# HPWD OGALLALA AQUIFER

The Ogallala Aquifer is one of the largest freshwater aquifer systems in the world, spanning 174,000 square miles. It underlies the entire High Plains Water District service area and is the most widely used aquifer in our region. Water in our portion of the formation generally flows from northwest to southeast at variable rates, around 150 feet per year under natural conditions. This aquifer provides water to farms, ranches, municipalities, individual landowners, schools, and industries. Approximately 95 percent of the water pumped from the Ogallala Aquifer is for irrigated agriculture and livestock production.

**Depth to Base**
**40-552 ft**

**Avg. Saturated Thickness**
**54 ft**

**Active Wells**
**74,947**

**Well Yield**
**2 - 995 gpm**

## Water Levels

The Ogallala Aquifer lies relatively near the land surface with a maximum saturated thickness of 1,000 feet in parts of Nebraska. However in our region, the saturated thickness is generally a hundred feet or less. Water levels in the southern portion of the Ogallala Aquifer are declining. In some areas of the HPWD, levels will occasionally rise. For the latest water level measurements, check out map.hpwd.org.

## Water Quality

The Ogallala Aquifer is the freshest source of groundwater in our region. Municipalities treat this water for drinking, but there is no need to treat water from this aquifer for agricultural uses. In some areas of the district, naturally occurring deposits of fluoride, arsenic and minerals can be found in the water. Water from the Ogallala is considered to be "hard", which means it has higher concentrations of calcium and magnesium which can leave a residue on plumbing fixtures.

## Recharge

Natural recharge occurs slowly, approximately one-half inch per year. Recharge occurs primarily through percolation of precipitation through the soils and underlying sediments. Playa lakes are primary points for most natural recharge, contributing 10 to 100 times more recharge than surrounding lands.

**To view the depth to this formation and thickness in your area of interest, visit map.hpwd.org and use the Aquifer Tool for a virtual bore hole view of the aquifers at your area of interest.**

High Plains Underground Water Conservation District
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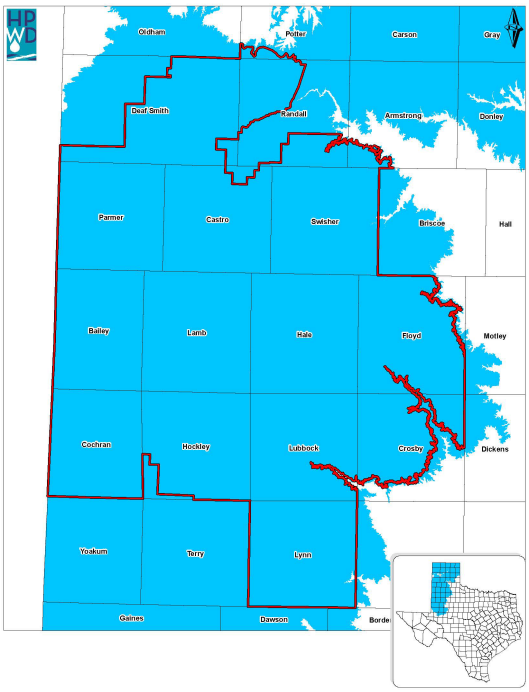
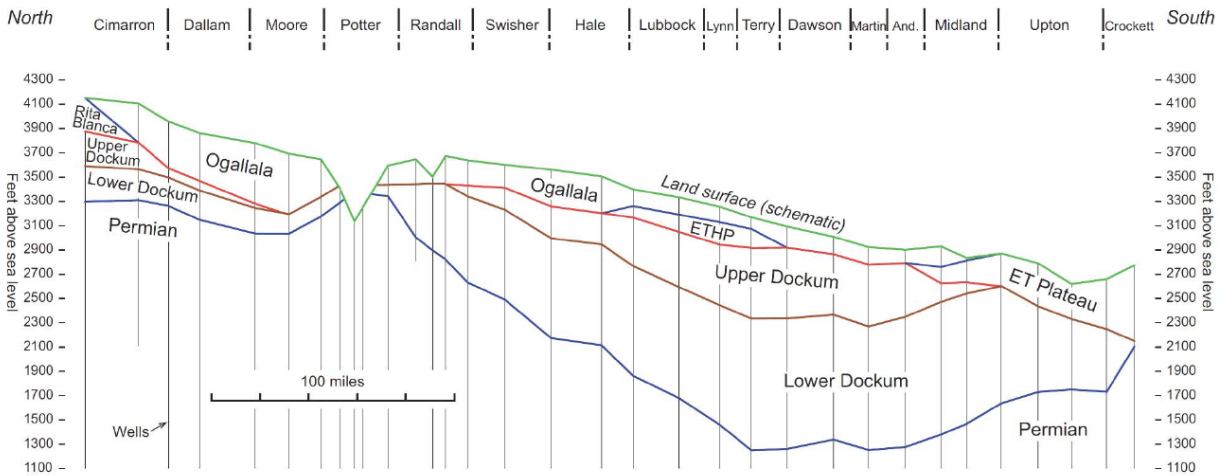
The Ogallala Aquifer is the primary source of groundwater in the High Plains Water District. Most of the water extracted from this aquifer is used for irrigated agriculture. Water levels vary throughout the counties. To view the latest water level measurements, visit map.hpwd.org.

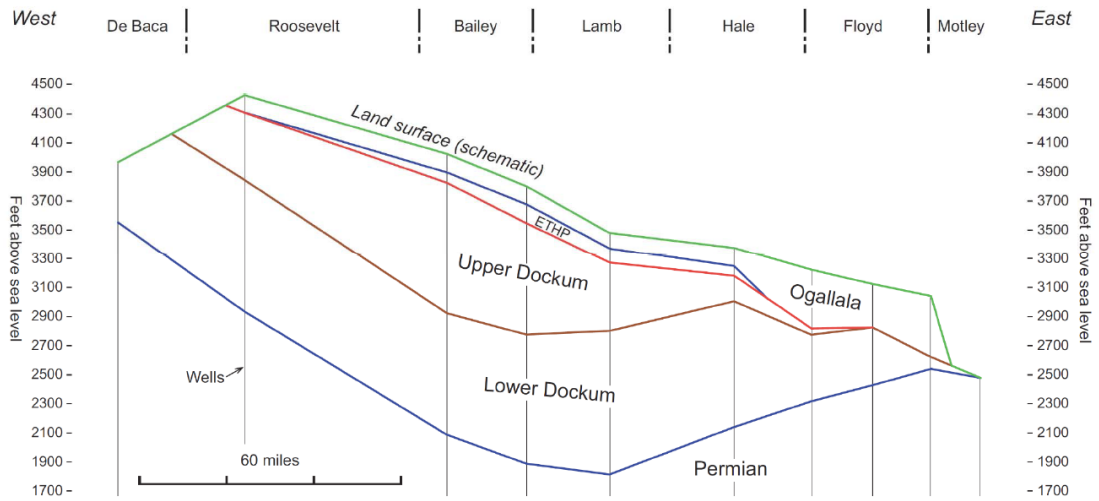



# Cross Section of Local Aquifers

North-South regional cross section for the High Plains Aquifer System




East-West regional cross section for the High Plains Aquifer System




Source: High Plains Aquifer System Groundwater Availability Model, April 2015

The information on this fact sheet originates from data collected within the High Plains Water District and additional facts compiled from the Texas Water Development Board and U.S. Geological Survey reports.