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FWC NOAA permit 20556-01

Flukes Up

Council's Own Patch Program

A Comprehensive Guide for Flukes Up

A Girl Scout Silver Award project aimed at raising awareness about the endangered North Atlantic right whales.

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Welcome to the Girl Scouts of Citrus Council's Own Patch Program.

Did you know that there are whales off the coast of Florida? That's right! The North Atlantic Right Whale can be spotted from the shores of Florida. These magnificent creatures, once called the "right whale to hunt" by whalers, are under protection from the Endangered Species Act. Currently there are only about 370* remaining in the wild.

Flukes Up is a Girl Scout Silver Award project dedicated to raising awareness about the endangered North Atlantic right whales. The team created a website, Facebook page, and Instagram page to educate the public. Additionally, they launched a money-earning campaign to install signs at marinas, informing boaters about the presence of whales in the area.

OBJECTIVE:
The purpose of this program is to educate and increase public awareness about the dangers facing the North American right whale.

STEPS:
D, B, J - Complete steps 1 - 5 and 10
C, S, A - Complete steps 1 - 10

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STEP ONE:

LEARN ABOUT THE NORTH ATLANTIC RIGHT WHALE

The North Atlantic Right Whale is a large, slow-moving marine mammal found along the east coast of North America, typically traveling around 1-2 mph with top speeds around 6 mph. These whales have a rounded body, lack a dorsal fin, and feature paddle-shaped pectoral fins. Their V-shaped blow produces a distinctive spout that can reach up to 15 feet high. They are primarily dark gray or black, with a large head that can make up a quarter of their body length. They can grow between 45 and 52 feet long and weigh up to 140,000 pounds. Their average lifespan is approximately 70 years.

They are classified as baleen whales, a group that also includes blue whales and humpbacks. Instead of teeth, they have comb-like baleen plates that allow them to filter food from the water. Their diet primarily consists of small, shrimp-like crustaceans known as zooplankton.

Unlike other whales, North Atlantic right whales can be identified by their distinctive callosities—rough patches of skin on their heads. These callosities are covered by "whale lice," which give them a white appearance. Each whale has a unique pattern of callosities, making individual identification possible.

NOTICE: Upon completion of this program you can send an email to the GSC Council Shop at shop@citrus-gs.org to order and pay for your patch.

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STEP TWO:

LEARN MORE ABOUT THE PLIGHT OF THE RIGHT WHALE.

Complete all of the following:

A. Read books:
   a. "Disappearing Giants: The North Atlantic Right Whale" by Kraus et al.
   b. "Riley the Right Whale and His Friend, Kyle"by Gigi Michelle Miller.
   c. "The Search for the Right Whale" by Amber Rae Malott.
   d. "The Urban Whale: North Atlantic Right Whales at the Crossroads" by Scott D. Kraus and Rosalind M. Rolland.
   e. "We are all Whalers" by Michael Moore.

B. Check out websites:
   a. **flukesup.com**
   b. **North Atlantic Right Whale Catalog**
   c. **New England Aquarium Right Whale News and Stories**
   d. **North Atlantic Right Whale Consortium**
   e. **NOAA Fisheries Mom/Calf page**

C. Watch films:
   a. **Last of the right whales** (documentary, 2021)
   b. **Entangled** (documentary, 2019)
   c. **PBS episode** "Meet snow cone the right whale and her calf"

