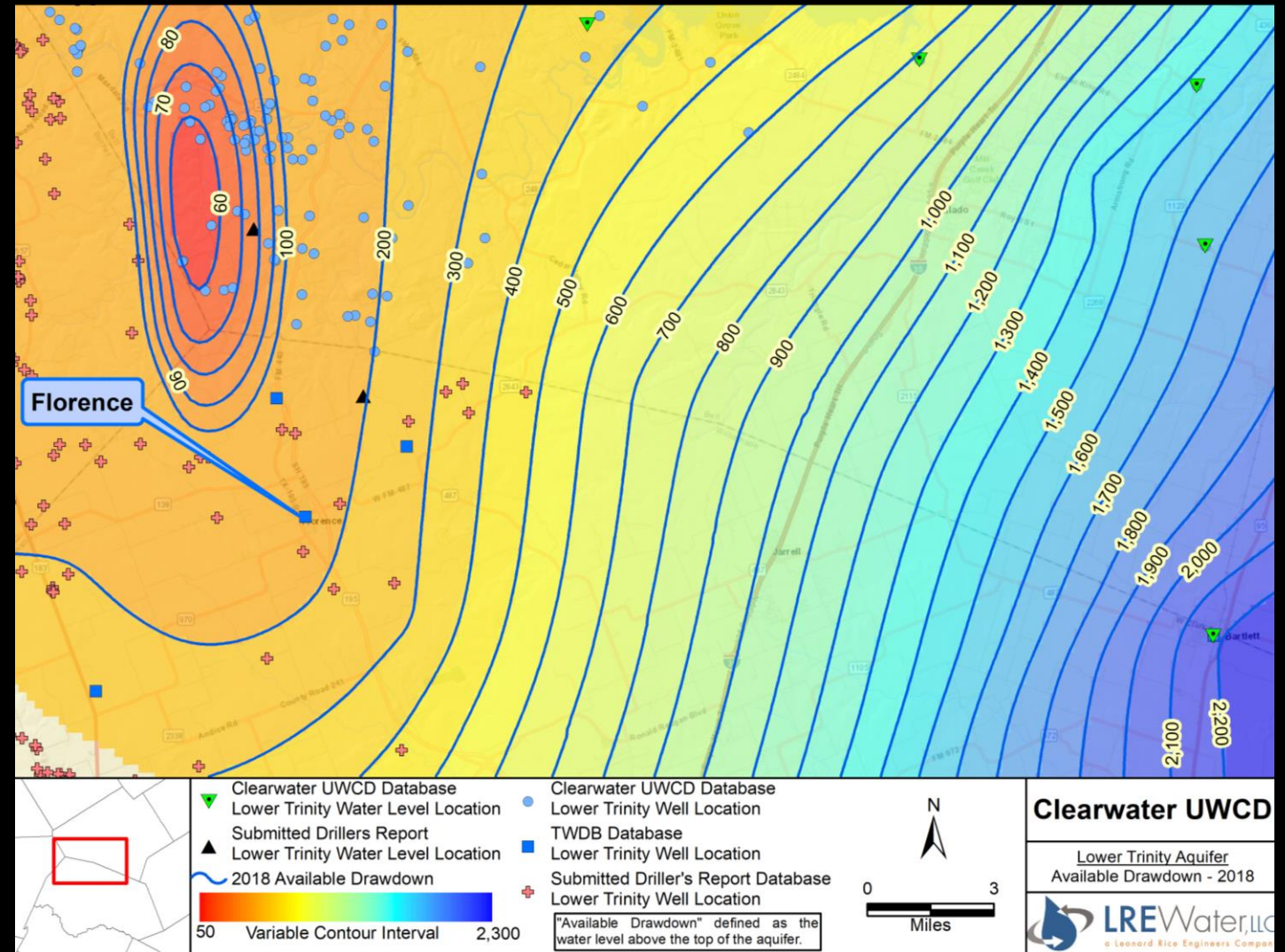
- Water level above the top of the aquifer
- Less than 100 feet near Florence
- Less than 50 feet in Stillman Valley and Sun City areas

