Downstream from Dallas

El Paso gets only 9 inches of rain a year. Austin gets 32, but Houston gets 50. That rain fills rivers and refills underground aquifers; Houston gets its water from both. The surface water comes from the San Jacinto River and the Trinity River. Because rainfall is uneven, reservoirs store that water. On the San Jacinto, the city directly pumps from Lake Houston and uses Lake Conroe, upstream, to store more water. On the Trinity, the water is pumped directly from the river near Crosby; Lake Livingston further upstream stores water. Since these watersheds include agricultural land and cities like Conroe and Dallas, the water needs to be filtered in one of three purification plants which then pump water through a 7,000 mile network of pressurized pipes, some 8 feet in diameter.

Groundwater is filtered by layers of sand and rock. But it comes with a catch. Enough water (and oil) was pumped from under Houston from the 1880s through the 1970s to literally drop the ground beneath our feet. That led the legislature to form the Harris Galveston Subsidence District, which has required the city to reduce groundwater use to 20 percent of its supply by 2030; today, groundwater is 29 percent of the city’s supply, from 92 wells scattered through the city.

Houston is using 392 million gallons a day of surface water but owns rights to 1.2 billion gallons, including a future reservoir on the Brazos River.