



Weaving Our Wetland Economic Web

Adapted from BTNEP/LSU AgCenter: *Wetland Functions, Values, and Economic Resources*

Focus/Overview

This lesson focuses on creating an understanding of renewable and nonrenewable resources and how these resources are interwoven into the fabric of our coastal economy. Students will collect data through a survey of two adult family members and then create a class set of data that they will use to interpret the interconnections of the wetlands and our coastal economy.

Learning Objectives

The learner will...

- list the economic activities of their community.
- conduct a survey of their families' economic activities.
- construct a Wetland Economic Web concept map for their community.

Louisiana Grade Level Expectations (Science)

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|-----------|---|
| 5: GLE-50 | Describe the consequences of several types of human activities on local ecosystems (e.g. polluting streams, regulating hunting, introducing nonnative species) (SE-M-A4). |
| 7: GLE 35 | Identify resources humans derive from ecosystems (SE-M-A1). |
| 7: GLE 39 | Analyze the consequences of human activities on ecosystems (SE-M-A4). |

Louisiana Grade Level Expectations (Social Studies)

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|-----------|---|
| 5: GLE-16 | Identify the natural resources used by people in the United States (G-1D-M3). |
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Materials List

- Easel paper
- Index cards and tape or post-it notes
- Markers
- Wetland Economy Questionnaire (**Blackline Master #1**) - 1 per student)

Background Information

Renewable Natural Resources of Barataria-Terrebonne Estuary.

The biological productivity of wetlands leads to a wealth of renewable resources that are extremely valuable to society. Fish, shellfish, timber, furbearing animals, and alligators all contribute greatly to the economy of coastal Louisiana and in particular the Barataria and Terrebonne basins. The annual seafood harvest of Barataria-Terrebonne alone contributes \$200 million to Louisiana's economy. In addition, the annual Barataria-Terrebonne timber revenues exceed \$2 million, mostly hardwood timber, principally cypress; the annual fur harvest is worth more than \$680,000, or 61% of the state's fur income; and annual alligator hunting revenues of Barataria-Terrebonne have been as high as \$6 million.

Non-Renewable Natural Resources of Barataria-Terrebonne Estuary.

The geology of the Barataria and Terrebonne basins is responsible for the production of large reserves of oil and gas as well as sulfur and salt. Oil and gas alone accounted for revenues in the Barataria-Terrebonne estuary exceeding \$2 billion per year between 1988 and 1994. Recent technological

BTNEP Connection

Economic Resources

Grade Level

5, 7

Duration

2 class periods and a homework assignment

Subject Area

science, social studies

Setting

classroom

Vocabulary

renewable resources, nonrenewable resources, revenue

Original Source

"Weaving Our Wetland Economic Web" in BTNEP/LSU AgCenter: *Wetland Functions, Values, and Economic Resources*, Activity 8.



advancements such as three-dimensional seismic technology should increase this annual income in upcoming years. These resources also provide the raw materials for the chemical manufacturing industry located in within the estuary. In addition to the direct revenues of oil and gas production, the economy is boosted from the activities supporting the industry.

