

Education

Outer Banks Maritime Heritage Trail



USS *Monitor* (2011) is located 16 miles South-South East of Cape Hatteras, N.C. Photo: NOAA

Grade Level

- Grade 4-12

Timeframe

- Each video is approximately 3-5 minutes. They can be viewed as a class or students can view them independently.

Materials

- Internet/Computer
- Worksheet

Key Words

- Cape Hatteras
- Diversity
- Ecosystem
- Gulf Stream
- Ironclad
- Outer Banks
- Sanctuary
- Sonar
- U-boat

Background Information

Coastal North Carolina is an extraordinary place with strong ties to the marine environment. Surrounded by water, the Outer Banks of North Carolina are a chain of narrow barrier islands separating the Currituck, Albemarle, and Pamlico Sounds from the Atlantic Ocean. This dynamic environment has shaped the islands and its people for centuries.

Along Highway 12 are a series of iconic places and features that make the Outer Banks unique. From the lighthouses to the wildlife, to the shipwrecks offshore, the Outer Banks' culture reflects the surrounding marine environment.

Through videos, pictures, and stories, we invite you to take a trip down this stretch of road and experience the rich maritime heritage of the Outer Banks of North Carolina.

Activity Summary

Students experience the unique maritime culture of the Outer Banks, N.C., when they watch one, or all ten, video clips and listen to the oral histories of those who experienced WWII on the shores of the Outer Banks. Each video is accompanied by a set of focus questions, to be answered while the students view the video, and other supporting activities.

Learning Objectives

Students will be able to:

- Recognize unique features of the Outer Banks, N.C.
- Understand the area's significance during World War II
- Discover the final resting place of the USS *Monitor*
- Appreciate the importance of lighthouses along the coast
- Explain why this area is called *The Graveyard of the Atlantic*
- Learn about the rich ecology of the Outer Banks

Teacher Prep

Download videos and/or oral histories, or bookmark website <http://monitor.noaa.gov/obxtrail/> for students.



Vocabulary

CAPE HATTERAS – Cape on the North Carolina coast known for its shipwrecks

DIVERSITY – An abundance of various kinds of species living together

ECOSYSTEM – System formed by interaction of organisms and their environment

GULF STREAM – Warm water current that flows from the Gulf of Mexico and travels north along the U.S.'s east coast.

IRONCLAD – A kind of ship made during the Civil War that was covered in metal

OUTER BANKS – chain of narrow barrier islands separating the Currituck, Albemarle, and Pamlico Sounds from the Atlantic Ocean

SANCTUARY – A safe place set aside in the environment to protect natural and cultural resources, such as marine animals and shipwrecks

SONAR – A system for the detection of objects under water and for measuring water depth by emitting sound pulses and detecting or measuring their return after being reflected

U-BOAT – A specific name for a German submarine

Education Standards

North Carolina Social Studies Standards

3.H.1.1—Explain key historical events that occurred in the local community and regions over time.
3.H.2.1—Explain how multiple perspectives are portrayed through historical narratives.
4.H.1.4—Analyze North Carolina's role in major conflicts and wars from the Pre-Colonial period through Reconstruction.
5.H.1.3—Analyze the impact of major conflicts and wars from the Pre-Colonial period through Reconstruction.
6.H.1.3— Use primary and secondary sources to interpret various historical perspectives.
6.G.1.4—Explain how and why civilizations, societies, and regions have used, modified and adapted to their environments.
7.H.1.3—Use primary and secondary sources to interpret various historical perspectives.
WH.H.1.3—Use historical analysis and Interpretation.

Ocean Literacy Principles

6 – The ocean and humans are inextricably interconnected (e, g)

Acknowledgement

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Procedure

Videos

1. As a class or individually, have students watch each video and answer the corresponding focus questions.
2. After watching the video, have students determine the main idea and three supporting details. Was there any information that did not relate to the main idea?
3. Ask students to write a summary of the video(s).
4. Have students write at least one question that they want answered that was not covered in the video.
5. Complete the crossword puzzle and word find.

