

Oklahoma is currently home to 39 state parks. These parks are located across Oklahoma and showcase a vast array of geological features. In this issue of Oklahoma Rocks! we will visit 5 of these state parks and learn about the specific landscape of each.

Lake Eufaula State Park

In 1964, the United States Corps of Engineers completed a 975-meter long dam, stoppering the Canadian River in Eufaula, Oklahoma. This dam would hold over four hundred square kilometers of water back to create Eufaula Lake. Now known as Lake Eufaula, it is a popular recreational attraction, boating, water sports, fishing, and camping are common attractions.

Hydroelectric Power

Hydroelectric power generation, also known as hydropower, is a clean, pollution-free, renewable domestic energy resource. It uses the natural power of flowing water and the simple principal of gravity to generate electricity. Hydropower provides about 12% of our nation's electrical generating capability and represents most of our renewable energy resource base. In Oklahoma, about 3% of our electricity comes from hydropower.

There are five dams in Oklahoma that generate hydropower, one of them being the Eufaula Dam.

There are three kinds of hydroelectric power plants. Visit <https://www.energy.gov/eere/water/types-hydropower-plants> for a description of the different kinds. Most of Oklahoma's are impoundment facilities, but there's also one pumped storage facility.

- When is water released from the reservoir above the dam to generate electricity? Why is it released then?
- When is water pumped from below the dam to the reservoir above it?
- How much energy does it take to pump the water to above the dam than is generated when the water is released?

Go to <http://www.swpa.gov/agency.aspx> and click on "SWPA – Overview Video." Watch the video the Southwestern Power Administration has produced on hydropower.

- What are some of the advantages of hydropower over other forms of power generation?
- What was the original purpose for building some of the earlier dams in this part of the country?
- What is "peak demand"?
- To generate electricity, water must flow from above the dam to below the dam. Put the following water flow-paths in order: (A) Turbine (B) Penstock (C) River (D) Reservoir. Which one of these is connected to the large generator that produce electricity?