



The Tragedy of Isles Dernieres

BTNEP/LSU AgCenter: Coastal Land Loss and Restoration

Focus/Overview

The name Isles Dernieres means “last islands” in French. The history of Isles Dernieres is violent and tragic, befitting their location on the front line of defense on the coast of Terrebonne Parish. Within a few years the broken remains of these islands may disappear from view beneath the waters of the Gulf of Mexico, becoming a submerged sandy shoal. Isles Dernieres figure prominently in the history and folklore of Terrebonne Parish and have been extensively studied by scientists who have documented their erosion in detail. In this activity, the students will explore the history and science essential to unraveling the tragic story of the Isles Dernieres.

Learning Objectives

The learner will...

- research the history of Isles Dernieres and construct a timeline.
- write an account of what they learned from their research on one aspect of the history or science of Isles Dernieres.

Louisiana Grade Level Expectations (Science)

8: GLE-53	Distinguish among several examples of erosion and describe common preventative measures (SE-M-A10).
HS Env Sci: GLE-22	Analyze the risk-benefit ratio for selected environmental situations (SE-H-C4).

Materials List

- **Satellite Image Map of the Barataria-Terrebonne National Estuary**
- **Louisiana Barrier Island Study – Atlas of Shoreline Change in Louisiana from 1853-1989** (USGS, 1988; Available on a loan basis from LA Resource Center for Educators (<http://www.lrce.org>, Baton Rouge).
- **Willful Winds: Hurricane Andrew and Louisiana’s Coast** (Louisiana Sea Grant, 1996)
- **Restless Ribbons of Sand: Atlantic and Gulf Coastal Barriers** (Louisiana Sea Grant College Program; available from the National Wetlands Research Center, Lafayette)

Background Information

Isles Dernieres are one of two major barrier island chains that have helped to protect the marshes of Barataria-Terrebonne from the impact of hurricanes, tropical storms and winter cold fronts. Timbalier Islands make up the other major chain. Because they take the brunt of a storm’s energy, barrier islands help to reduce the destructive effects of a storm, such as a hurricane, decreasing the storm surge. The extent of this protective function is not well understood, but it is believed that, as the islands erode, the protection provided diminishes, and the impact of the violent storms on the marshes will be greater, adding to the already serious marsh-loss problems.

Besides their protective function, barrier islands provide a rich habitat for wildlife. Louisiana barrier islands are generally low-lying and support few, if any, trees. They are made up of a sandy beach on the Gulf side, vegetated sand dunes, areas of shrubby vegetation and salt marshes on the landward side. The barrier island ecology also supports a number of wading birds, nesting colonies of brown pelicans and huge numbers of sea birds.

BTNEP Connection

Habitat

Grade Level

8, HS Env. Sci

Duration

2-3 class periods

Subject Area

science, history

Setting

classroom

Vocabulary

barrier island

Original Source

“The Tragedy of Isles Dernieres” in BTNEP/LSU AgCenter: *Coastal Land Loss and Restoration*, Activity 9.



www.btnep.org



Advance Preparation

1. Locate resource materials.

Procedure

1. Show students the satellite image map of Barataria-Terrebonne. Point out the barrier island chains of Timbalier and Isles Dernieres. What functions and values do the barrier islands provide? (They provide storm protection, wildlife habitat, sheltering bays and providing habitats on the landward side for larvae of seafood species.) What are some of the problems associated with Louisiana barrier islands? (They are constantly changing shape due to various types of erosion – storms, subsidence, sea level rise, and canal construction. All except the last one, canal construction, are natural processes.)
2. Given these problems, what might be the consequences for the inland marshes located north of the barrier islands? (Loss of barrier islands would mean loss of protection from storm surges, loss of wildlife and seafood habitat.)
3. There is great concern that if we lose these islands, erosion will increase rapidly in the marshes and unprotected coastal communities located inland will be much more vulnerable to devastation by a large hurricane. To address this concern, millions of dollars have been spent on barrier island restoration and more needs to be done.
4. In this activity we will mix science and history. Let's take a look at this atlas of barrier island erosion. Show students the ***Louisiana Barrier Island Study – Atlas of Shoreline Change in Louisiana from 1853-1989*** (USGS, 1988). Leaf through the pages so students can see the changing shape and location of the Isles Dernieres barrier island chain.
5. Here is a short excerpt from a New Orleans newspaper article that appeared in 1892:

By reason of its tragic history, "Last Island" is the most famous of the group. Before the war it was a fashionable summer resort and here was a fine hotel. It has always been a puzzle to me why Last Island was selected for such a purpose, for it is manifestly the lowest, sandiest, and most insecure. It is merely a shark-shaped body of shifting sand, lying almost level with the seas on which it floats like a yellow, faded, lily pad.

