

## Project 4 Geology 4182

### WATER RESOURCES PROJECT

The Water Resources Division of the U. S. Geological Survey maintains a database of Groundwater and Surface water withdrawals by Louisiana Parish from 1960 to 2000 at

<http://la.water.usgs.gov/WaterUse/>

Water use is divided up into 8 categories: aquaculture, general irrigation, industrial, livestock, power generation, public supply, rice irrigation, and rural domestic. Use this information to do the following:

- 1) Indicate on a Parish map of Louisiana
  - a) Top 5 parishes in terms of total surface water withdrawals in 1960
  - b) Top 5 parishes in terms of total ground-water withdrawals in 1960
  
- 2) Indicate on a Parish map of Louisiana
  - a) Top 5 parishes in terms of total surface water withdrawals in 2000
  - b) Top 5 parishes in terms of total ground-water withdrawals in 2000
  
- 3) Discuss the spatial pattern of groundwater versus surface water usage in both 1960 and 2000. What statewide temporal trends do you see between 1960 and 2000?
  
- 4) Combining aquaculture, general irrigation, livestock, and rice irrigation into a farming category and public supply and domestic rural into a public category, construct bar charts for \_\_\_\_\_ Parish as follows:
  - a) Surface water use broken down into farming, industry, power generation, and public for 1960, 1970, 1980, 1990, and 2000
  - b) Ground-water use broken down into farming, industry, power generation, and public for 1960, 1970, 1980, 1990, and 2000
  
- 5) Using the bar charts developed in item 4 above, discuss how water use has changed over the last 40 years in terms of surface water versus ground water, amount of water used, and type of use.
  
- 6) Using information from the USGS, DNR or DOTD, describe the aquifer source for groundwater in \_\_\_\_\_ Parish including name, areal extent, approximate thickness, recharge/discharge areas, and direction of groundwater flow.
  
- 7) Is groundwater being overused or “mined” in \_\_\_\_\_ Parish? Explain your answer.