

**ATCHAFALAYA BASIN PROGRAM:
EDUCATIONAL MATERIALS
LESSON THREE:
“LOUISIANA’S ALLIGATOR ECONOMY:
SUSTAINING ITS HEALTH”**

GRADE LEVEL & SUBJECT AREA:

8th grade social studies

TIME NEEDED:

3 days

LESSON INCLUDES:

1. Essay for students
2. Essay quiz
3. Critical thinking exercise
4. Internet resources
5. Student experiment
6. Three-day lesson plan, drawn from student essay
7. Worksheet (day 1)

ASSESSMENT:

1. Quiz on essay
2. Career letter

GRADE-LEVEL EXPECTATIONS COVERED IN THREE DAYS:

42. Analyze situations involving scarcity (limited resources) at the individual, group, and societal levels to determine the need for choices or what is gained/lost by a decision (E-1A-M1)
43. Explain how effective economic decisions (e.g., determining the best level of consumption) require comparing the additional costs of alternatives with additional benefits (E-1A-M2)
44. Explain choice/trade-offs, cost/benefits, and opportunity costs related to making personal economic decisions (E-1A-M3)
46. Use a variety of resources to research education and training for jobs and careers (E-1A-M5)

47. Cite examples of how skills/knowledge and technical training increase personal productivity and career opportunities, and which skills/knowledge would enhance particular career prospects (E-1A-M5)
48. Characterize and analyze the use of productive resources in an economic system (E-1A-M6)
50. Describe institutions (e.g., banks, government agencies, large companies, small businesses) that make up economic systems (E-1A-M7)
53. Explain and analyze factors affecting production and allocation of goods/services in Louisiana and the United States (E-1B-M2)
56. Identify various types of taxes and user fees and predict their consequences (E-1B-M5)

THE ATCHAFALAYA BASIN: LESSON THREE: Student Essay

Louisiana's Alligator Economy: Sustaining its Health

I. Conserving the Louisiana Alligator

As you learned in Lesson 2, different cultural groups have settled in the Atchafalaya Basin. As more and more people have made their home in the region, they have also used many of the natural resources available to them. In fact, people have used some of these resources too much! For many years, there has been a scarcity (shortage) of some of the Basin's natural resources.

The Louisiana alligator was, until recently, so scarce that it was placed on the endangered species list. Why did the Louisiana alligator, an important biological resource, become endangered? There are several reasons: 1) because people wanted to own objects made of the luxurious leather; 2) because its natural habitat was being destroyed; 3) because hunters were killing too many. In essence, alligators became scarce when human beings wanted more from the natural environment than nature could produce.

The problem started over 100 years ago, in the nineteenth century. E.A. McIlhenny (of Tabasco fame) wrote that approximately three million alligators were harvested between 1880 and 1933. In 1891, the first commercial alligator farm was established in Florida. By the 1950s, the alligator population was in serious danger throughout the southeast region of the United States. It was officially placed on the "endangered species list" in 1973 by the U.S. Fish and Wildlife Service.

Egg Collection/Release Program

In the 1960s, the government of Louisiana closed the alligator hunting season to protect the reptile. Then it developed a "sustainable program" to help make the alligator population strong again. A sustainable program is one that develops

and manages business without damaging the environment. It is a program that “sustains” natural resources for future generations. Louisiana’s sustainable program is an “egg collection and redistribution program,” and its success has allowed the Louisiana alligator to be taken off the endangered species list. In fact, the program has been so successful that it has become an international model for conservation.

The program works like this: Alligator farmers collect alligator eggs from “wild” (non farm) settings, under a special permit from the Department of Wildlife and Fisheries. Then the farmers place the eggs in artificial incubators to hatch them. Once the baby alligators are born, they are raised in the safe and controlled farm conditions. When they are big enough to survive in the wild, a portion of the hatchlings are returned to their natural habitat. Currently, alligators are considered to be at a low level of endangerment. The wild population is thought to be over 1,000,000, which indicates the success of the collection and redistribution program.