Oral Histories

6. As a class or individually, listen to the oral histories and complete the summaries.
7. Have students write one question they would like to ask each person.
8. Extensions—have students interview someone they know who had a unique experience; or have students write their own account of an experience they have had in life.



The Cape Hatteras Lighthouse, completed in 1870, is the tallest brick lighthouse in North America. Photo: NPS

Resources

Books:

Bryant, David; Davidson, George D., Kirby-Hathaway, Teri; Angione, Kathleen. *North Carolina's Amazing Coast: Natural Wonders from Alligators to Zoos*. University of Georgia Press, May 1, 2013, ISBN-13: 978-0820345109.

Harvey, Sandra. *Corazon of the Outer Banks*. Create Space Independent Publishing Platform, July 2014, ISBN-13: 978-1500385712.

Hickam, Homer. *Torpedo Junction: U-Boat War off America's East Coast, 1942* (Bluejacket Books). Naval Institute Press, April 1996, ISBN-13: 978-1557503626.

Warner, Gertrude Chandler. *The Mystery of the Wild Ponies (The Boxcar Children Mysteries #77)*. Albert Whitman & Company, January 1, 2000, ISBN-13: 978-0807554661.

Weatherford, Carole Boston. *Sink or Swim: African-American Lifesavers of the Outer Banks (Carolina Young People)*. Coastal Carolina Press, October 1, 1999, ISBN-13: 978-1928556039.

Wooldridge, Connie Nordheim. *Thank You Very Much, Captain Ericsson*. Holiday House, September 30, 2004, ISBN-10: 0823416267.

Websites:

Outer Banks Maritime Heritage Trail

Coastal North Carolina is an extraordinary place. This dynamic environment has shaped the islands and its people for centuries. At this site, watch a series of videos that highlight this unique place. You can also listen to oral histories of the people who experienced WWII on their beaches.

<http://monitor.noaa.gov/obxtrail/>

NOAA: Battle of the Atlantic Expeditions

Check out the home page for past expeditions to document and research WWII shipwrecks off the North Carolina coast. Read the blogs, explore the technology used, and more.

<http://sanctuaries.noaa.gov/missions/battleoftheatlantic/archives.html>

National Park Service: Cape Hatteras

At this site, you can plan your next visit to Cape Hatteras, learn about its history, view images, check out the cool lessons in the *Teacher* and *Kids* sections, and more. <http://www.nps.gov/caha/index.htm>

Chicamacomico Life-Saving Station

Visit this website to learn more about the life-saving station, its history, and calendar of events.

<http://www.chicamacomico.net/>

Pea Island National Wildlife Refuge

Visit this site to learn more about the refuge, its history and more. <http://www.fws.gov/peaisland/>

Graveyard of the Atlantic Museum

The museum is dedicated to the preservation, advancement and presentation of the maritime history and shipwrecks of the Outer Banks.

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

Monitor National Marine Sanctuary

Want to learn more about the USS *Monitor*? This is the site for you. Dive into the sanctuary without getting your feet wet, and check out lots of great educational resources for students and teachers.

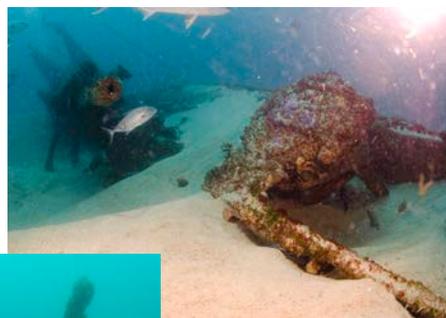
<http://monitor.noaa.gov/>

Office of National Marine Sanctuaries (ONMS)

ONMS serves as the trustee for a network of 14 marine protected areas. Explore this site to learn more about the sanctuary system that covers more than 170,000 square miles. Education section is packed with fun activities for students and lesson plans for teachers. <http://sanctuaries.noaa.gov/>



U.S. Life-Saving Service required all stations to practice rescues weekly. Chicamacomico is now one of only two places in the country—and the only one to be performed by active-duty U.S. Coast Guard personnel—that performs the complete rescue drill. Photo: Chicamacomico Life-Saving Station.



