



Florida Fish and Wildlife Conservation Commission

Fish and Wildlife Research Institute

Pursued by humans for more than eight centuries, the North Atlantic right whale is one of the most endangered marine mammals in U.S. waters. Early whalers designated the North Atlantic right whale as the “right” whale to hunt because it frequented coastal waters, swam slowly, floated when dead, and yielded large amounts of oil and baleen (an elastic, horny substance used in corsets, buggy whips, etc.). Commercial organizations considered right whales to be economically extinct by the early 1900s, but whalers in search of other species still opportunistically killed right whales. Although protection for right whales began in the 1930s, the population has not recovered well. Researchers estimate that between 300 and 350 North Atlantic right whales exist today.

The continental shelf waters from Savannah, Georgia, to Port Canaveral, Florida, are the only known calving area of this benign behemoth; therefore, the state of Florida plays a major role in the study and protection of right whales and their calving area. Today, North Atlantic right whales are threatened by human-related events such as ship

RIGHT WHALES

Giants in Jeopardy

collisions and fishing-gear entanglements. Officials and scientists are developing methods to protect right whales, especially in the calving area. Protection measures include (1) aerial surveys for locating right whales to prevent ship strikes, (2) a pager system whereby aerial observers notify mariners of right whale locations to mitigate potential ship strikes, and (3) disentanglement operations in which biologists try to remove fishing gear from seriously entangled whales. Locational data from aerial surveys are also used to relate whale distribution and abundance to environmental variables, such as temperature and depth, in their habitat. Understanding right whale use of habitat helps managers to decide when and where to implement protection measures to prevent extinction of the species.

Description

The right whale is one of four species of large whales that lack a dorsal fin; the other three species are the bowhead, the gray, and the sperm whale. Another

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| AT A glance | Scientific name | <i>Eubalaena glacialis</i> |
| | Size | To 55 feet, up to 70 tons |
| | Life expectancy | More than 70 years |
| | Range | Eastern coast of North America |
| | Habitat | Coastal waters |
| | Status | Federally listed as an endangered species |
| | Estimated population | Between 300 and 350 |

Whale art after Howard Hall photo; used with permission.





characteristic that helps to identify right whales in the water is their V-shaped blow, reminiscent of a geyser that can shoot as high as 16 feet in the air. When they surface, right whales inhale and exhale through two widely separated blow holes, producing their distinctive blow. Other identifying characteristics of right whales include broad, short flippers on the chest and a pair of long tail fins, called flukes, that are usually raised high into the air as they begin a deep dive.

Right whales are baleen whales. In contrast to toothed whales such as dolphins and killer whales, baleen whales have finely fringed plates along their jaws that are used like sieves to trap prey. Typically, each plate is 8–9 feet tall. Baleen whales eat by taking a large mouthful of water containing tiny animals such as copepods, a type of zooplankton that is about the size of a grain of rice. The water is then strained out through the baleen, which traps the copepods.

