

The Decline of the North Atlantic Right Whale

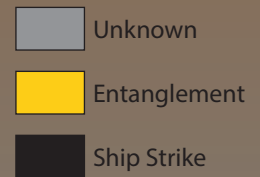
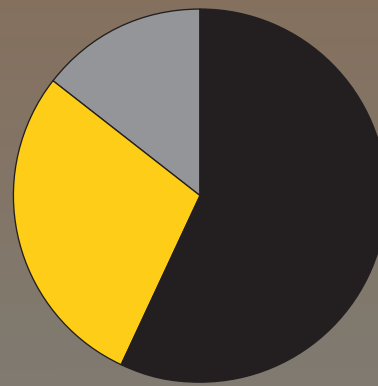
The North Atlantic Right Whale is one of the most endangered species in the world, with fewer than 500 left in the wild⁸. Intense hunting brought the population of the whale down drastically until protection was granted in the 1930's⁶.

The species was recovering until 2010 when the population took a turn for the worse and began declining. This drastic change is not due to just one issue: there are 3 prevailing causes of the Right Whales decline--and we are responsible for all of them.

WHAT'S HAPPENING?

Of all of the factors leading to the right whales decline, ship strikes and fishing gear entanglement are the leading causes of death, 57% and 29% respectively. Poor government enforcement of conservation regulations are perpetuating the issue further and as result, the mortality rate has surpassed the rate of calves being born.

Leading Causes of Death



In the last 4 years, 30 right whale deaths have been found and only 12 births have been recorded. The birth rate of the right whale has dropped significantly, with an average of 5% of females giving birth in the last 4 years. Comparing this to the previous 8 years where that number was 27.9% and it becomes clear there is an issue⁵.

» Because entanglement has such profound effects on the body, it is not a surprise that it affects pregnant females enough to prevent them from birthing calves. As many as 86% of all right whales have been entangled at least once⁵. When the females become entangled, the stress placed on the body combined with the already stressed pregnant body results in loss of the calf and possibly the death of the mother³.

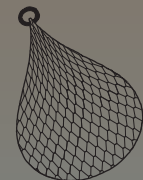
» One study found that female right whales had a lower survival rate than other females of different classes, even after reported entanglements were excluded. This is thought to stem from human activities, such as ship strikes, and the stress of reproduction on the mother¹¹.



The North Atlantic right whale has the highest ship strike rate of any large whale population, worldwide. It is because these whales have a "shallow dive pattern"⁹, meaning they stay near the surface while feeding, that they are so commonly struck.

» While the right whale feeds, they stop vocalizing, leaving them exposed to a strike because currently a real-time passive acoustic monitoring (PAM) network is what alerts a ship to any life near the surface⁹.

» These ship strikes are becoming more common as the waters where these whales naturally feed are becoming warmer, shifting their prey further and further north into major shipping lanes¹⁰.



Baleen whales are unique in which the entanglement mortality results from pathological processes rather than drowning. When the whale comes in contact with the netting, it is able to break away but the strain of breaking away causes an initial exhaustion that becomes difficult to recover from².

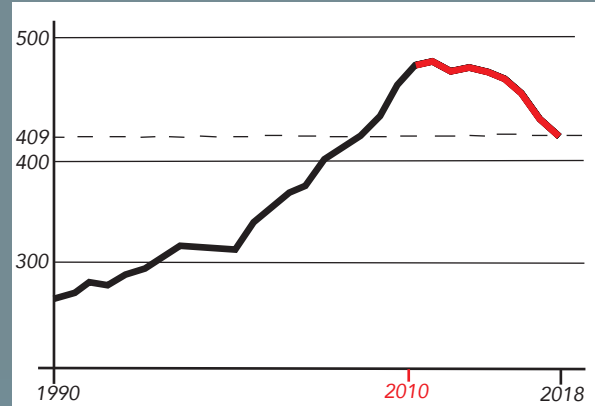
» "Chronic entanglement injuries are deep and extensive,"² meaning these such injuries cut through tissue layers and create abrasions that become easily infected. Once infected, the whale loses body weight and fat and then dies due to starvation and infection.

» Unfortunately, because these whales have lost weight and fat content, after they die they are more likely to sink rather than float up on a beach, which means it is very possible that there is an underestimation of how many whales are dying due to entanglement⁷.

The Biggest Myth Of All



There are not many myths and misconceptions about this issue because people don't think that they are connected to it. This is untrue. Anthropogenic climate change is causing our oceans to warm, pushing these whales further and further north. Now that they moved far enough north, they are either no longer within the reach of any protection that has been allocated to them or they get pushed into the shipping lanes coming from Europe¹⁰. We all have to do our part to help stop the warming of our oceans, for the sake of our big, blue friends.



North Atlantic Right Whale Population, 1990-2018

So, what can be done?

Just like every conservation problem, there is no magic solution. We cannot do this without collaborative interdisciplinary efforts, using engineering, marine science, and social sciences to create an effective conservation plan to save these animals' futures.



Vessel speed regulations and rerouting of shipping lanes can lead to a significant decrease in whale deaths due to vessel strikes⁸. This will also reduce noise pollution in the water ways.

» Researchers have highlighted that due to the nature of feeding periods, the right whale is especially vulnerable during the month of April⁹. Perhaps by rerouting or reducing vessel speeds for this month, it will not only reduce the number of vessel strikes but it may lower the cost to shipping companies because they will not have to wait in port wasting time and can have continuously moving ships.

» In 2018, the average wait time of a dry bulk carrier waiting in port was 2.05 days¹³. If these ships lower their ship speeds they most likely would not be late for that two day delay period and still unload their cargo on time.

“There is no folly of beasts of the earth which is not infinitely outdone by the madness of men”
-Herman Melville



Studies indicate that “juveniles and adult [right whales] have a lower probability of survival after a reported entanglement.¹¹” Therefore, the focus should be on the prevention of entanglement.

» While it was noted that after being disentangled, whales' survivability rates went back up, the results of that study indicated that early intervention was the only way to actually prevent the onset of disease or major injury¹¹.

» It was found that the health impacts of an entanglement were the biggest indicators of survivability. The health impacts are also the most difficult to treat once they afflict the animal¹¹. By focusing on prevention of entanglements, it reduces the probability of health risks that would be impossible to treat by conservationists and will increase the survival rate of the right whale.

» **Some action is already being taken... «**



A bill passing through the US House and Senate called the Scientific Assistance for Very Endangered (SAVE) Right Whales Act. This bipartisan bill establishes a grant program that allows for “ten years of sustained federal funding for collaborative projects between states, NGOs, and the fishing and shipping industries.¹⁴” The additional resources will significantly aid groups such as the Natural Resources Defense council provide more aid to the whales.



A ruling in late 2019 by a federal judge in New England stated that the government had not upheld the regulations it had placed on fishing gear in the area closest to Nantucket⁴. The ruling included that until the fisheries fully complied with the law, they will be closed for gill-net fishing, the most common and dangerous type of fishing net to entangle the right whale¹².

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