

= Right whale =

Right whales are three species of large baleen whales of the genus *Eubalaena* : the North Atlantic right whale (*E. glacialis*) , the North Pacific right whale (*E. japonica*) and the Southern right whale (*E. australis*) . They are classified in the family Balaenidae with the bowhead whale . Right whales have rotund bodies with arching rostrums , V @-@ shaped blowholes and dark gray or black skin . The most distinguishing feature of a right whale is the rough patches of skin on its head which appear white due to parasitism by whale lice . Right whales can grow up to more than 18 m (59 ft) long with the maximum record of 19 @.@ 8 m (65 ft) and weigh up to 100 short tons (91 t ; 89 long tons) or more ; 20 @.@ 7 m (68 ft) with 135 @,@ 000 kg (298 @,@ 000 lb) or 21 @.@ 3 m (70 ft) with uncertainty , being significantly larger than other coastal species such as humpbacks , grays , or eden 's and omura 's , but smaller than blues . Right whales were named by whalers who identified them as the " right " whale to kill on a hunt due to the plentiful oil and baleen they could provide .

All three species are migratory , moving seasonally to feed or give birth . The warm equatorial waters form a barrier that isolates the northern and southern species from one another . In the Northern Hemisphere , Right whales tend to avoid open waters and stay close to peninsulas and bays and on continental shelves , as these areas offer greater shelter and an abundance of their preferred foods . In the Southern Hemisphere , right whales feed far offshore in summer , but a large portion of the population occur in near shore waters in winter . Right whales feed mainly on copepods but also consume krill and pteropods . They may forage the surface , underwater or even on the ocean bottom . During courtship , males gather into large groups to compete for a single female , suggesting that sperm competition appears to be an important factor in mating behavior . Although the blue whale is the largest animal on the planet , the testes of the right whale are actually ten times larger than those of the blue whale ? with each weighing up to 525 kilograms (1 @,@ 157 lb) , they are by far the largest of any animal on Earth . Gestation tends to last a year , and calves are born at 1 short ton (0 @.@ 91 t ; 0 @.@ 89 long tons) in weight and 4 ? 6 m (13 ? 20 ft) in length . Weaning occurs after eight months .

Right whales were a preferred target for whalers because of their docile nature , their slow surface @-@ skimming feeding behaviors , their tendencies to stay close to the coast , and their high blubber content (which makes them float when they are killed , and which produced high yields of whale oil) . Today , the North Atlantic and North Pacific right whales are among the most endangered whales in the world , and both species are protected in the United States by the Endangered Species Act . The western populations of both are currently endangered , with their total populations numbering in the hundreds . The eastern North Pacific population , on the other hand , with fewer than 50 individuals remaining , is critically endangered ? further still , the eastern North Atlantic population , which numbers in the low teens at best , may already be functionally extinct . Although no longer facing a threat from whaling , mankind remains by far the greatest threat to these species : the two leading causes of death are from being struck by ships and from entanglement in fishing gear . Regarding the North Atlantic right whale , for example , these two anthropogenic factors alone account for 48 % of all known right whale deaths since 1970 .

= = Naming = =

A popular explanation for the name " right whales " is that they were the " right " ones to hunt , as they float when killed and often swim within sight of shore . They are quite docile , and do not tend to shy away from approaching boats . As such , they were hunted nearly to extinction during the active years of the whaling industry . This origin is apocryphal . In his history of American whaling , Eric Jay Dolin writes :

Despite this highly plausible rationale , nobody actually knows how the right whale got its name . The earliest references to the right whale offer no indication why it was called that , and some who have studied the issue point out that the word " right " in this context might just as likely be intended " to connote ' true ' or ' proper , ' meaning typical of the group . "

= = Taxonomy = =

The right whales were first classified in the genus *Balaena* in 1758 by Carl Linnaeus , who at the time considered all of the right whales (including the bowhead) as a single species . Through the 1800s and 1900s , in fact , the family Balaenidae has been the subject of great taxonomic debate . Authorities have repeatedly recategorized the three populations of right whale plus the bowhead whale , as one , two , three or four species , either in a single genus or in two separate genera . In the early whaling days , they were all thought to be a single species , *Balaena mysticetus* . Eventually , it was recognized that bowheads and right whales were in fact different , and John Edward Gray proposed the genus *Eubalaena* for the right whale in 1864 . Later , morphological factors such as differences in the skull shape of northern and southern right whales indicated at least two species of right whale ? one in the Northern Hemisphere , the other in the Southern Ocean . As recently as 1998 , Rice , in his comprehensive and otherwise authoritative classification , *Marine mammals of the world : systematics and distribution* , listed just two species : *Balaena glacialis* (the right whales) and *Balaena mysticetus* (the bowheads) .