In addition to the program of collecting eggs and returning hatchlings to the natural environment, the State of Louisiana is working to help restore the alligators’ natural habitat. The healthy habitat, in turn, provides a valuable economic resource for eco-tourism. In other words, a healthy alligator population also protects human resources. In addition, alligator products, such as skin, meat, souvenirs, and even jewelry, also strengthen the state’s economy.

2. Leather Goods

In 2001, Dr. Ken Roberts of Louisiana State University prepared a report for The Department of Wildlife and Fisheries. Dr. Roberts’ report indicates that alligator skins have the strongest impact on Louisiana’s economy. In 2001, more than five millions skins were sold. The total economic impact was more than \$10 million. These many alligator skins are transported throughout the world to become some of the globe’s finest and most expensive leather goods.

Some of the world’s most expensive high-fashion products are made from Louisiana alligator—original shoes by Manolo Blahnik and very expensive handbags by Chanel. However, some consumers are reluctant to buy alligator products because they wrongfully believe that the alligator is still on the endangered species list. Ironically, purchasing alligator products helps to

conserve the Louisiana alligator: Farmers must sell some alligators so that they'll want to participate in the egg collection/release program, which returns numerous alligators to the wild.

Before alligator skins can be sold, each skin is first tagged and registered. Then the skins are covered with salt so that they'll be preserved. Once they're tagged and salted, the skins are measured and classified according to their size and quality. They are then ready to be sold, either through auctions or private sales. Ultimately, the skins are tanned, at tanneries throughout the world. (You can read more about the tanning process at <http://www.alligatorfur.com>). Once skins are sold to auction houses or private buyers, they can be processed in different ways.

The skins are shipped within the United States and throughout the world:

United States	33%
France	21%
Italy	20%
Singapore	19%
Switzerland	3%
Mexico	3%
Germany	1%

(Source: Louisiana Fur and Alligator Advisory Council, 2002)

You can see that the alligator is part of an interdependent economy. It begins in the Louisiana swamps, where people first want to visit the alligator to see it in its natural habitat. Harvested alligators are shipped around the world, having an impact on the global economy. Indeed, a small shoe factory in Milan, Italy, is quite dependent on Louisiana's finest alligator skins.

3. Economic Impact of Swamp Tours

Within the Atchafalaya Basin—and in other regions of coastal Louisiana—swamp tours have become a popular tourist attraction. In fact, nature-based tourism is one of the fastest growing industries in the United States. When

tourists come to the Atchafalaya Basin, they enjoy gliding through the cypress draped swamps, but they are not completely satisfied unless they see an alligator!

According to a report prepared by the Louisiana Sea Grant College Program in 1998, 90% of the tour operators who were interviewed reported that tourists rank “seeing an alligator” as their #1 desire when taking a swamp tour. The alligator is so important to swamp tours that 70% of the tour operators use a photograph or illustration of an alligator in their brochures and publicity materials.

Because the alligator hibernates in the winter, and because of colder temperatures, swamp tours are a “seasonal” business. Spring and fall are peak seasons because the weather is agreeable. It costs anywhere from \$10 to \$50 per person to take a swamp tour, and they last from one to two hours. Some operators use boats; others use barges or paddleboats. Some are very small, accommodating only six people; others are large, accepting large groups.

In the report, he provided economic data about the alligator industry. His report said that, in 2001, the total economic impact of swamp tours throughout the entire state was \$4 million.

4. Alligator Meat and Heads

Alligator meat is an important part of Louisiana’s economy. According to the Fur and Wildlife Council, alligator meat is about 30% of a producer’s income. The economic impact for Louisiana is more than \$2 million.

There is no recorded data about the economic impact of all those alligator heads you see for sale in souvenir shops throughout Louisiana. However, they represent an important part of the economy. If 5 million alligator skins were sold in 2001, then 5 million alligator heads were available for sale.