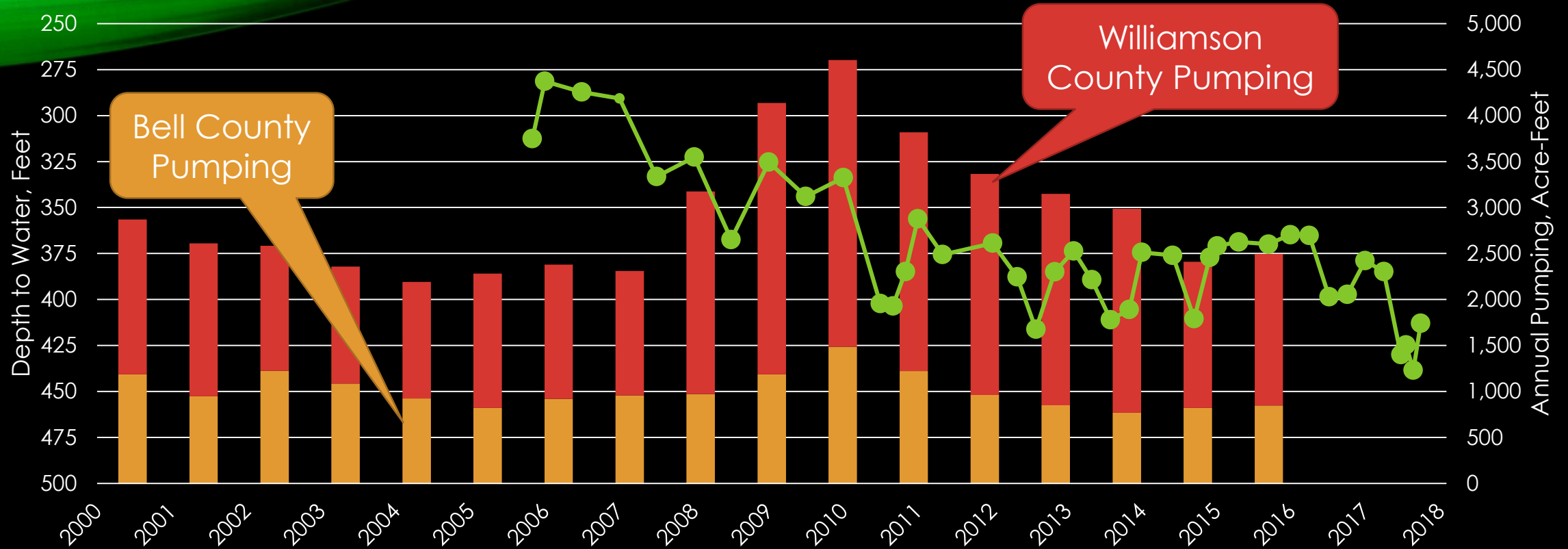




# LOWER TRINITY – “AVAILABLE DRAWDOWN”

- Less than 100 feet in far western areas
- Less than 200 feet near Florence
- Fewer users due to greater depth





