

Effect of City of Bastrop's Proposed Pumping On Discharge of Groundwater to the Main Stem of the Colorado River

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The City of Bastrop (City) has applied to the Lost Pines Groundwater Conservation District to install three new wells in the Simsboro Aquifer (figure 1). The City is requesting that these new wells, plus existing Well J, be permitted to pump a total of 6000 AFY from the Simsboro Aquifer.¹ This pumping would replace pumping from City wells completed in the alluvium along the Colorado River.²

Three GAM simulations were performed to estimate the effects of this change in pumping on the discharge of groundwater to the main stem of the Colorado River. Pumping file S-19 was used in the GAM simulations.

Simulation 1

Pumping file S-19 not modified.³

Simulation 2

Pumping file S-19 modified as follows.

- Pumping from the three new Simsboro wells begins in 2029. The pumping was ramped-up so that pumping from the three wells plus Well J totaled 6000 AFY in 2070.
- Pumping from City's alluvial wells stopped in 2029.
- Pumping from Well J unchanged.

Simulation 3

Pumping file S-19 modified as follows.

- Pumping not ramped. Beginning in 2024 each of the four Simsboro wells pumps 1500 AFY. This pumping continues through 2070.
- Pumping from City's alluvial wells stopped in 2024.

The effects of these pumping scenarios on the discharge of groundwater to the Colorado River are shown in figure 2.

¹ LPGCD, 2022, page 1.

² Bastrop, 2021, attachment A.

³ The unmodified S-19 file includes pumping from City Well I in Bob Bryant Park, City Well J at the XS Ranch, and pumping from the City's alluvial wells. In 2070, pumping from Well I is 1355 AFY, Well J is 1680 AFY, and the total for all alluvial wells is 200 AFY. Note: pumping from City Well I was not modified in any of the simulations.

References

Bastrop, 2021, (City of Bastrop, TX), *Simsboro Aquifer Well, Permit Applications and Attachments*, To Lost Pines Groundwater Conservation District, July 2021.

LPGCD, 2022, (Lost Pines Groundwater Conservation District), *Notice of Public Hearing*, (City of Bastrop application for wells 1, 2, and 3), Date: March 4, 2022