5. “Swamp Ivory” Jewelry

Kathy Richard, of Abbeville, Louisiana, has been making jewelry from alligator teeth since 1985. She calls her jewelry “swamp ivory creations.” When she was

growing up in Gueydan, Louisiana, she often participated in sporting traditions with her brothers. When they hunted alligator, she would help to skin the heads. After the alligator became more available, she began to craft earrings from alligator teeth.

Today she gets alligator heads from hunters during the month of September, when the season is open. She then puts the heads on sheets of tin outside for ants to eat the meat and for the skin to decompose. After decomposition, she pulls the alligator teeth and polishes them. (Her technique for polishing the teeth, which took her two years to perfect, is a deeply held secret.) She gets 300-500 teeth per year, and uses them in earrings and pendants, using wire, metals, and beads. Her jewelry can be found at shops all around South Louisiana, particularly near Lafayette.

6. Working with the Alligator

Just like Kathy Richard, swamp tour guides, alligator farmers, tannery operators, shop owners, clothing and apparel designers, biologists, park rangers, and government officials, you could consider working with Louisiana's most famous resource—the mighty alligator. If you could choose any job related to the alligator, what would it be?

WHAT DID YOU LEARN?

Circle the letter of the correct answer.

1. When the alligator became endangered, which of the following steps was NOT taken to protect it:
 - a. The government closed the alligator hunting season
 - b. The government developed a sustainable management program
 - c. The government helped to restore the alligator's habitat
 - d. The government started sponsoring swamp tours
2. Which of the following has the STRONGEST economic impact on the economy:
 - a. Swamp tours
 - b. Alligator jewelry
 - c. Alligator meat
 - d. Alligator skins
3. According to Dr. Ken Roberts' report to the Department of Wildlife and Fisheries, what did tourists rank as their #1 desire when taking a swamp tour:
 - a. Seeing an alligator
 - b. Hunting an alligator
 - c. Wrestling with an alligator
 - d. Skinning an alligator
4. Which country ranks as #3 in receiving alligator skins from Louisiana:
 - a. France
 - b. U.S.
 - c. Italy
 - d. Mexico
5. A "sustainable program" is one which:
 - a. develops and manages business without damaging the environment
 - b. makes a profit every year
 - c. protects oil and gas resources
 - d. protects the transportation industry

WHAT DO YOU THINK?

Currently, alligator farmers must pay \$3.00 for every alligator that they harvest and tag. This is called a “tag fee.” The money is given to the Department of Wildlife and Fisheries for research and promotion of the alligator. Some farmers are willing to pay this. Others say that it is not their responsibility. What do you think? [GLE 56. Identify various types of taxes and user fees and predict their consequences (E-1B-M5)]

LET’S GO SURFING

Visit the following websites to learn more about the Atchafalaya River and Basin.

Maps of Atchafalaya Basin

<http://www.atchafalayaTRACE.org/Maps/Base%20map%20final.pdf>

Alligator Industry Profile

<http://www.agmrc.org/aquaculture/profiles/alligatorprofile.pdf>

The Endangered Species Program

<http://endangered.fws.gov/>

Louisiana Fur and Alligator Advisory Council

<http://www.alligatorfur.com/>

Louisiana Swamp Tours: A Survey

<http://nsgl.gso.uri.edu/lsu/lsus98001.pdf>

USDA Foreign Agriculture Services, The Cajun Connection

<http://www.fas.usda.gov/info/agexporter/2000/May/cajun.htm>

“Alligator Skins Make Fashion Comeback”

<http://www.berkshirepublishing.com/ans/HTMLView.asp?parItem=S031000340A>

“Boy Survives Alligator Attack”

<http://www.msnbc.msn.com/id/5021959/?GT1=3391>

“Some Differences Between Alligator and Crocodile”

<http://www.alligatorfur.com/> [use “education” link]

JUST FOR FUN

1. Visit the website below to find instructions for making your own Paper Mache Alligator:

Alligator Craft Kit

<http://www.dltk-kids.com/animals/malligator.html>

2. Find a recipe which uses alligator meat and encourage your family to eat a meal which includes the meat.

**FOR THE TEACHER:
THREE-DAY LESSON PLAN
8TH GRADE SOCIAL STUDIES**

OVERVIEW OF THREE-DAY LESSON: This lesson focuses on the alligator in Louisiana's economy. Students should find this information more interesting if they can actually be given an imaginary budget to invest in alligator products: apparel, souvenirs, travel, investments, etc.