# CAUSE OF DRAWDOWN = PUMPING

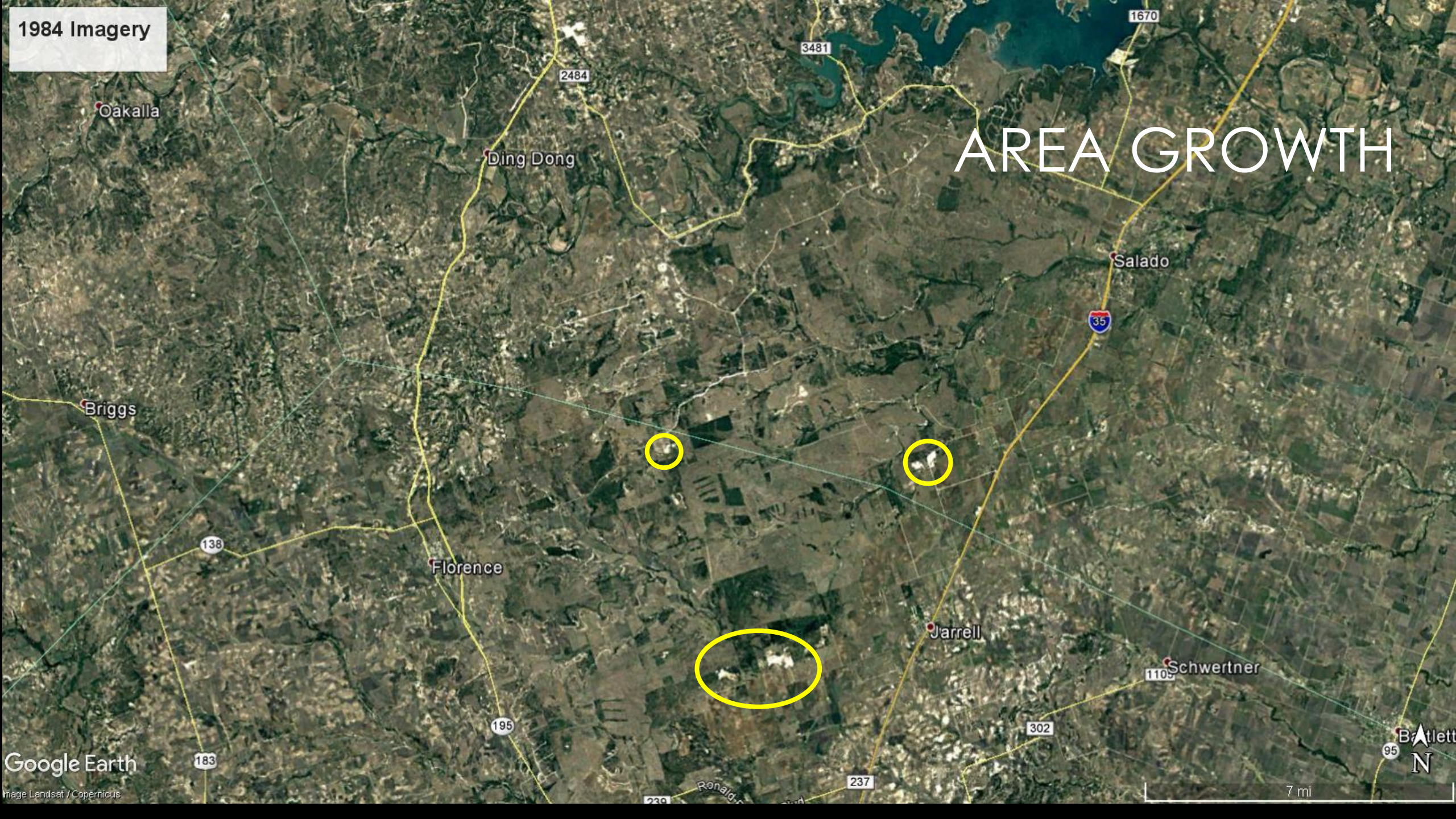
Water levels from District Monitoring Well E-05-083P (Middle Trinity)