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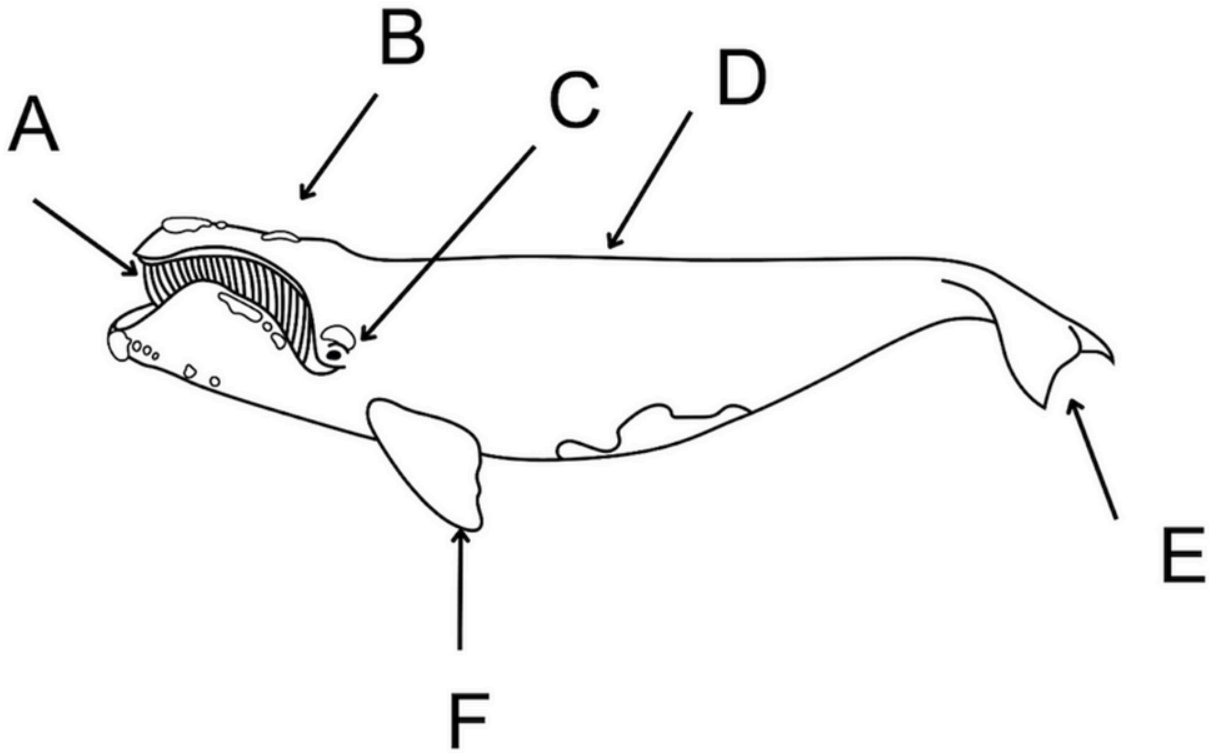
STEP THREE:

IDENTIFY THE NORTH ATLANTIC RIGHT WHALE

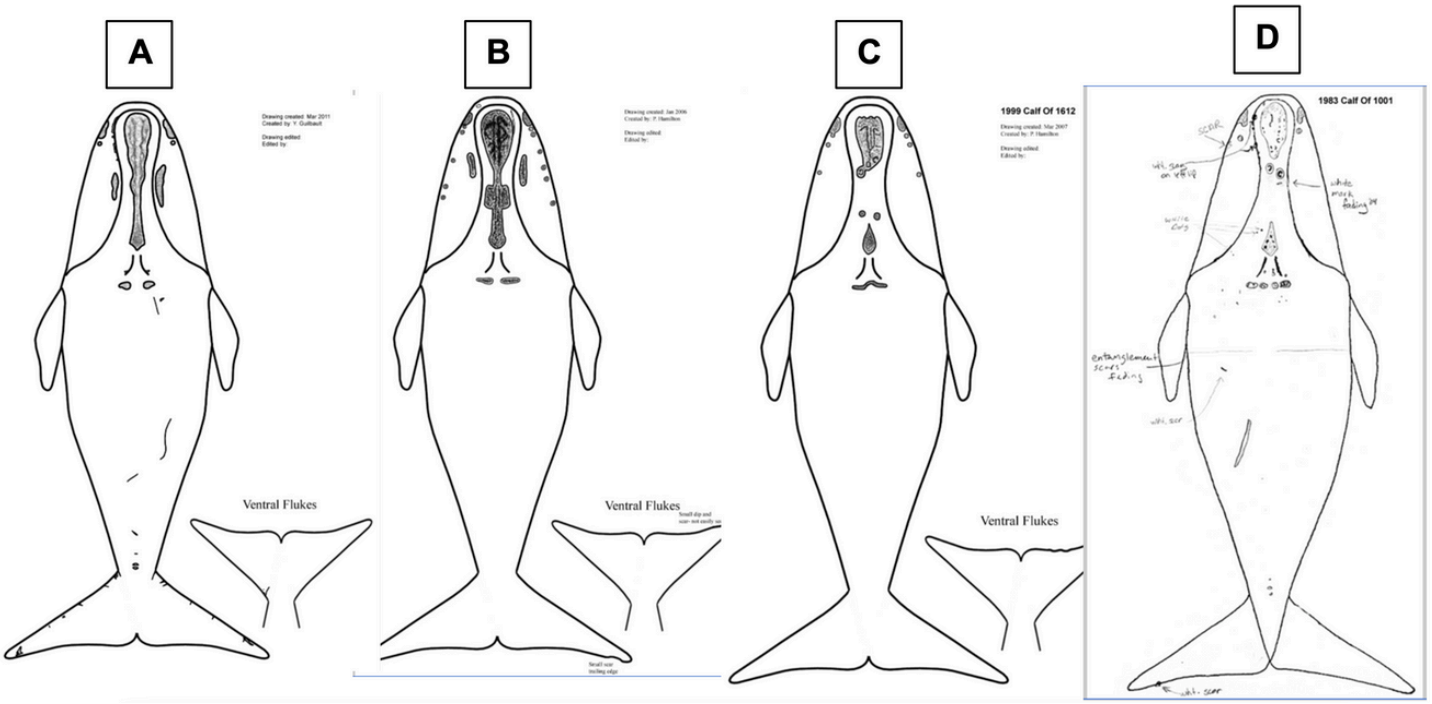
Complete all of the following:

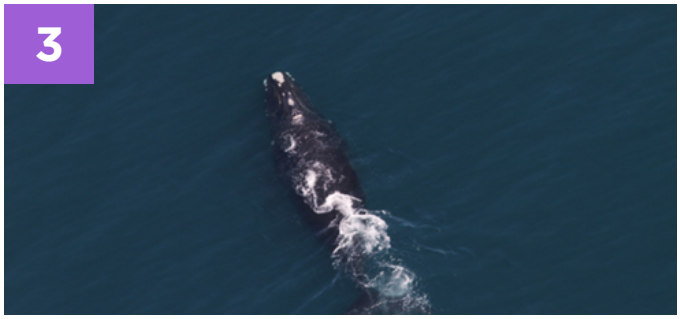
A. Learn the following terms as baleen, blow hole, callosities, dorsal fin, fluke, and pectoral fins.
B. Match the letter with the identifying word to the place on the whale.



	Eye		No Dorsal Fin
	Pectoral Flipper		Tail Fluke
	Baleen		Callosities

D. Every Right Whale has a unique set of callosities on their head which helps identify them as individuals. Using the match cards, can you match the whales? **All 8 Pictures are from **https://rwcatalog.neaq.org/#/**





C. Compare the Right Whale to the picture of the Beluga Whale. What are all the ways that they are different?

E. Learn about right whale behavior.

Despite their size, right whales can be very hard to spot from a boat. This can be due to a combination of factors:

a. Physical Traits
   i. Dark body color
   ii. Lack of dorsal fin

b. Behaviors
   i. Often swim just below surface (out of sight, but in range to be struck)
   ii. Often rest at surface with little of their body showing
   iii. Generally exhibit energy conserving behaviors during calving season (not obviously visible)
      1. Slow swimming
      2. Surface resting
      3. Shallow exhalations (small blows)

Note: Some of these behaviors are in contrast with more active behaviors that might be seen in Northeastern US and Canadian waters, like: breaching, skim feeding, socializing or mating in surface active groups.

F. Are there right whales in the following pictures?

1

2

3

4

5

6

Yes! There are right whales in all 6 images! Can you find them?

Photo credits for images.
1. NOAA Fisheries permit #20556
2. NOAA Fisheries permit #26919
3. NOAA Fisheries permit #594-1759
4. NOAA Fisheries permit #15488
5. NOAA Fisheries permit #20556
6. NOAA Fisheries permit #594-1759

STEP FOUR:

MIGRATION PATTERNS OF THE NORTH ATLANTIC RIGHT WHALE

Complete all of the following:

North Atlantic right whales migrate between different parts of the ocean for feeding and breeding. Right whales feed in cooler northern waters along the coast of Canada and Northeast United Stateswhere they eat a tiny type of zooplankton called a copepod. Whales travel from the cooler northern waters to the warmer waters off the Southeast United States (North Carolina to Florida) which includes pregnant females who come down to give birth and nurse their calves. Calving season is November through April. When you spot a whale off the coast of Florida, it can be a mom and a calf!

The migration to and from the Southeast and back is very dangerous for the mom and calf. Here they can swim among many vessels including oil tankers, huge shipping vessels, yachts, and many recreational vessels, thus increasing their risk of vessel strike.

A. What is migration? What is a migration route?

B. Look at the map, trace the migration path, identifying their feeding and calving locations.

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STEP FIVE:

WAYS TO HELP RIGHT WHALES

Complete all of the following:

A. Threats: Even though we may not see the Right Whales every day, we can still help protect them. There are two main threats to Right Whales.

a. Vessel Strikes - any vessel on the water can collide with whales. This can cause immediate serious injury or death which removes an individual from the population. It could also cause a more minor injury called a "sublethal" injury which will cost a whale energy to recover and make them more vulnerable to additional threats.

b. Entanglements in fishing gear- nets and lines can wrap around whales, making it difficult for them to swim and breathe. Estimates are that 80% of right whales have experienced an entanglement in fishing gear, with some whales experiencing multiple entanglements in their lifetime.