The Battle of the Atlantic happened just off the North Carolina coast. Top to bottom: U-701, U-85, and U-352. These wrecks are now popular recreational dive sites. Photos: NOAA.



Name: _____

Date: _____

Outer Banks Trail

Videos

Video Focus Questions

Introduction

1. What year did the U.S. designate its first national marine sanctuary?
2. How and when did the USS *Monitor* sink?
3. How many National Marine Sanctuaries are there?

The Story of the U-85

1. Why was the U-85 significant?
2. What made the U.S. Navy so sure that they were following a U-boat?
3. What did the U.S. Navy do to sink the U-85?

The Ecology of the Outer Banks

1. What moderates the temperature of the water on the coast of North Carolina?
2. Name the place where tropical and temperate marine species converge.
3. What is the Pea Island National Refuge best known for?

WWI and WWII off the Coast of North Carolina

1. Where was the naval threat perceived to be?
2. Why was the East Coast vulnerable?
3. Why did the Germans typically hunt around Cape Hatteras?
4. What is a submarine's best defense?

The Chicamacomico Life-Saving Station

1. When did the United States Life-Saving Service officially exist?
2. Where was the first Life-Saving Station?
3. What year did the Outer Banks get its first station?
4. How many lives did the service save?
5. Describe what it was like working in the service.
6. How often was the service required to practice their rescue drill?
7. Why would they have to be quick to respond?

The Cape Hatteras Lighthouse

1. What is the nickname for the coast of North Carolina?
2. What was built in order to make shipping safer?
3. How many people worked at the lighthouse?
4. What originally fueled the Cape Hatteras Lighthouse?
5. What kind of buildup would develop on the inside and outside of the lighthouse?
6. How far could the light be seen on a clear night?
7. Why is the Cape Hatteras Lighthouse called the "Iconic American Lighthouse?"

The Story of the U-701 and the YP-389

1. Why did the U-701 not fire a torpedo at the YP-389?
2. Who found and sank the U-701?
3. How many survivors remained after two days of drifting?
4. What happened to the survivors?

The History of the USS *Monitor*

1. What was the greatest innovation on the USS *Monitor*?
2. How long did the two ships battle?
3. What item indicated to the sailors on the USS *Rhode Island* whether or not the ship had sunk?
4. About what percentage of the shipwreck remains today?

The Importance of National Marine Sanctuaries

1. Name five different reasons why sanctuaries are important.

Unanswered Questions

For each video watched, think of at least one question that you have that was not covered in the video and write it below. Next, research the answers for each and share with your group or class.

Summarize and Connect

For each video watched, write a short summary and show a connection between the main idea and three supporting details.

Name: _____

Date: _____

Outer Banks Trail

Oral Histories

The residents of the Outer Banks have amazing stories to tell. Their lives are constantly influenced by the marine environment in which they live and their stories are as unique and dynamic as their surroundings. During WWII, many residents were witness to the Battle of the Atlantic, which occurred along the United States' east coast. Listen to their stories as they recall their experiences with the war that was being fought right off of their shores.

For each oral history

- What was the most interesting part of the story to you?
- What question(s) would you want to ask this person if you had the chance?
- How did their accounts of historical events compare?
- Summarize the story in two sentences.

Carol Dillion (#1 and/or #2)

Gibb Gray

Anne Henry (#1 and/or #2)

Lorraine Hinnant

John Watkins

Extensions:

- Imagine that you were a child during World War II and you were on the beach when a ship was torpedoed by a German submarine. Write your story.
- Remember a time in your life that something memorable happened to you. Use a recorder and record your oral history of the event.
- Interview your parents, grandparents, or neighbors who might have had unique experiences that they want to share with others. Record their oral histories and share with your class.