Trinity Aquifer pumping from CUWCD and TWDB databases



1984 Imagery

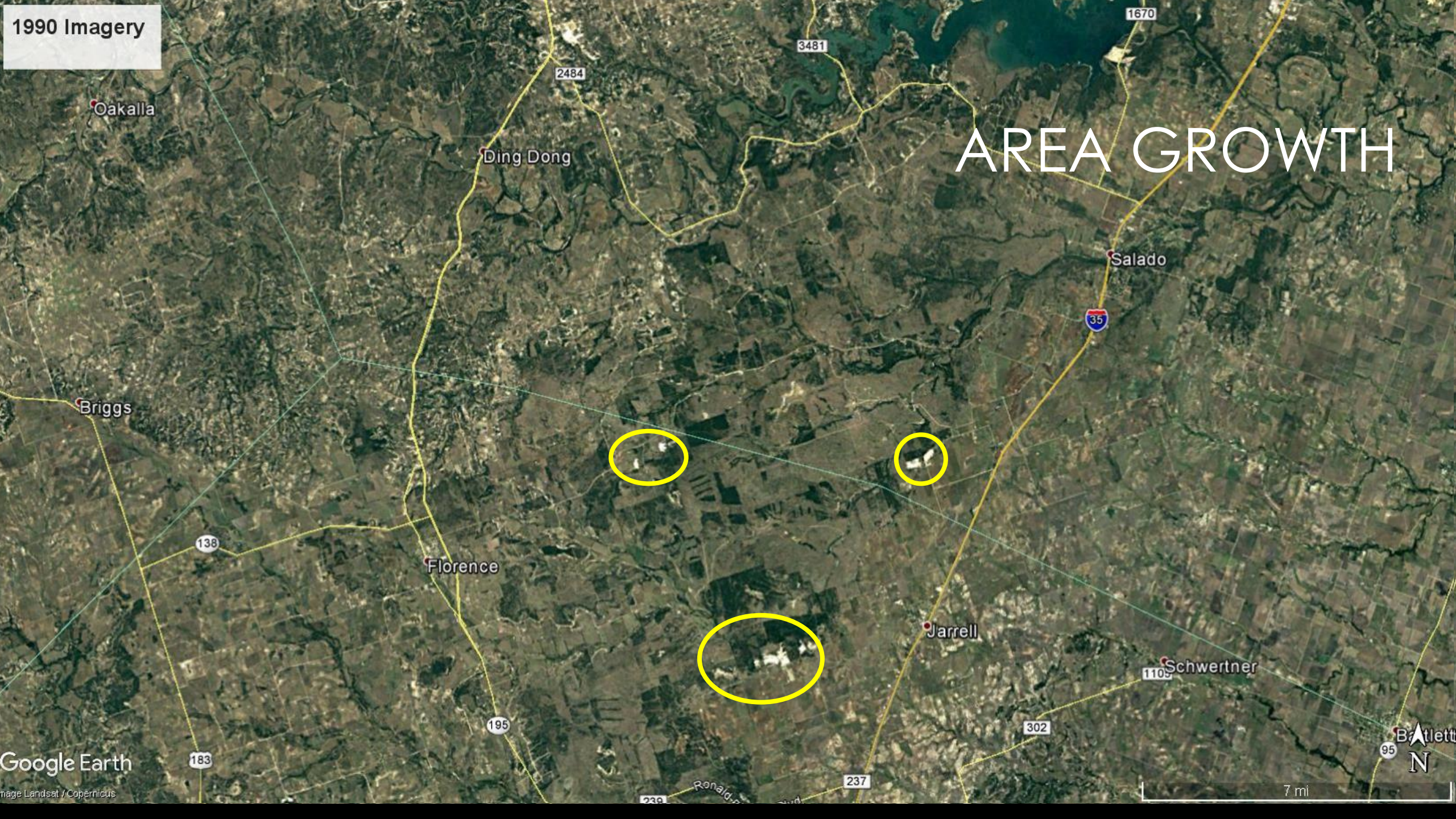
# AREA GROWTH



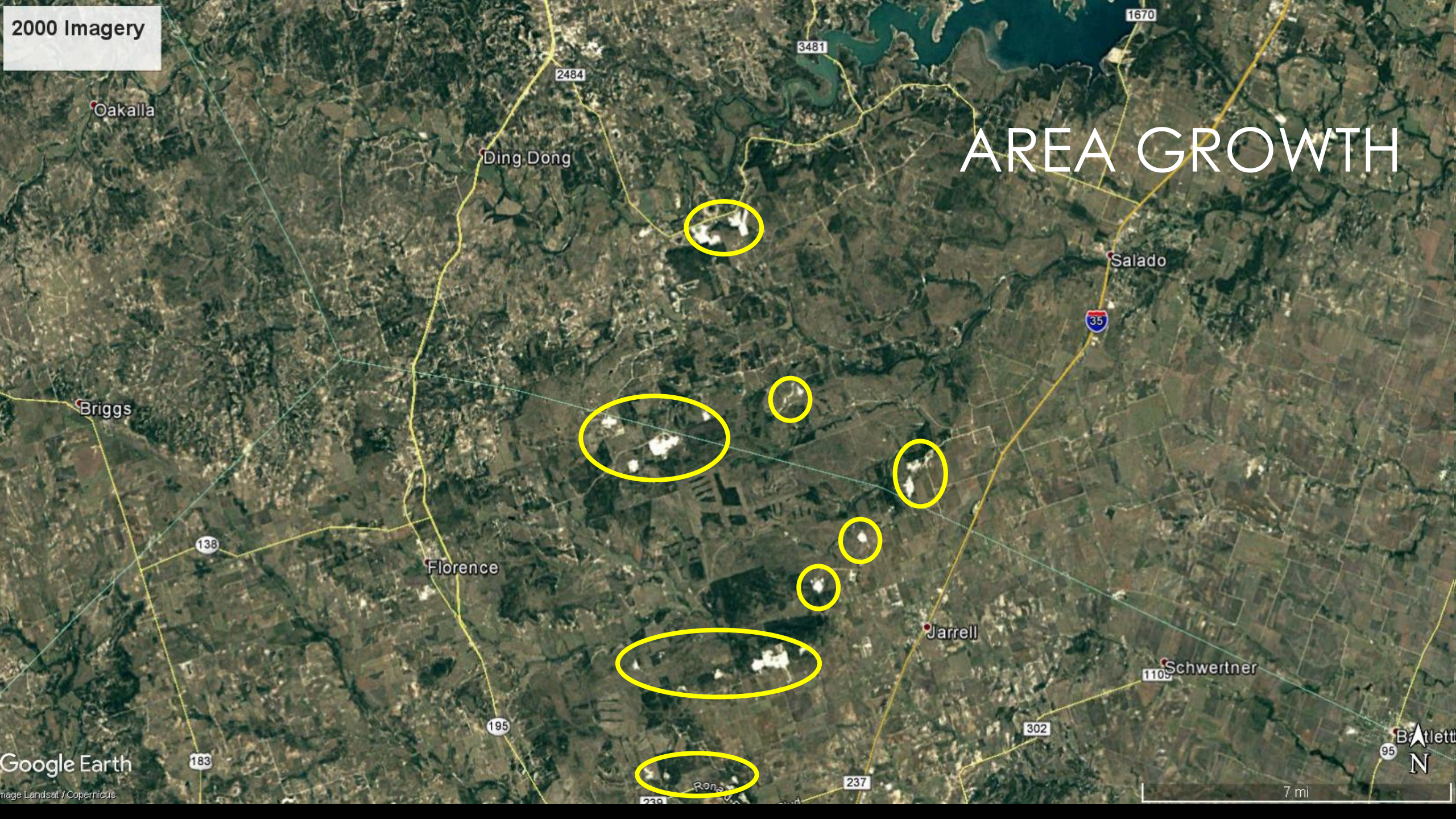


1990 Imagery