On Day 1, students will be given an imaginary budget of \$5,000 to spend on Louisiana alligator products. They will first discover what alligator products are available. They should do this *before* reading the essay provided with this lesson, in order to develop some awareness and context for the information presented. This is also an opportunity to present fundamental principles of opportunities cost/benefit as well as natural and biological resources.

On Day 2, students will work with the essay provided in this lesson. They will gain knowledge about Louisiana's alligator industry, including sustainable management practices of the egg collect/release program. They will also evaluate the products they purchased in terms of sustainable vs. non-sustainable resources.

On Day 3, students explore career opportunities related to the products they purchased. They will also identify the skills necessary to pursue a selected career.

**DAY 1: Shopping for Alligator Products
(45 minutes)**

GRADE-LEVEL EXPECTATIONS:

43. Explain how effective economic decisions (e.g., determining the best level of consumption) require comparing the additional costs of alternatives with additional benefits (E-1A-M2)
44. Explain choice/trade-offs, cost/benefits, and opportunity costs related to making personal economic decisions (E-1A-M3)

TEACHER PREPARATION:

1. Read student essay with lesson
2. Read information on websites linked to lesson
3. Duplicate worksheet for Day 1
4. Brainstorm about ways to make shopping for alligator relevant to students

MATERIALS/EQUIPMENT:

1. Internet connection
2. Worksheet for Day 1
3. Visual aids of alligator products

INTRODUCTION TO STUDENTS (10 minutes):

You will want to gain the students' interest by telling them that this unit is going to let them spend \$5000—imaginary dollars! Alligator products are sometimes quite expensive, so they will need a large budget to adequately understand the possibilities of participating in the alligator economy. Focus the introduction on “opportunity benefit” and “opportunity cost.” Ask them to describe one of their favorite purchases. What were the benefits? What did they give up by making this particular purchase, as opposed to another one?

MAIN LESSON (25 minutes):

Distribute worksheet for Lesson 3, Day 1, which provides websites for alligator products, and accounting procedures for keeping track of money. Students should complete a “record sheet” for each product they select, to evaluate each purchase. They will need to account for the costs, the opportunity benefits/cost, their reasons, and their budget. Allow students to work individually or in groups.

CONCLUSION:

If there is enough time, have some students share their purchases with the rest of the class.

HOMEWORK:

1. Allow students to finish worksheet at home, if they weren't able to do so in class. For extra credit, they can write a journal entry (on worksheet) about their purchases.
2. Distribute essay for Lesson Three on and instruct students to read it at home. Tell them that they will be given a quiz on the following day.

DAY 2: Alligator Industry & Sustainable Management (45 minutes)

GRADE LEVEL EXPECTATIONS:

- 48. Characterize and analyze the use of productive resources in an economic system (E-1A-M6)
- 50. Describe institutions (e.g., banks, government agencies, large companies, small businesses) that make up economic systems (E-1A-M7)
- 53. Explain and analyze factors affecting production and allocation of goods/services in Louisiana and the United States (E-1B-M2)

TEACHER PREPARATION:

- 1. Duplicate quiz for Lesson Three
- 2. Familiarize yourself with content of lesson

MATERIALS/EQUIPMENT:

- 1. Student worksheet products from Day 1
- 2. Duplicated quiz

INTRODUCTION TO STUDENTS (10 minutes):

Begin class with the quiz, and give students ten minutes to complete it. Collect the quizzes to be returned.

