

The Right Whale to Save?

The North Atlantic right whale, with a population of under 500 whales, is one of the rarest whale species in the world. Compared to the Southern right whale, about fourteen times fewer whales exist in the North Atlantic than in Southern oceans. The only whale population that rivals the North Atlantic right whale in scarcity is their North Pacific cousin, which according to the article “Smallest Whale Population Count Dwindles,” have only 30 individuals. How was this species driven to the brink of extinction? Unfortunately, humans are either directly or indirectly the cause of it all.

Whale hunting was, and in some parts of the world still is, a huge industry. Rosalind Rolland, one of the narrators of the short film *The Right Whale: Urbanizes*, says, “[Right whales] were named by whalers 400-500 years ago because they were the “right” whales to hunt.” The North Atlantic right whale has huge stores of meat, oil, and whalebone. They lived relatively close to the coastline and were “easy to access.” (Rolland) Also, even after being harpooned, the buoyant whales would float conveniently on the surface. Because of these valuable assets, people began to hunt right whales in the 1600s and prolifically between the 1700s and 1800s.

However, despite this long period of protection, the North Atlantic right whale has not rebounded as well as some other species under protection, such as the gray whales, which are “the only whale to be taken off the endangered species list.” (Alvear) In the case of the North Pacific right whale, this can be attributed to continued whale hunting by Japanese and Russian whale hunters. For all the species of whales as a whole numerous new threats have cropped up so they remain endangered.

One of the most dangerous and prevalent of these dangers is ship collision. Right whales, unlike other baleen whales, swim close to the surface and skim feed plankton there. This increases the risk of the whales accidentally crashing into ships. Right whales either do not see the ships or do not perceive them as a threat. Furthermore, they are hard to spot because of their dark coloring. Though the whales may not be immediately killed by ship collisions they can sustain mortal injuries. (Fegley and Lindsay)

Another hazard is whales literally swim into fishing gear. Long ropes linking traps to buoys stretch from the surface to the bottom of the ocean and inadvertently form perfect nooses for Right Whales. When they swim into the lines, whales panic and struggle until the rope has wound multiple times around their bodies. Sometimes the rope cuts all the way down to the bone. Unless humans release it, the whale will almost always eventually die, either from strangling or drowning. Unfortunately, “an estimated 80 percent to 85 percent of adult right whales,” have had mishaps with fishing gear. (Dean)

Habitat loss also plays a large part in preventing the North Atlantic right whale from rebounding. Because they live closer to coastlines, they are deeply affected by human activities on land. In the *National Geographic* article titled “Marine Habitat Destruction,” pollution from land, destruction of wetlands, the creation of inland dams, and deforestation affect the plankton, and, more specifically, the copepods that they feed upon.

Changes in water temperature and acidity seem to be the newest, and in the future may prove to be the most dangerous, threat to right whales. Females depend upon dense patches of the zooplankton *Calanus finmarchicus* to pack on the pounds in preparation

for carrying a calf to term and producing enough milk. According to the page on North Atlantic right whales in the New England Aquarium's website, "zooplankton are abundant when the North Atlantic Oscillation (NAO) Index — which charts variations in atmospheric pressure centers over the North Atlantic — is predominantly positive." When waters are warmer than average, it changes oceanic climate, which determine the health of the zooplankton and, in turn, the health of the whales.

Even if every single one of these causes for right whale deaths was eliminated, the force of genetics could stop the recovery of the whales altogether. Just as mortality rates are increased by the reasons above, natality rates are decreasing. For the North Atlantic right whales, the birth of 39 calves in one year is considered a "baby boom," even though there are about 500 individuals. (Dean) But in other years only one calf is born. The right whale population is so small that inbreeding is almost unavoidable, and this could prevent female whales from giving birth to healthy calves.