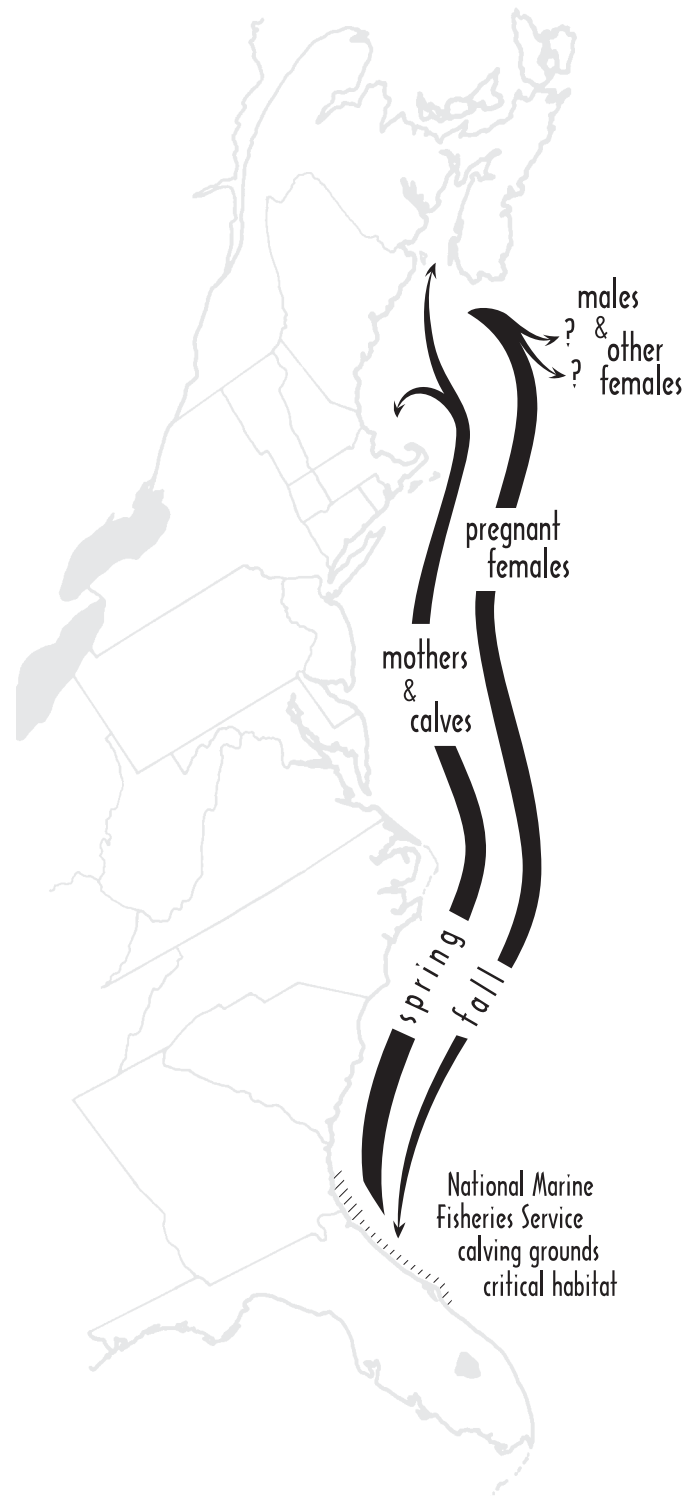
A right whale has black or dark gray skin with distinctive callous growths, called “callosities,” on its head. White cyamids, also known as whale lice, often cover these growths. The largest of these callosities, on the whale’s snout, is called the bonnet. These growths help scientists identify individual right whales.

From tail to head, the length of a right whale can be equal to the height of a five-story building, and it can weigh as much as a fully loaded military transport plane. Their rotund shape has earned them the moniker “tugboat of whales.” Although they are slow swimmers, they are remarkably acrobatic, gracefully performing underwater turns and pirouettes, and executing near-vertical dives after they breach the water’s surface. They also wave their flippers and slap the surface with them.

FAST FACT

Right whale calves weigh one ton—2,000 pounds—at birth, and they grow more than a half inch every day for the first ten months of their lives.

Their massive size likely contributes to the species’ slow reproductive rate. A female right whale



can begin giving birth at 8 to 12 years of age, but she can reproduce only once every three to five years. A calf usually remains with its mother until it is about



one year old and 28 feet long. Scientists have estimated an average of approximately 12–13 births per year, about 1/3 of the births necessary to sustain the species. Although they noted a record high of 31 births in 2001, only one calf was born in the previous year. Calf mortalities, from ship strikes and fishing gear, reduce the overall reproduction, further contributing to problems of recovery in the right whale.

Range and Distribution

In the mid 1970s, researchers identified Florida and Georgia coastal waters as a calving area for the right whale. Pregnant females, along with some juveniles and adult males, leave their northeastern feeding grounds sometime in October/November and come to the southeastern calving area to have their young. Scientists and members of public sighting networks observe them in the calving area from approximately December through March. Calves travel with their mothers on the return trip to northeastern feeding and nursery areas in late winter and early spring.

f a s t FACT

From 1980 to 1992, only 51 females were known to be reproductively active out of the estimated population of around 300.

Late spring through fall, right whales feed in waters off New England and Canada. The summer feeding place for males and females without calves is an Atlantic Ocean area called Roseway Basin, south of Nova Scotia. The summer feeding and nursing grounds for many mothers with first-year calves is the Bay of Fundy, just north of the U.S.-Canada border between Maine and Nova Scotia. These waters have large, dense patches of zooplankton that are required by right whales in order to sustain themselves on such tiny prey items. Right whales leave the northeastern feeding grounds by the end of fall. Scientists do not know where many of the males and non-pregnant females go during the winter months, when pregnant females and some others migrate to the calving grounds off the southeastern U.S.