Procedures

1. The wetlands of Barataria-Terrebonne are important to the economy of our community. The wetlands provide resources that provide revenues, or income, to our community. Resources can be divided into **renewable resources** and **nonrenewable resources**. Let's write down all the renewable and nonrenewable resources we can think of. (Hand out index cards or post-it notes to students. Have them write one resource on each piece of paper.)
2. What would we list under renewable resources? (Have students come up and post their ideas for renewable resources.) What would we list under nonrenewable resources? (Post these papers.)
3. The presence of these resources provides not only revenues, but employment. When there is a source of revenue and a source of jobs for the people, the economy of the area is healthy. The more of both we have, the better off everyone is economically. If the resources we just listed all disappeared, what changes would we see in our communities? Would these changes affect you? (Students will reply that less money would come to the parishes and people would lose their jobs. There would be less income so people would spend less money, causing other businesses, such as stores, to suffer. People would have to leave the area to find work.)
4. Your family represents a sample of our community. If we list the occupations of some of your family members, we'll be able to see how our lives are linked to the wetlands.
5. Hand out two post-it notes or index cards to each student. Have them write down the occupations of two close family members. Let's organize the occupations of our family members into types of jobs. (Group the occupations under headings such as commercial fishing, oil and gas, service industries (including restaurants, hotels, stores, banks, etc.), eco-tourism, other – you can add additional categories as necessary.)
6. Now let's see how these occupations are connected to the wetlands. (Help the students make connections between the jobs their families have and the wetlands. Most of the links will be through the fishing industry.)
7. If the wetlands disappeared, which of these occupations would also disappear or change? (Students will recognize that those involved in the fishing industry, specifically shrimping and oyster farming, would have to find another occupation if there were no more wetlands. They may see that if the fishing industry fails, so will the businesses that support it – boat building, net suppliers, ice houses, fuel stations, etc. In the case of the oil and gas industry, it would be much more expensive to produce oil and gas if the marsh was lost. All infrastructure, such as pipelines, well heads, etc., would also be endangered or lost.)
8. The next step of this investigation is to take home a short survey for your family to help you complete. It will give us a little more information on how our economy is linked to the wetlands of our area. You will need to interview at least two different people in your family, such as you mom, dad, aunt, uncle or grandparent. (Pass out the survey, **Wetland Economy Questionnaire**, and review it with the students, answering any questions they might have about the survey instrument.)
9. Have students return the completed survey and compile the data on the chart worksheets, **Wetland Economy Data Chart – Family Occupations** and **Wetland Economy Data Chart – Importance of the Wetlands to Occupation**.
10. As a class, summarize what was learned from the student-collected data in a large illustrated concept map, **Wetland Economy Concept Map** worksheet. Alternatively, students can create an individual concept map of what they learned from the activity.

Blackline Masters

1. **Wetland Economy Questionnaire** (one per student)
2. **Wetland Economy Data Chart – Family Occupations**
3. **Wetland Economy Data Chart – Importance of the Wetlands to Occupation**
4. **Wetland Economy Concept Map**

Assessment

- Students should be able to reflect what they have learned on their concept maps.

Resources

Tradebooks:

Randle, Damian. 1993. **Natural Resources**. Thomson Learning. 32pp. ISBN: 1568470568
Presents an overview of the earth's natural resources, describing what they are, where they are found, how they are used, and how this use affects the environment. Age Range: 9 to 11

CDs

Louisiana Wetland Functions and Values CD developed by LSU AgCenter's Extension Service in conjunction with the U.S. Geological Survey's National Wetlands Center and the Louisiana Department of Natural Resources (DNR). To receive a copy, contact DNR (800/ 267-4019) or order on the Internet at <http://www.lacoast.gov>.

Wetland Economy Questionnaire #1

1. Name and occupation of family member completing questionnaire:
Name _____ Occupation _____
2. How many years has your family been involved in this occupation? _____ years
3. How many years have you personally been involved in this occupation? _____ years
4. How would you rate the presence of the wetlands (marshes and swamps) in importance to your family's profession? (circle one of the following)
 - A. Extremely important
 - B. Very important
 - C. Important
 - D. Not important
 - E. The wetlands interfere with my occupation
5. Does the loss of wetlands in our area cause any problems for your occupation? Yes No
6. If yes, in what way?

7. Does the company of business you work for obtain supplies from other businesses in this parish? Yes No
8. If your company or business left the parish, how would the economy of the parish be affected?

Additional Notes:

