**Llano Estacado Master Naturalist Curriculum Guide**

**Unit #9: Texas Water Resources**

*“When the well is dry, we know the worth of water.”*

*Benjamin Franklin*

Unit Goals: After completing this unit, volunteers should be able to:

* Identify water resources of Texas.
* Understand the management of water resources in Texas, including water rights and ownership.
* Understand the benefits that rainwater harvesting and other conservation practices can provide.

1. Surface water accounts for \_\_\_\_\_\_\_\_ percent of water used in Texas with groundwater supplying the remaining \_\_\_\_\_\_\_percent. Only California exceeds Texas in annual groundwater use.
2. A watershed or river basin is an area of land that contributes or drains water from precipitation to a particular creek or river. Midland County is located in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ river basin.
3. Interestingly, in the entire state of Texas there is only one lake of at least 20 acres that is a naturally formed topographic depression. This is \_\_\_\_\_\_\_\_\_\_\_ Lake, located on the border of Texas and Arkansas. All the other lakes of at least 20 acres in Texas are human made reservoirs.
4. A major reservoir is defined as an impoundment that has at least 5,000 acre-feet of storage capacity. In the 1960s and 1970s, reservoirs were primarily created for the purpose of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ , with water supply being a secondary benefit. However, in order to meet future demand for water, the 2012 State Water Plan proposed the creation of \_\_\_\_\_\_\_\_ new reservoirs, many of which would be located in the eastern portion of the state.
5. Groundwater is stored in aquifers. There are \_\_\_\_\_\_\_ major aquifers in Texas. The largest of these is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_, which contains \_\_\_\_\_\_\_\_ percent of the total water in Texas aquifers.
6. Midland County overlies the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ aquifer.
7. True or False…
8. The Rule of Capture means that landowners have the right to remove all the water that can be captured from beneath their land even if it causes their neighbor’s well to go dry….True or False.
9. The Texas Water Development Board was created in 1950 to develop water supplies and prepare plans to meet the state’s future water needs. The current water plan is based on an estimated population growth of 82% from 2010 to 2060………True or False
10. Every county in Texas has a Groundwater Conservation District that is charged with permitting non-exempt water wells and developing a comprehensive groundwater management plan…….True or False
11. Water quality management in Texas is based on the Clean Water Act (CWA) administered by the US Environmental Protection Agency. The CWA establishes water quality standards based on designated use. The Texas Commission on Environmental Quality is the state agency charged with implementing the CWA and managing water quality……True or False
12. Besides the creation of additional reservoirs, what are some other strategies included in the State Water Plan that are needed to meet future water demands?
13. What are some ways that you, as an individual, can help conserve water and improve water quality?

Additional Resources:

<http://www.twdb.texas.gov>

<https://waterdatafortexas.org/reservoirs/statewide>

<https://www.tceq.texas.gov/agency/water_main.html>

<https://www.tceq.texas.gov/waterquality/clean-rivers>