Name: _____
Date: _____

Outer Banks Trail

Crossword Puzzle

Word Bank:

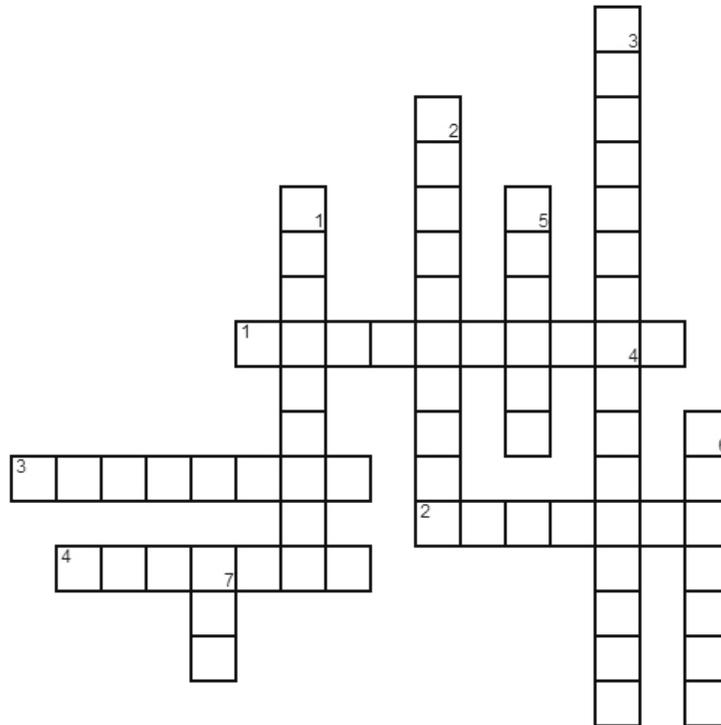
Pea Island
Lighthouse
POW

Monitor
Ironclad

Hatteras
Torpedo

Sanctuary
U-boat

Gulf Stream
German



Across

1. A tower or other structure containing a beacon of light to warn or guide ships at sea.
2. The first ironclad ship that battled the *CSS Virginia*.
3. A kind of ship made during the Civil War that was covered in iron.
4. A commonly used underwater projectile fired by submarines.

Down

1. The wildlife refuge that migratory birds like to use to take a break.
2. The current that brings warm water up the East Coast.
3. The cape known for its shipwrecks.
4. A safe place set aside in the environment to protect natural and cultural resources.
5. A specific name for a German submarine.
6. An Axis power that attacked boats along the North Carolina coast during WWII.
7. Prisoner of War. Someone held against his or her will in another country during war.

Outer Banks Trail

Word Search

E I H P U Z Q E M M Q A V H B K K O G W
T S O A B H I M U R V O I Y T C D P N P
M W U A T C I T N A L T A S Y E I J I M
J Y N O Z T M B Y D E W A E P R E C G V
H K P D H E E T R I A M G R C W J A G S
S T Z Q T T I R R V T A O B U P I R I X
H J R K N S H O A Y C T L Z D I H O R W
C Z B O R O N G C S Y U U J K H V L W B
U J I E N C O W I V K H C C P S U I R L
P C V H L H J H N L M P I O G U J N E O
O I R A Y Y T R A T K S B U I C O A V E
D D D O Y O X N J V U F M T A Q S M C T
S Q G K T G M I K X Y U R E Z T H R J Y
V Y D D V I L N V R N S A R Q P K T G F
J L P B J U N N P Y X S N Z E S J M F H
S G U L F Y D O K G K T O M K Z F W I N
D T U A L S Q D M L X O S A P Z W G K M
M C R B G I K V F V Z Z H O D E N T A O
G Z J E R N J S J R P J Q K A P A U R J
M S P T A Z L V V L C B G F S P M K Y Q
L G G K D M H A S U D M P P J B O W M B
P Z Q I X A Y L N I P B L Q V J U B L A
J T S A N C T U A R Y K G L L T C T O R
Y T F Y N D X O W Q Z R Q B U R U J S P
I L U R I S G M K F R I S L A N D U G V