MAIN LESSON (25 minutes):

- 1. After the quiz, discuss “renewable resources” and “sustainable programs.” Ask them for examples of “renewable resources.” Then ask them to name Louisiana’s sustainable program mentioned in the essay—the “egg collection/release” program. Have one student describe the “egg collection/release” program, sponsored by the Department of Wildlife and Fisheries.
- 2. Focus the remainder of the class on “sustainable” vs. “non-sustainable” practices. Ask students to take out their worksheet products from the day before, which list and evaluate their alligator products, purchased on line.

3. On the blackboard, draw a chart with three columns as follows:

PRODUCT	SUSTAINABLE PRACTICES ASSOCIATED WITH PRODUCT	NON-SUSTAINABLE PRACTICES ASSOCIATED WITH PRODUCT
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Have one student name a product which they purchased. Brainstorm, as a class, about sustainable practices associated with it, and on-sustainable. For example, if a student purchased an alligator belt, the list may look like this:

PRODUCT	SUSTAINABLE PRACTICES ASSOCIATED WITH PRODUCT	NON-SUSTAINABLE PRACTICES ASSOCIATED WITH PRODUCT
Alligator Purse	<ul style="list-style-type: none"> -La. Egg collection/release program -Feeding nutria meat to gators -Protecting habitat for alligator -Using protected habitat for eco-tourism and other recreational uses 	<ul style="list-style-type: none"> -chemical products used to process leather -energy used to run machinery -fuel used to transport goods -metal accessories on purse (such as snap or buckle)

4. After brainstorming about practices, ask students to evaluate whether the sustainable outweighs the non-sustainable practices associated with their product.

CONCLUSION:

Remind students that consumer purchases are more complicated than merely paying \$10.95 for a product. Every purchase they make impacts the economy, the environment, and the culture.

Introduce the subject for Day 3—Career Choices—by reminding students that the work choices they make in the future will also have a far-reaching impact.

HOMEWORK:

Ask students to go over their record sheets and notes about the alligator, and to prepare a list of five career possibilities associated with the alligator industry.

DAY 3: Working with Alligators (45 minutes)

GRADE LEVEL EXPECTATIONS:

46. Use a variety of resources to research education and training for jobs and careers (E-1A-M5)
47. Cite examples of how skills/knowledge and technical training increase personal productivity and career opportunities, and which skills/knowledge would enhance particular career prospects (E-1A-M5)

TEACHER PREPARATION:

1. Brainstorm about different jobs associated with alligator industry
2. Arrange day for career research in library
3. Prepare guidelines for letter to be written
4. Be familiar with qualifications of some alligator careers to help students

MATERIALS/EQUIPMENT:

1. Internet connection
2. Phone book
3. Career resources
4. Guidelines for writing letters

INTRODUCTION TO STUDENTS (10 minutes):

Begin the class by telling students how you chose your career in teaching. Share with them the difficulty in choosing a career path (if there was difficulty), and stress that it is never too early to begin researching careers. They have probably not considered a career in the alligator industry! Use this class to stress that there are many different career paths to choose from.

MAIN LESSON (25 minutes):

1. For their homework, each student was supposed to have come up with at least five careers. Have them share their work with the class.
2. Have each student select one job that s/he is most interested in pursuing. Then have each student brainstorm on a sheet of paper about what he or she imagines the worker's typical workday to be like.
3. Have students use class time to research the name, address, and contact information for one business related to the alligator industry. They can use the

library, Internet, telephone book, or word of mouth. (You may want to use the school library for this exercise.)

4. Encourage students to write a letter to this person asking for more information about his or her career. (You'll need to provide guidelines for formatting a letter.)

1. The letter should open with a clear statement of why the student is writing, and it should state clearly the purpose and the action the reader should take.
2. The middle of the letter should explain what kind of information is sought. The student may want to ask some of the following questions: How did you become interested in this career? What special skills does someone need to have to perform your job? What education and training does a person need?
3. The letter should close by stating precisely what action the reader should take. Encourage students to end on a polite by thanking the reader. Also, advise them to include a self-addressed-stamped envelope to make a reply easy.

CONCLUSION:

Spend the last five minutes allowing students to share what they have discovered in their research during class.