This description of Isles Dernieres was written in 1892 by Catherine Cole, a columnist for the Daily Picayune newspaper in New Orleans. She went on to describe the events in 1856 when a devastating hurricane hit the island and the storm surge destroyed the hotel and village where about 200 wealthy people and their servants were vacationing.

The stories of the resort and the storm that destroyed it have become an important part of the history of Terrebonne Parish. Discuss the passage with the students, focusing on how Last island became famous, and the author's observation that the island was unsuitable for a resort because of its low, sand, unstable nature. Ask the students to share the image this description creates.

6. We are going to explore the history of Isles Dernieres. What kind of place was it in the 1800's when people vacationed there? What has happened to it over the years? What is it like now? I have resources in the classroom to assist you in this exploration. As you look through these resources, use **Blackline Master #1 – The Tragedy of Isles Dernieres** to guide your research.
7. After you have collected all the information on these topics, your group will put together a timeline for the island. You should start the timeline with the approximate time that the barrier island formed and take your timeline out into the future to 2030 or so.
8. When your timeline is complete, each of you needs to write a short account of one aspect of the history of the Isles Dernieres. Your report needs to be at least two pages. Be prepared to share your report with the class.

Blackline Master

1. **The Tragedy of Isles Dernieres**

Assessment

- Prepare rubrics for the research, timeline and report.

Extension

Science

Allow students to compare other barrier island ecosystems such as the Chandelier Island with Isle Dernieres

BTNEP Resource:

Portrait of an Estuary, publication by LSU AgCenter and BTNEP.

Websites:

Freudenrich, Craig C. How Stuff Works. No date. **How Barrier Islands Work**, accessed July 7, 2005 at <http://science.howstuffworks.com/barrier-island.htm>.

Topics include: Introduction to How Barrier Islands Work, What are Barrier Islands? Barrier-island Ecology, The Shifting Sands, Changing the Shifting Sands.

Mendelssohn, Irv. LSU Department of Oceanography. No date. **Vegetation and Ecology of Barrier Islands** accessed July 7, 2005, at <http://www.biology.lsu.edu/webfac/lurbatsch/BarrierIslands.html>.

Description of vegetation types, barrier island zonation, and environmental factors controlling vegetation.

U.S. Geological Survey. May 7, 2001. **Mapping Coastal Change Hazards**, accessed July 7, 2005, at <http://coastal.er.usgs.gov/hurricanes/mappingchange/inundation.html>

Aerial photos of Isles Dernieres before and after Hurricane Andrew.

Tradebooks:

Wright-Frierson, Virginia. 1998. **Island Scrapbook: Dawn to Dusk on a Barrier Island**. Simon & Schuster Children's Edition. 40 pp. ISBN: 0689815638

Before the sun rises, an artist and her daughter slip out of their cottage into the morning air to explore and record the treasures of their North Carolina barrier island. They sketch, paint, and observe the sights around them and as night falls they return to their cottage, bringing back pieces of their island home to compile this scrapbook of a special time and place. Age Range: 6 to 9

References:

Hansen, Gunnar. 1996. **Islands at the Edge of Time: A Journey to America's Barrier Islands**. Island Press. 240 pp. ISBN: 1559632526.

Islands at the Edge of Time is the story of one man's captivating journey along America's barrier islands from Boca Chica, Texas, to the Outer Banks of North Carolina. Weaving in and out along the coastlines of Texas, Louisiana, Mississippi, Alabama, South Carolina, and North Carolina, poet and naturalist Gunnar Hansen perceives barrier islands not as sand but as expressions in time of the processes that make them. Along the way he treats the reader to absorbing accounts of those who call these islands home - their lives often lived in isolation and at the extreme edges of existence - and examines how the culture and history of these people are shaped by the physical character of their surroundings.

Student Name _____



The Tragedy of Isles Dernieres

Picture at left: Aerial photograph of Isles Dernieres, looking westward (Gulf of Mexico to the left).

Formation of Isles Dernieres

Isles Dernieres of the 1850's - What would I have seen if I had vacationed there?

The Storm of 1856 - What would it have been like to experience it?

Erosion of Isles Dernieres - How did one island become four islands?

Impact of Hurricane Andrew on Isles Dernieres

Isles Dernieres of the 2000's - What would you see if you vacationed there today?

The future of Isles Dernieres - Can the island chain be saved?

Barrier Island Restoration Methods

Continue your research on separate paper as necessary.