Several countries have passed legislation protecting right whales from the 1930's up to the present, and many organizations are beginning projects to save the species. These include the New England Aquarium (NEAQ), the National Oceanic and Atmospheric Administration (NOAA) Fisheries, and Save the Whales. These initiatives focus on solving the issues presented above, except for climate change; that is a global problem. Although many scientists think saving the right whale is a lost cause, I remain cautiously optimistic that continued governmental protection and strategic projects can save the right whale as long as they maintain an interest of organizations and the general public, because, in the end, it is the majority that prioritizes what species we should save.

The League of Nations became concerned about the overexploitation of whales, and in the following years a number of countries worked to ban whaling on an international level. “It has been illegal to hunt the right whale since 1935, when the League of Nations put them under protection,” as Cornelia Dean states in her article “The Fall and Rise of the Right Whale.” In the United States, the North Atlantic right whale was protected under the Marine Mammal Protection Act in 1972 and the Endangered Species Act in 1973. Even though Japan and several other countries have defied these bans, other countries are fighting to put a complete end to whaling.

Reducing the number of right whale collisions with large boats and shipping vessels is a top priority for the NEAQ because according to their website this is “the leading cause of right whale mortality today.” They receive data on shipping lanes and the movement and speeds of boats in and around U.S. ports and compare the data to their knowledge of where right whales often congregate. Using this knowledge, they suggest different shipping lanes and lower speed limits in certain areas. Many shipping companies are compliant with their requests to avoid right whale encounters.

In *The Right Whale: Urbanized*, Rosalind Rolland talks about how planes and helicopters fly over the ocean and record sightings of any right whales they might find. Then military and shipping companies operating in that area are warned that whales are nearby so they can take precautions to decrease their risk of hitting them. This is part of the Early Warning System required by the ESA to protect North Atlantic right whales.

In the Forbes article “iPad app helps mariners save endangered right whales,” new technology enables ships to know immediately if they are entering an area where the whales were recently spotted. “The [Whale Alert] app works by relaying information

from acoustic buoys in Boston Harbor. The buoys pick up whale noises then wirelessly send the information to NOAA headquarters in Maryland where the data is compared to overhead sightings from monitoring planes.” Boat operators receive this more accurate and recent information in nearly real time and have a better chance of avoiding collisions with right whales than if they had just lowered their speed in protected areas.

Monitoring right whales is also very informative about their behavior and the size of their population. The online North Atlantic Right Whale Catalog is “a tremendous collaborative effort of over 300 individuals and organizations,” according to the website maintained by NEAQ. Right whales are identified by their callosities, which are patterns (of white whale lice colonies) that are as unique as fingerprints. Using images from this catalog, researchers can keep track of whale movements and determine when a new whale must be added.

The NOAA Fisheries service partnered with the Provincetown Center for Coastal Studies in 1995 to create the Large Whale Disentanglement Network. Freeing a marine creature that can weigh up to 70 tons from tangled rope is difficult and potentially dangerous for the rescuers. Their history page says, “Utilizing a similar technique (as Yankee whalers which is called ‘kegging’) for entangled free swimming large whales by snapping a control line to an existing trailing entanglement line allows responders to safely work with an entangled animal.” The rescuers then attach floats to slow the whale down enough so that they can use poles and cutters to disentangle the whale. North Atlantic right whales are the hardest to free from fishing gear because of their muscular body structure.

In “The Fall and Rise of the Right Whale,” Cornelia Dean relates how efforts are focusing on prevention by modifying fishing gear rather than disentangling whales, because the latter is dangerous and expensive. “New efforts center on new gear, like lines that lie along the ocean floor or marker buoys that sit at the bottom until a fishing boat finds them electronically and signals them to bob to the surface.”

But why all of this effort for one species? Every single one of these projects requires millions of dollars and, at times, some even risk human lives. Also, North Atlantic right whales are so vulnerable that the death of even one right whale is devastating. Female right whales are extremely important to the survival of the species, but they are more likely to cross paths with a boat because, “they stick closer to shore.” (Eilperin) Additionally, factors that are not directly caused, and therefore cannot be easily solved by humans, could undermine the entire cause: increasing temperatures and acidity in the ocean coupled with possible inbreeding between right whales make fewer female whales able to reproduce. Should we bother to protect a species so close to extinction when they have no benefit to us?