Word Bank

ATLANTIC
LIGHTHOUSE
POW
TORPEDO

DIVERSITY
MAST
RIGGING
UBOAT

GULF STREAM
NORTH CAROLINA
SANCTUARY
USS *MONITOR*

HATTERAS
OUTER BANKS
SHIPWRECK

IRONCLAD
PEA ISLAND
SONAR

Answer Key

Video Focus Questions

Introduction

1. 1975
2. A storm on New Year's Eve, 1862
3. Fourteen (14)

The Story of the U-85

1. It was the first German U-boat sunk on the East Coast.
2. A torpedo was fired and missed
3. Deck guns

The Ecology of the Outer Banks

1. Gulf Stream
2. Cape Hatteras
3. Birders' paradise/attraction for migratory birds

WWI and WWII off the Coast of North Carolina

1. Pacific Ocean
2. Most of the fleets were in the Pacific
3. The Gulf Stream was like a highway for supply ships; it was far enough between two Navy bases, so there wouldn't be any huge threats; and the continental shelf was close to shore so they could hit and run deep underwater
4. Diving deeper underwater

The Chicamacomico Life-Saving Station

1. 1871-1915
2. Long Island
3. 1874
4. Over 177,000
5. Pretty boring most of the time, except when interrupted by moments of pure terror
6. Twice a week
7. Lives were at stake and a boat could go down in minutes

The Cape Hatteras Lighthouse

1. Graveyard of the Atlantic
2. A lighthouse
3. Three (3)
4. Kerosene oil
5. Smoke and salt
6. At least 20 miles
7. It represented a simpler time before we became too busy

The Story of the U-701 and the YP-389

1. Firing a torpedo at such a small ship was wasteful
2. Lt. Harry Cane, Jr.
3. Seven (7)
4. They were taken to Norfolk, Va., and became Prisoners of War (POW)

Answer Key Continued

The History of the USS *Monitor*

1. The gun turret allowed the weapons to change direction to hit a ship without having to take the time and turn itself around
2. Four hours
3. A red signal lantern
4. 80%

The Importance of National Marine Sanctuaries

1. Answers will vary.

Oral Histories

Answers will vary.

Outer Banks Trail Crossword Puzzle

Across

1. Lighthouse
2. Monitor
3. Ironclad
4. Torpedo

Down

1. Pea Island
2. Gulf Stream
3. Hatteras
4. Sanctuary
5. U-boat
6. Germany
7. POW

Word Search Solution

A L R + + + + + P + + + + + + + + +
+ N I I + + + + + E S + + + + + + + + +
+ + I G G + + + + + A K + + + + + + + W
+ + + L H G + + + + + I N + + + + + + + O
+ + + + O T I + + + S A T L A N T I C P
+ + + + + R H N + + L B + + + + + + + + +
+ + + + + A O G + A R + + + + D + + + +
+ + + + + C U + N E + + + A S + + + + +
+ + + + + H S D T + + L H A + + + + +
Y T I S R E V I D T E U R C I T R + + + + +
G U L F S T R E A M R O N P + O E + + + + +
+ Y + + + + + T O W + + R T + + + + +
+ + R + + + + + I R R N + + P T + + + + +
+ + + A + + + + N I E + + + + E A + + + + +
+ + + + U + + O + C + + + + D H + + + + +
+ + + + + T M + K + + + + + O + + + + +
+ + + + + S C + + + + + + + + + + + + + + +
+ + + + S + + N + + + + + + + + + + + + + + +
+ + + + U + + + + + A + + + + + + + + + + + + + + +
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R A N O S + + M + + + + + + T + + + + + + + + + + +