HOMEWORK:

Have students begin working on the letter to a worker in the alligator industry. They will need time to research the contact information. Give them enough time to prepare several drafts, and to polish the final draft. Stress that there is a "zero tolerance" policy for errors in letters! If you want to encourage students to mail the letters, have them turn them in to you so that you can drop them in the mail.

ADDITIONAL RESOURCES

Army Corps of Engineers: brochures

<http://www.mvn.usace.army.mil/pao/brochures.htm>

Alligator Fact Sheet

<http://georgiawildlife.dnr.state.ga.us/content/displaycontent.asp?txtDocument=136>

Alligator Farming

<http://www.fl-alligator.com/farm.htm>

Alligator Resources

http://www.number1-freeware.com/alligators_a27.php

Barataria-Terrebonne National Estuary Program

www.btep.org

C.C. Lockwood and Rhea Gary's "Marsh Mission"

www.marshmission.com.

Louisiana Department of Wildlife and Fisheries (LWF)

<http://www.wlf.state.la.us>

LWF Audio/Video Resources

<http://www.wlf.state.la.us/apps/netgear/page6.asp>

Roberts, Ken. "Alligator Use in the Louisiana Economy: Marsh to Market"

<http://www.alligatorfur.com/economic.html>

Schleichert, Elizabeth. "Into the Swamp." *Ranger Rick* Sept. 2003: 4-9.

Video: *Atchafalaya: America's Largest River Basin Swamp*. Dir. C.C. Lockwood and Mary Stouffer. Prod. C.C. Lockwood. Cactus Clyde Productions. 1981.

WORKSHEET: LESSON 3, DAY 1

1. Imagine that you have been given a budget of \$5000 to invest in Louisiana's alligator economy. Think about the different ways you want to spend this money. Do you want to buy an expensive pair of shoes? A designer jacket or handbag? Do you want take a trip to Italy to see where designer shoes are made of alligator leather? Do you want to take friends on a guided alligator hunting trip? Do you want to start your own alligator farm? Do you want to start a swamp tour business? Do you want to invest your money in someone else's business? Do you want to spend some of your money on smaller items, such as jewelry or souvenirs or belts or watchbands? Feel free to spend the entire \$5000!
2. To discover what kinds of products are available, visit the Internet sites listed below.

Men's Alligator Shoes

<http://www.alligatorworld.com/Scripts/prodList.asp?idCategory=2>

Women's Alligator Shoes

<http://www.aikensshoes.com/productCat6975.ctlg>

Alligator Products

<http://www.alligatorproducts.com/>

Cajun Gifts

<http://www.june-bugs.com>

Dean Wilson's Swamp Tour

<http://www.lastwildernesstours.com/>

Center for Cultural and Eco-Tourism: Swamp Tours

http://ccet.louisiana.edu/04a_Environmental_Tour_Files/Swamp_Tours.html

Guided Alligator Hunting Trip

<http://www.alligator-hunts.com/>

Insta-Gator Ranch

<http://www.insta-gatorranch.com/>

Alligator Leather and Products

<http://www.alligatorleather.com/>

Roggwiller

<http://www.roggwiller.com/>

3. Once you've decided on your purchases, complete the following record sheet for each product:

RECORD SHEET FOR INDIVIDUAL ALLIGATOR PRODUCTS

PRODUCT

NAME: _____

COST OF PURCHASE:

ASSOCIATED EXPENSES:

OPPORTUNITY BENEFIT (the benefits from making this purchase):

OPPORTUNITY COST (the costs of making this purchase, rather than another one):

PERSONAL REASONS FOR PURCHASE:

MONEY SPENT: _____ MONEY REMAINING: _____

4. Once you've completed a record sheet for each product that you've purchased, complete the following balance sheet to account for your total expenses:

STARTING BALANCE:	TOTAL EXPENSES:	BALANCE REMAINING:
\$5000.00		

5. Write an email to a friend about your purchases. Consider talking about some of the following topics: Are you please with what you bought? Do you think you spent your money wisely? What are you happiest about? What do you most regret? What else do you want to buy?