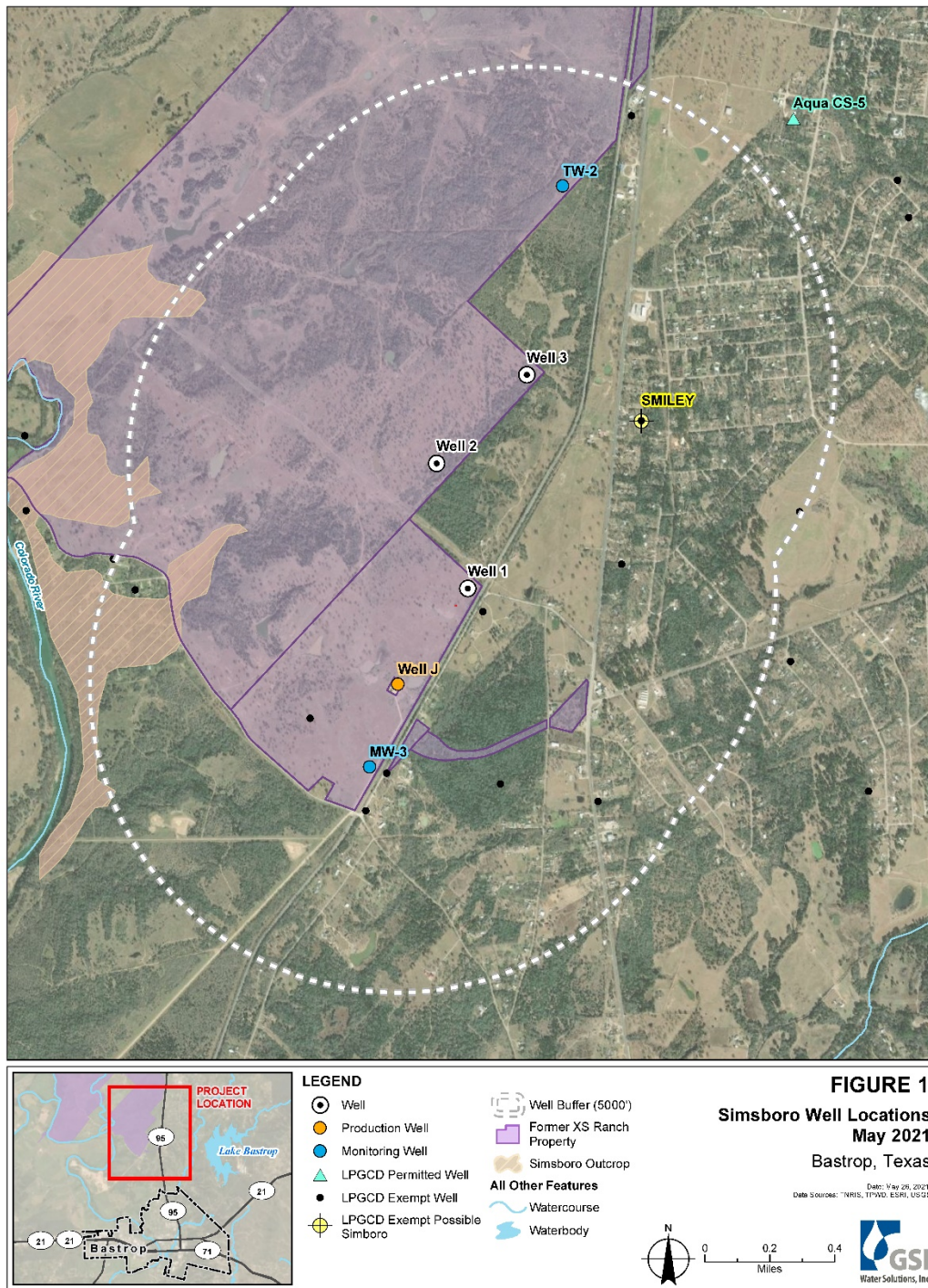


Figure 1
Locations of City of Bastrop Well J and the Three Proposed Wells
 (figure taken from Bastrop, 2021, attachment D)

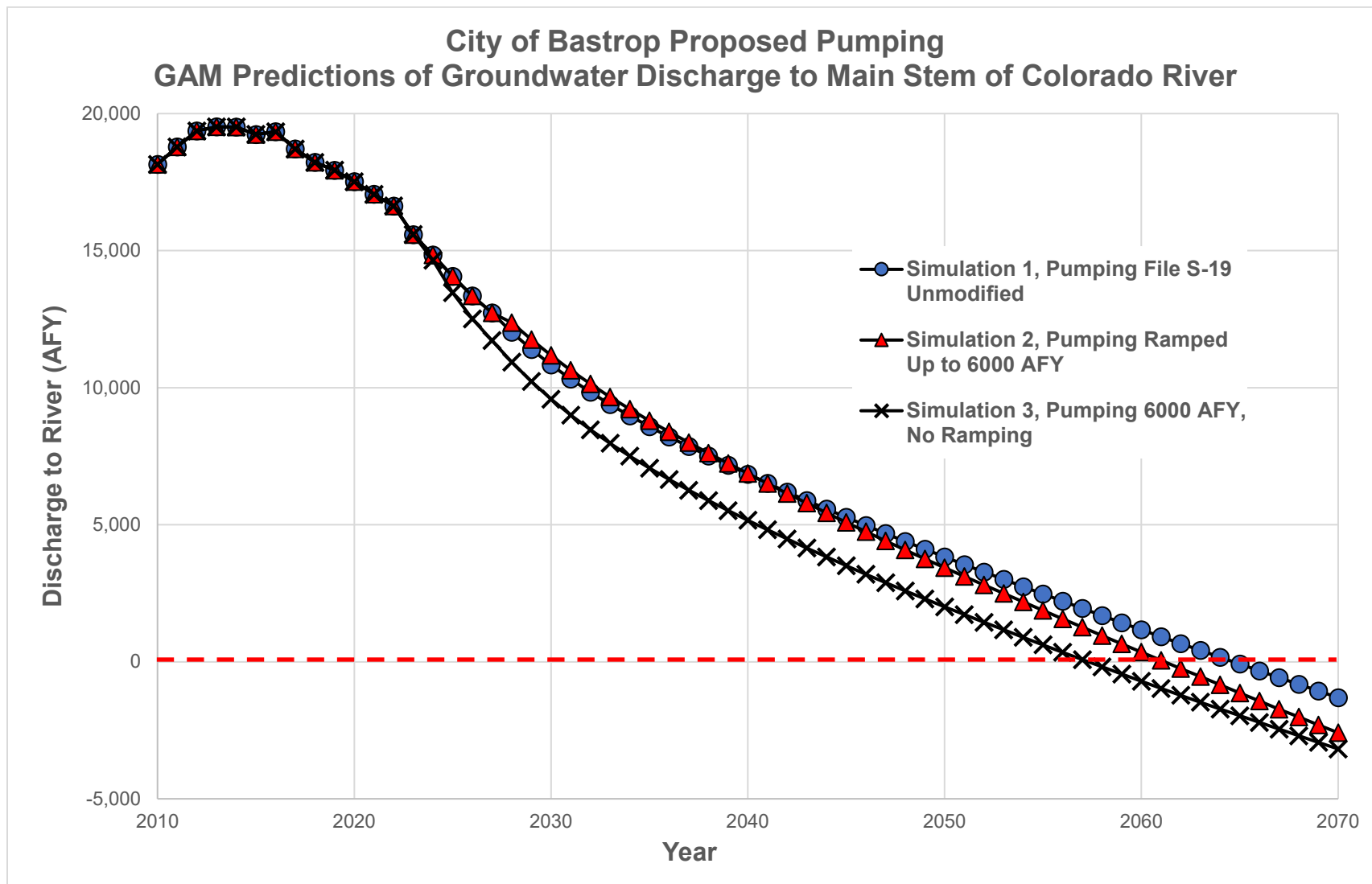


Figure 2
Effects of Proposed Pumping on Discharge of Groundwater to Colorado River