# AREA GROWTH



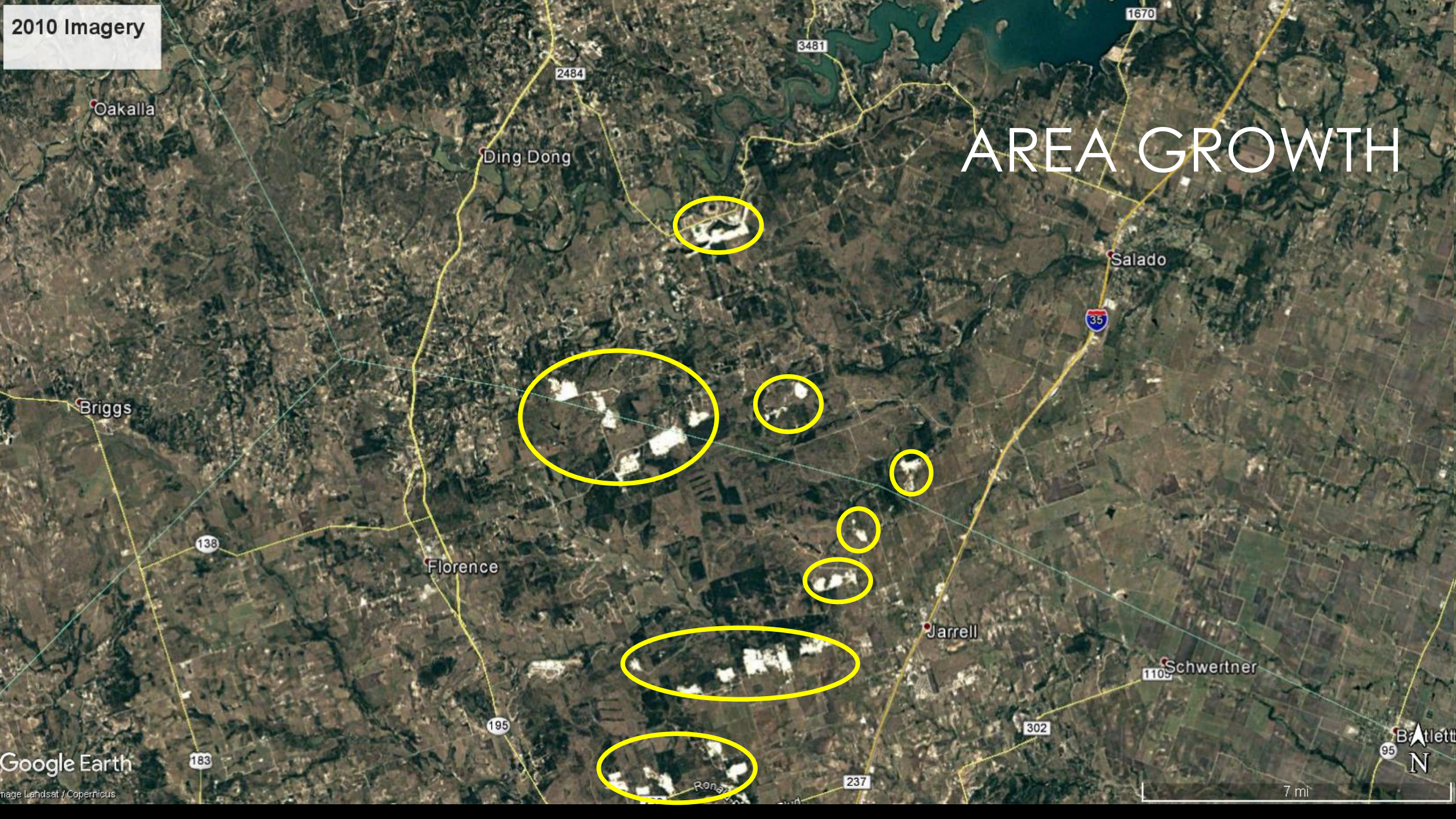




2000 Imagery

# AREA GROWTH





2010 Imagery

# AREA GROWTH

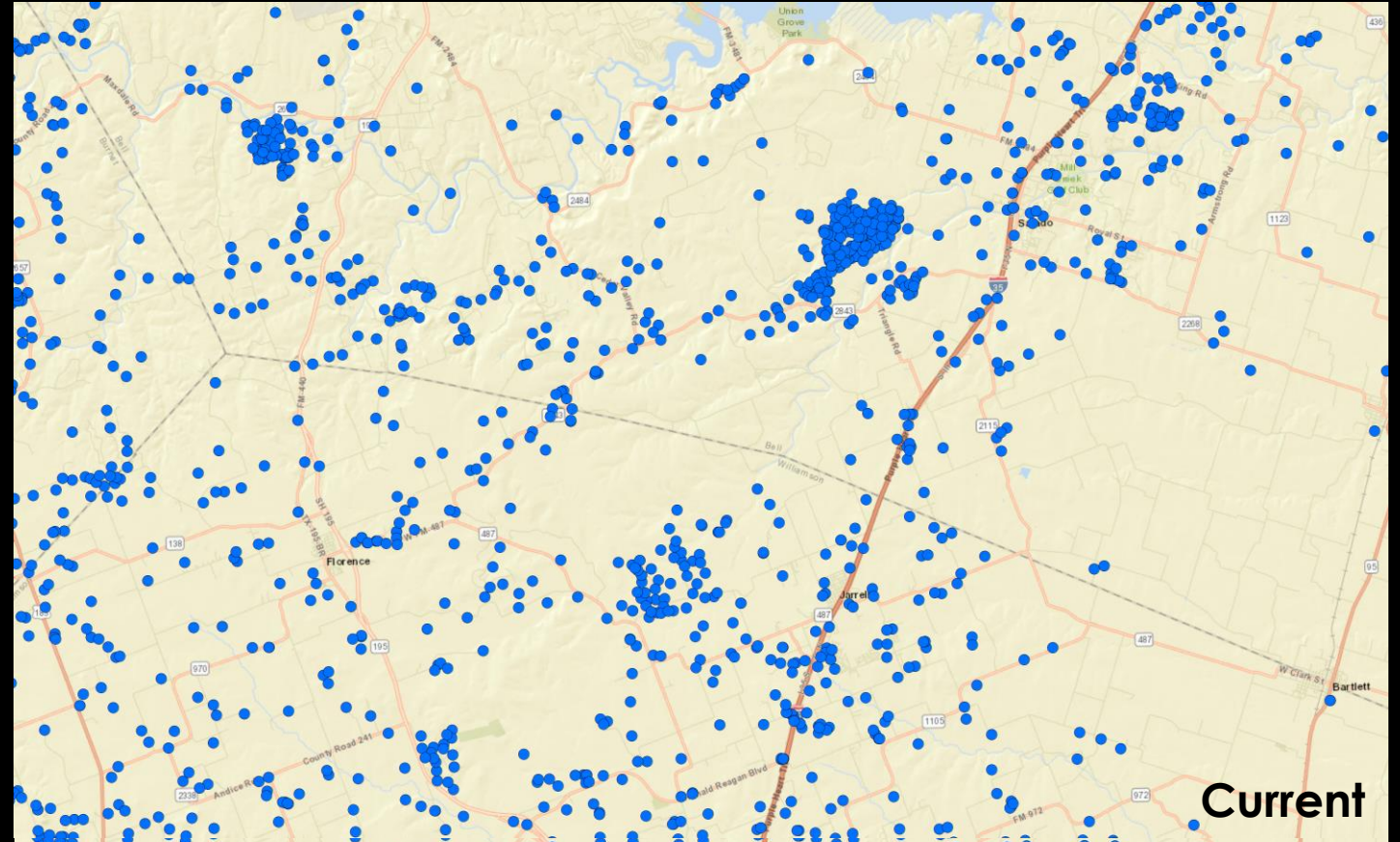




