GMA 14 Discussions of Environmental Impacts

Groundwater Management Area 14

April 30, 2025

DFC Considerations TWC 36.108(d)

(1) Aquifer Uses or Conditions

(2) Supply Needs and Management Strategies

(3) Hydrological Conditions

(4) Environmental Impacts

(5) Subsidence Impacts

(6) Socioeconomic Impacts

(7) Private Property Rights

(8) Feasibility

(9) Other Relevant Information

Consideration of Environmental Impacts

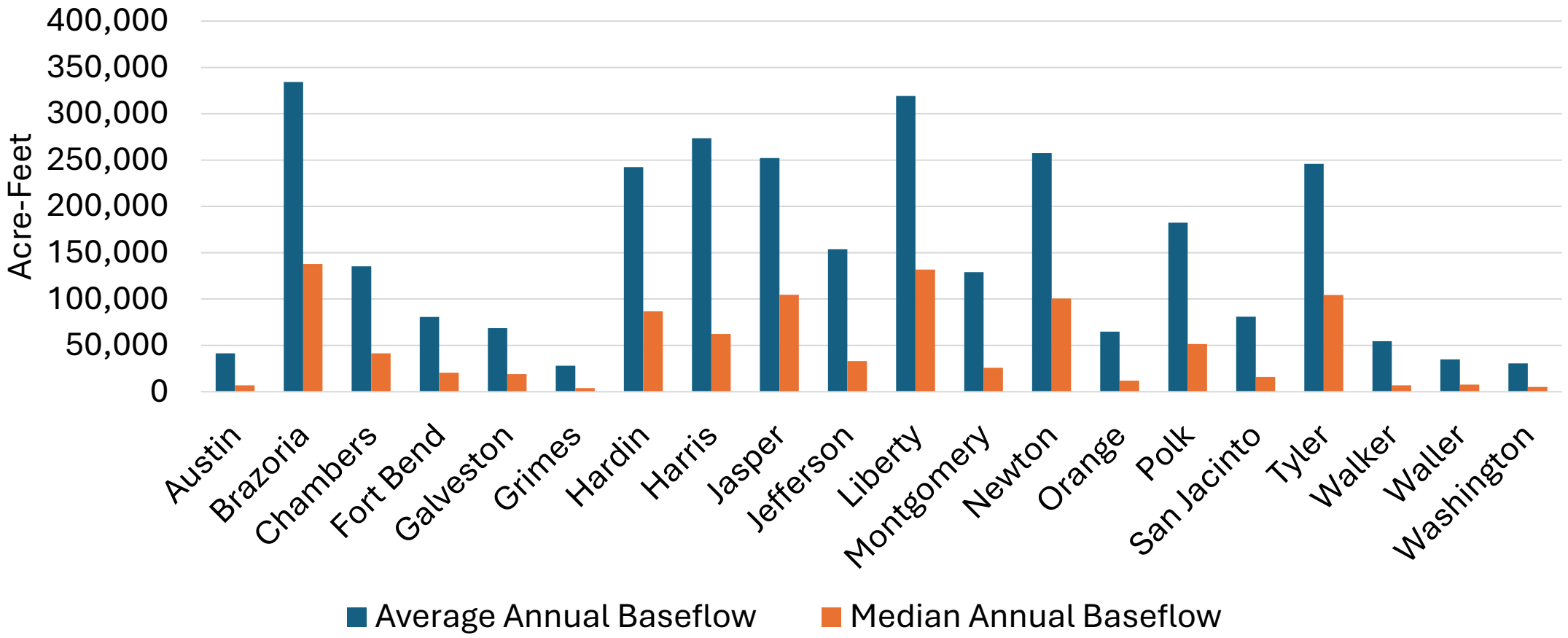
- Impact on streamflow as it relates to the interaction between surface water and groundwater

- Models for the GCAS are not designed to simulate stream / groundwater interactions

2016 Texas Aquifers Study

- Study conducted by the TWDB
- Used USGS stream gage data to assess contributions of groundwater to stream baseflow
- For GMA 14 counties
  - Average baseflow > 3,000,000 acre-feet per year
  - Median baseflow nearly 1,000,000 acre-feet per year

GCAS Stream Baseflow



Source: 2016 Texas Aquifers Study

Discussion

- Outcrop area and stream reach length affect calculated baseflow
- Calculated baseflow exceeds pumping
- Groundwater pumping is not expected to significantly affect baseflow amount
- Limiting decrease in saturated thickness in outcrop areas will minimize impact to baseflow

Questions

GMA 14 Discussion of Environmental Impacts

April 30, 2025