B. Boat Responsibly:

a. Remember, "Go Slow, Whales Below"
b. Keep a close lookout on the water (right whales can be very difficult to spot!)
c. Maintain 500 yard distance from right whales, it's the law.
d. Slow down to 10 knots in areas where Right Whales are found. In some areas it's the law for vessels 65 ft and above.

C. If you see a whale, report it immediately.

a. From North Carolina to Florida call 877-WHALE-HELP (877-942-5343).
b. From Virginia to Maine call 866-755-6622
c. On the water you can radio the Coast Guard on CH 16.
d. Download the app - Whale Alert. Learn more at **ifaw.org.**

D. Keep the ocean clean. Pick up litter and toys from the beach. Dispose of fishing lines in the trash, not the ocean.

E. Learn more about **vessel strikes**, **entanglements in fishing gear**, and the right whale **unusual mortality event**.

F. Let your voice be heard. Attend local meetings in your area, and write letters to politicians encouraging them to support protecting whales and the environment. Share news and research on social media.

G. Discuss the following ways you can protect Right Whales. What do you think you can do to help?

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STEP SIX:

ENVIRONMENTAL IMPACT

Complete all of the following:

The North Atlantic Right Whale is the most endangered whale species in the world, with only 370* individuals remaining. Of those, only about 70 are females. The average lifespan of the female is less than the male.

Right Whales are protected by the Endangered Species Act and the Marine Mammal Protection Act. Additionally, there is a law that was put into effect to reduce the risk of vessel collisions which creates seasonal areas where vessels 65 ft and above must slow down to 10 kts or less.

Whales play a critical role in supporting a healthy marine ecosystem. A single whale can store 33 tons of carbon dioxide, which is 1,500 times more than a tree can absorb.

Sound is essential to the survival of marine life. High levels of noise from shipping vessels, oil and gas exploration, sonar training and construction have been growing out the ocean's sounds, affecting the ability of marine life to communicate. Ocean noise pollution is increasing, causing physical stress and disorientation.

Climate change is further adding to the extinction of the Right Whale. From changes in water temperature and ocean acidification, the diversity and abundance of marine species are being affected.

A. What is extinction?
B. What can be done to protect the Right Whale from extinction?
C. How does the ESA /MMPA help protect whales?
D. Research what will happen to the environment if the whales decline?

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STEP SEVEN:

SUPPORT ORGANIZATIONS THAT HELP RIGHT WHALES

Complete all of the following:

A. Check out additional resources to learn more about the right whales.

B. Interview or contact a marine biologist, conservationist or learn about real world conservation efforts.

   a. NOAA Fisheries – **fisheries.noaa.gov**
   b. Florida Fish and Wildlife Conservation Commission – **myfwc.com**
   c. New England Aquarium – **neaq.org**
   d. Blue World Research Institute – **bwri.org**

C. Attend the Right Whale Festival in Amelia Island.

   a. **https://rightwhalefestival.com/**

STEP EIGHT:

TECHNOLOGY AND SCIENTIFIC RESEARCH

Complete all of the following:

Scientists use technology and extensive fieldwork to monitor North Atlantic right whales. Many groups are working on technological solutions for reducing risk to right whales from vessel strikes.

A. Read all about the technologies involved in near-real time monitoring of right whales

B. Study the latest developments on technical solutions

   a. **Whale and Vessel Safety Taskforce (WAVs)**
   b. Using **AIS** to communicate to mariners to change behavior

C. Download a whale tracking app like Whale Alert and explore their migration patterns.

D. Visit **WhaleMap** to analyze real whale tracking data to identify migration patterns and threats

STEP NINE:

START A CAMPAIGN

Complete all of the following:

A. Develop a social media campaign or public service announcement to educate the community about right whale Conservation.

B. Write an opinion article or blog post advocating for the right whale.

C. Organize a petition or letter writing campaign to support stronger protections for the right whale.

STEP TEN:

TAKE A RIGHT WHALE PROTECTION PLEDGE

Complete all of the following:

A. Raise your right hand and take a pledge to help protect the North Atlantic Right Whale. Promise that you will:

a. Slow Down
b. Stay Away
c. Report Sightings
d. Protect Our Oceans
e. Recycle, Reduce, and Reuse

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We would like to thank the NOAA Fisheries Team for guiding us through this project.

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Works Cited

*https://www.fisheries.noaa.gov/species/north-atlantic-right-whale