North Atlantic right whales are closely related to the southern right whales of the coastal waters off

South America, Africa, and Australia. However, they are separate species. Unlike the North Atlantic right whale, southern right whale populations have increased in numbers since whaling was banned. In fact, the southern right whale has recovered from an estimated population of a few hundred individuals in the 1970s to 3,000–5,000 individuals presently.

Behavior and Threats

Herman Melville, author of *Moby Dick*, warned as early as 1851 that hunting right whales could cause the species to “vanish from the face of the earth.” Right whales were among the first baleen whales to receive international protection. The commercial harvest of right whales was banned internationally, first by the League of Nations in 1935, and then by the International Whaling Commission, which was established in 1946. Even with this international protection, North Atlantic right whale populations have not recovered to safe population levels, and experts consider this species of large whale as one of the most susceptible to extinction.

f a s t FACT

From 1999 to 2003, total human-caused mortality and serious injury to right whales, resulting from fishery-related entanglements and ship strikes, was estimated at 2.6 per year. Even this small number is significant in a population as small as that of right whales and contributes to the potential for extinction of the species.

Right whales have only one natural predator: killer whales. However, only 3% of right whales have scars caused by killer whale attacks. This means that humans, principally through shipping, both commercial and military, and fishing gear, pose the biggest threat to right whale survival. Although ships are no longer armed with harpoons, they may still be deadly. Some ships, such as tankers and freighters, may be as long as a football field and have propellers that are 15 to 30 feet in diameter. Getting hit by a ship this large can shatter ribs or jawbones, and the huge propeller blades can shatter right whales' spines or slice their tails. Right whales may also



become injured through entanglement in gill nets, or in fixed or discarded fishing gear.

Unfortunately, right whales aren't usually wary of boats or people; for example, federally-permitted researchers are sometimes able to maneuver inflatable boats within 100 yards of them. Their placid nature and habit of resting on the surface of the water makes the whales especially vulnerable to collisions with ships, and they often cannot dive deeply enough in the shallow waters they inhabit to avoid being struck. The danger of collision is magnified in the calving area because of the major port facilities in Georgia at Savannah, Brunswick, and Kings Bay Naval Submarine Base, and in Florida at Fernandina Beach, Jacksonville, Mayport Naval Station, and Port Canaveral.

Future threats to right whales and their habitat include pollution and oil spills resulting from increased coastal development and proposed offshore leasing for oil and gas drilling. In addition, global warming may change circulation patterns in the ocean, which could reduce their food supplies. Researchers are also unsure how noise from increased vessel traffic, sonar devices, and drilling may affect the species. Scientists expect that any such disturbances will negatively affect right whales and their habitat.

To manage existing right whales, scientists study the animals' behavior and movements, protect identified habitats, and work to develop regulations to keep people and whales a safe distance apart. Federal rules require everyone, except researchers with special permits, to stay 500 yards away from right whales. Additionally, coastal waters from southern Georgia to Port Canaveral, the Great South Channel east of Cape Cod, and Cape Cod Bay have been designated as critical habitat for right whales.

To protect the whales, scientists have developed a warning system in which ships traveling in the calving area are quickly notified of whale sightings. This information helps mariners to steer clear of the whales. Researchers have also worked with port communities to develop guidelines for mariners, such as posting whale lookouts while in the calving area and traveling at slower speeds to avoid collisions. The Florida Fish and Wildlife Conservation Commission's (FWC) Fish and Wildlife Research Institute, along with numerous government and private enterprises, received the Federal 1997 Partnership Award in recognition of the high level of effective cooperation among these partners to reduce the likelihood of collision between ships and whales.

More immediately, researchers from the FWC, along with scientists from the New England Aquarium, Georgia Department of Natural Resources (GDNR), and U.S. Navy, conduct annual aerial surveys of the calving grounds. They record the number, sizes, and estimated ages of any right whales that they see and note the number of ships in the area. In one month during the calving season, researchers observed 310 vessel trips in and out of the Jacksonville port alone. In the winter of 1995-1996, FWC and GDNR researchers broadened their surveys to include water farther off Florida and Georgia, where right whales have been sighted. This information may be used to expand the boundaries of habitat critical to the survival of right whales. The number of births has been greater than average for the past six calving seasons (2000/2001 through 2005/2006). This information is an encouraging sign that future generations of Floridians will be able to witness these awesome marine mammals playing and rearing their young along the state's eastern shore.



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