On one level, many species of organisms are important to the economy of the nations that border their habitats. They fuel huge industries, provide raw materials for a variety of products, and can pass on beneficial traits to domestic organisms. Whaling was a huge industry for three centuries because nearly all parts of a whale can be useful. But even though most countries have placed limits or outright bans on hunting whales, they still have economic benefits for the local people through ecotourism. *Whale Watching Worldwide*, a special report from the International Fund for Animal Welfare, “shows more than 13 million people took whale watching tours last year in 119 countries

worldwide, generating a whopping \$2.1 billion in total expenditures during 2008.”

(O’Connor et. al.) As long as whale watching is strictly regulated, it gives nations that live near right whales an economic incentive to protect them.

Every species has an important place and function within their ecosystem and the entire biosphere. The extinction of one species, no matter how seemingly insignificant that species is, always has the potential to set off a chain reaction. An article on *ScienceDaily* called “Study Demonstrates That One Extinction Leads to Another,” reported, “The researchers bred two species of parasitic wasps, along with the two types of aphids on which each wasp exclusively feeds... In tanks that did not include the first species of wasp, the second went extinct within a few generations. In tanks in which they co-existed, both wasp species thrived. In the absence of the first wasp species, its prey grew in numbers. This threatened the other aphid, which the second wasp species attacks, eventually leading to its extinction. Both types of aphids feed on the same plants and there was not enough food for one to survive when the other thrived in the absence of its wasp predator.” (University of Exeter)

The same can be said for right and other baleen whales, which consume large amounts of zooplankton. Zooplankton is tiny floating animals that eat tiny, floating plants called phytoplankton. According to the *Helium* article "Importance of the Baleen Whale to Humans" by James Johnson, “If whales did not do this, the zooplankton could get out of control and destroy all the phytoplankton.” Much of zooplankton is juvenile jellyfish, so whales ensure that the jellyfish populations remain small enough. Phytoplankton are extremely important in the oceans because they are at the very bottom of the food chain - fish feed on them, larger organisms feed on the fish, etc. They also absorb carbon dioxide

from the air for photosynthesis and produce oxygen. So once the entire ecosystem of the North Atlantic is explored, baleen whales clearly have an important and perhaps necessary part in maintaining ecological balance.

On her website EndangeredSpecies.com, Lauren Kurpis asks, “Why Save Endangered Species?” Among the reasons listed under Aesthetic/Recreational, “Each year over 108 million people in the United States participate in wildlife-related recreation including observing, feeding, and photographing wildlife. Americans spend over \$59 billion annually on travel, lodging, equipment, and food to engage in non-consumptive wildlife recreation.” Many people enjoy seeing unfamiliar and “attractive” animals, and the motivation to conserve endangered animals for future generations is perhaps one of the strongest. Richard Nixon signed the ESA into law because he wished to preserve biodiversity as a part of the United States’ national heritage.

Beyond the logical reasons for saving any one particular species, there is also the ethical issue of being the cause for an entire species’ demise. Humankind is the most prosperous and successful organism on the face of the planet because we have a higher capacity for intelligence and more dexterous appendages than the majority of other species. We are measuring global population growth in the billions instead of in the millions, and despite the occasional wild animal incident, we have eliminated all potential predators. However, our explosive growth comes at the expense of nearly every other species on the planet. If humans universally value life, are the lives of animals that cannot possibly help themselves somehow valued less?

If I had to choose between saving my mother’s life and saving a fish, I would save my mother without a second of thought. But is that the choice we have right now- us or

them? I hope not, because there is no reality to an “us vs. them” mentality; all organisms live on a spectacularly diverse, perfectly balanced planet. If we are to survive, thrive, and enjoy our lives on Planet Earth, we must learn to cooperate, not compete.

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