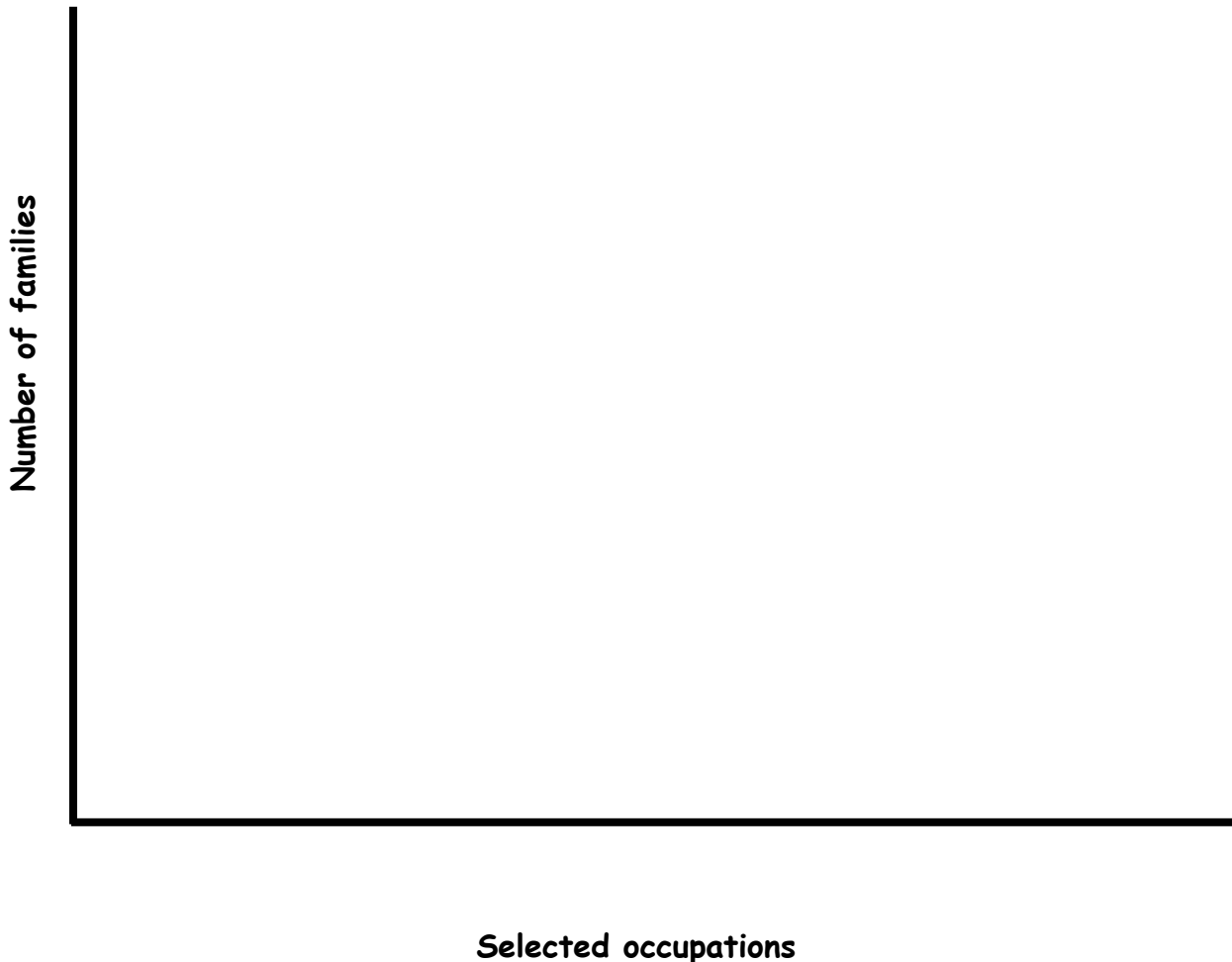
Wetland Economy Data Chart - Family Occupations

Your teacher will help the class tally the information needed for this chart. Record the final tally information in the chart below.

| Number of families in selected occupations | | | | | | |
|---|----------------------------------|------------------------|-----------------------|--------------------------------------|--------------------|-------------------|
| Commercial fishing, natural resource harvesting | Fisheries and trapping suppliers | oil and gas production | oil and gas suppliers | eco-tourism, recreational activities | service industries | other occupations |
| | | | | | | |

Create a bar graph using the data from the chart above.

