

BIES 246: Conservation Biology, Winter 2020, Aaliyah Black, Josie Carter, Natalie Moon

Activity title: Save that Whale!

Notes: This activity needs more open space than a typical classroom offers. It can be done by a science teacher if the class can be brought to a gym, outside, or any open space. It can also be used at a summer camp or after-school program where more space may be available.

Learning objectives:

1. Understand the threats that North Atlantic right whales face today. 2. Explore ways that conservationists are working to rebound populations.

Curriculum-Based Goal of Activity:

Students will be able to identify relationships between human activity and the negative environmental impact based on scientific principles, and distinguish between causal and correlational relationships to facilitate the design of solutions.

Materials needed

List any additional materials the teacher will need in order to carry out your activity

1. 4 Cones/other objects to mark the boundaries 2. Construction paper, markers, scissors, yarn, tape

Step-by-step activity instructions:

1. **Introduction (5 min):** Introduce the North Atlantic right whale and current population status. Ask students what they think threats may be, and discuss shipping strikes and entanglements in fishing nets and how these

harm whales trying to cross areas with high human activity. To add a hands-on art element to the lesson, have students design a whale on a piece of paper, punch holes in the paper, and tie yarn through so it hangs around their neck.

Important information to include:

a) The North Atlantic Right Whale is one of the rarest whale species in the world, there are only around 411 individuals left, and only about 100 breeding females left. You can find them right here off the coast of Maine, all the way south down to Florida (NOAA, 2020). b) Right whales' habitat overlaps with many human activities, such as fishing. During their migration they tend to pass through busy ports. A major threat to these whales is becoming entangled in ropes and nets used for fishing. When whales become entangled, fishing gear can cut into their skin and restrict movement. This can significantly injure whales and impact their ability to swim and feed. Whales can carry the gear around for months and potentially die from injuries and starvation (NOAA, 2020). c) Another major threat to right whales are vessel strikes. Right whale habitat and migration routes usually are close to major ports and shipping lanes in the Atlantic ocean, which makes the whales vulnerable to collisions. Ship strikes are typically fatal, making this a major threat to this species (NOAA, 2020). d) 50% of all right whale deaths are due to anthropogenic sources, especially contact with boats and entanglement in fishing traps (Bryant et al, 2015)

2. 1st Round (3 min): Introduce the rules of the game: most students are whales trying to migrate through busy ports. The game is played in a “fishy fishy cross my ocean” style, with one student representing a ship, and one representing a fishing net. Set up cones marking each side of the “ocean,” with 20-30 feet of space between each side, depending on class size and space available. The “whale” students will try to cross from one side of the marked ocean to the other, without being tagged by a threat. If space is an issue, have the “ship” and “net” students stand in place and tag by reaching

out while “whale” students try to cross a smaller area. When whale students are tagged, they will be out for the round to model population fluctuations.

3. Debrief (1 min): When all the whales are “dead,” debrief with the students about what happened and brainstorm solutions to protect them for the next round. Guide the conversation to make sure solutions are covered including re-routing shipping lanes, changing fishing gear to breakaway ropes, and public education. Talk about how conservationists are already doing this work, and that all students have the potential to be conservationists in the future.

Important information to include: a) In order to assist in the conservation of this species, that is in great danger of extinction, boat speed restrictions have been made in areas where whales tend to be located and efforts to eliminate rope from fishing altogether have been taken (Brown, 2017).

b) Another action taken includes building of support in Congress to enact the SAVE Rights Whales Act and filing lawsuits against the National Marine Fisheries Services for violating the Endangered Species Act by allowing right whales to get entangled in fishing gear (Defenders of Wildlife) c)

Additionally, the creation of a right whale recovery coordinator to the Atlantic region and specialized groups of experts to address concerns for the right whale population have been raised as potential solutions (Rich 2017) d)

To address entanglement- adjustments to fishing gear, such as illuminated ropes so that whales can detect the dangers in advance, weak ropes that break under a certain amount of pressure, ropes that have break away points, and stiff ropes that will prevent the entanglement of creatures altogether have been suggested (Bryant 2015) e)

To address ship strikes- the alteration of shipping operations, such as separating ships

into specific lanes to provide increased organization, have been identified to protect the right whales (Bryant 2015)

4. 2nd Round (3 min): In this round, one student (or more depending on

numbers) will play a conservationist who can tag “dead” whales back in, if they can name a solution to help the right whales. Play for a full three minutes, or until the population goes extinct (depending on if students remember solutions).

5. Debrief (3 min): After the game is over, go over what students learned by asking them so each has a chance to share. If there’s extra time, play again!

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