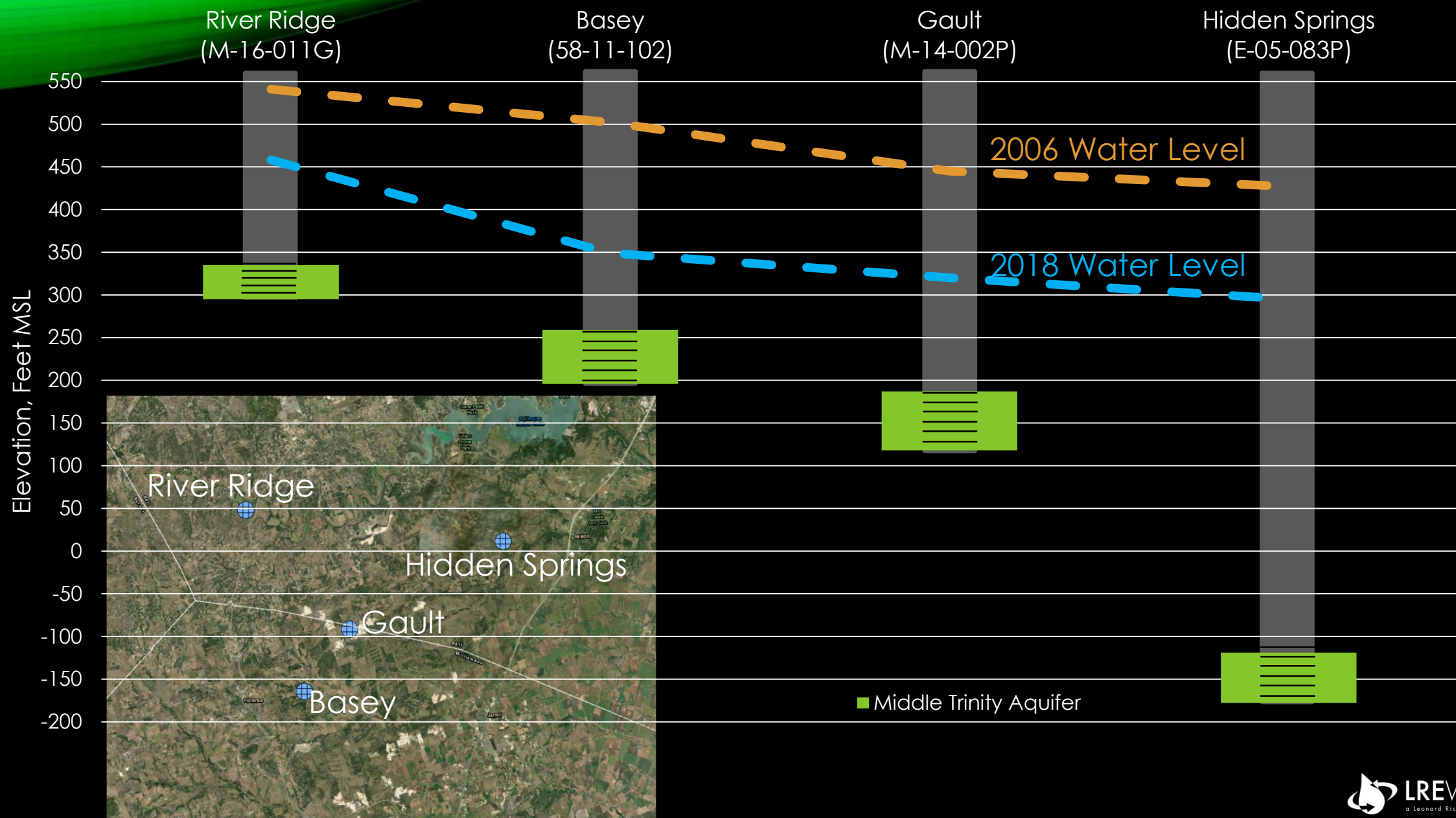


# AREA GROWTH

- 2005: 321 wells
- 2010: 722 wells
- 2015: 1,099 wells
- Current: 1,297 wells







# POTENTIAL FUTURE IMPACTS

- Reduced groundwater availability from the Middle Trinity Aquifer
- Users transitioning to the Lower Trinity Aquifer
- Possible transition to other water sources/options
  - Surface water
  - Reuse



Stillman Valley Area

# STATUS OF THE TRINITY AQUIFER IN CENTRAL TEXAS

Florence

18th Annual Bell County Water Symposium  
November 15, 2018

Sun City Area

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