Title of Bar Graph: _____



Summarize what your data from your chart means: _____

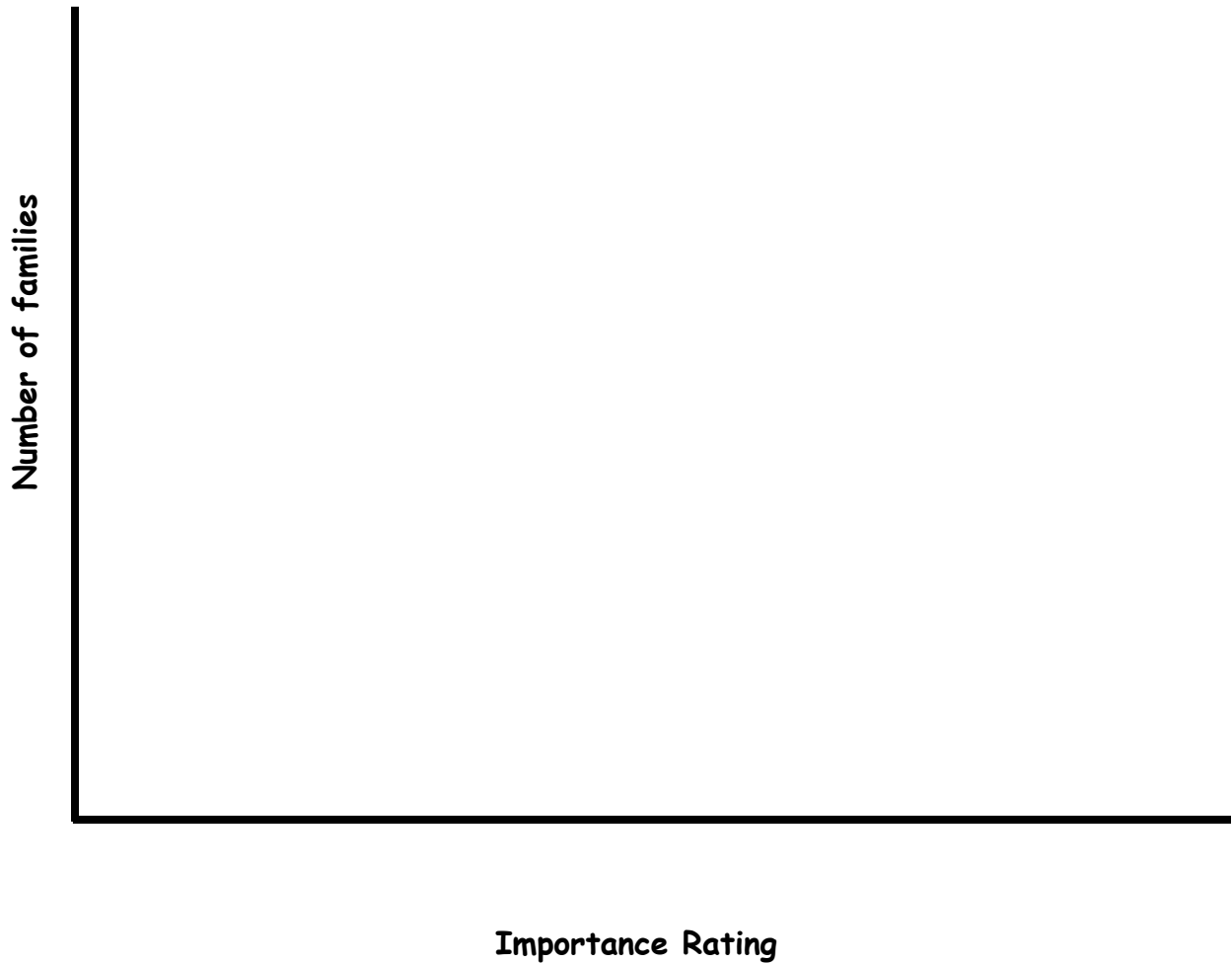
Wetland Economy Data Chart - Importance of Wetlands to Occupation

Your teacher will help the class tally the information needed for this chart. Record the final tally information in the chart below.

| Rating the Importance of Wetlands | | | | |
|-----------------------------------|------------------|-------------|-----------------|---------------|
| A essential | B very important | C important | D not important | E a hindrance |
| | | | | |

Create a bar graph using the data from the chart above.

Title of Bar Graph: _____



Summarize what your data from your chart means: _____

Wetland Economy Concept Map

Based on the information you and your classmates collected, create a concept map that explains how the wetlands and the economy are interconnected.