In 2000 , two studies of DNA samples from each of the whale populations concluded the northern and southern populations of right whale should be considered separate species . What some scientists found more surprising was the discovery that the North Pacific and North Atlantic populations are also distinct , and that the North Pacific species is more closely related to the southern right whale than to the North Atlantic right whale . The authors of one of these studies concluded that these species have not interbred for between 3 million and 12 million years .

In 2001 , Brownell et al. reevaluated the conservation status of the North Pacific right whale as a distinct species , and in 2002 , the Scientific Committee of the International Whaling Commission (IWC) accepted Rosenbaum 's findings , and recommended that the *Eubalaena* nomenclature be retained for this genus . A 2007 study by Churchill provided further evidence to conclude the three living right whale species do comprise a phylogenetic lineage , distinct from the bowhead , and are rightly classified into two separate genera .

The cladogram is a tool for visualizing and comparing the evolutionary relationships between taxa ; the point where each node branches is analogous to an evolutionary branching ? the diagram can be read left @-@ to @-@ right , much like a timeline . The following cladogram of the family Balaenidae serves to illustrate the current scientific consensus as to the relationships between the three right whales and the bowhead whale .

Whale lice , parasitic cyamid crustaceans that live off skin debris , offer further information through their own genetics . Because these lice reproduce much more quickly than whales , their genetic diversity is greater . Marine biologists at the University of Utah examined these louse genes and determined their hosts split into three species 5 ? 6 million years ago , and these species were all equally abundant before whaling began in the 11th century . The communities first split because of the joining of North and South America . The rising temperatures of the equator then created a second split , into northern and southern groups , preventing them from interbreeding . " This puts an end to the long debate about whether there are three [*Eubalaena*] species of right whale . They really are separate beyond a doubt " , Jon Seger , the project 's leader , told BBC News .

= = = Others = = =

The pygmy right whale (*Caperea marginata*) , a much smaller whale of the Southern Hemisphere , was until recently considered a member of the Family Balaenidae . However , they are not right whales at all , and their taxonomy is presently in doubt . Most recent authors place this species into the monotypic Family Neobalaenidae , but a 2012 study suggests that it is instead the last living member of the Family Cetotheriidae , a family previously considered extinct .

Yet another species of right whale was proposed by Emanuel Swedenborg in the 18th century - the so @-@ called Swedenborg whale . The description of this species was based on a collection of fossil bones unearthed at Norra Vånga , Sweden , in 1705 and believed to be those of giants . The

bones were examined by Swedenborg , who realized they belong to a species of whale . The existence of this species has been debated , and further evidence for this species was discovered during the construction of a motorway in Strömstad , Sweden in 2009 . To date , however , scientific consensus still considers *Hunterius swedenborgii* to be a North Atlantic right whale . According to a DNA analysis conducted by scientists , it was later confirmed that the fossil bones are actually from a bowhead whale .

= = = Synonyms and common names = = =

Due to their familiarity to whalers over a number of centuries , the right whales have had many names . These names were used throughout the world , reflecting the fact that only one species was recognized at the time . In his novel *Moby Dick* , Herman Melville writes :

" Among the fishermen , the whale regularly hunted for oil is indiscriminately designated by all the following titles : The Whale ; the Greenland whale ; the black whale ; the great whale ; the true whale ; the right whale . There is a deal of obscurity concerning the identity of the species thus multitudinously baptised Some pretend to see a difference between the Greenland whale of the English and the Right whale of the Americans . "

In fact , there was indeed a difference between the two ? Melville 's " Greenland whale " , or " Greenland right whale " , was in fact the modern @-@ day bowhead whale , *Balaena mysticetus* .

The following are junior synonyms for the genus *Eubalaena* :

Baloena Robineau , 1989

Halibalaena Gray , 1873

Hunterius Gray , 1866

Hunterus Gray , 1864

Macleayanus Marschall , 1873

Macleayius Gray , 1865

Although the right whale is now officially in the *Eubalaena* genus , the type species for a genus remains as it was first described ? in the case of *Eubalaena* the type species is *Balaena australis* Desmoulins , 1822 .

Some of the species @-@ level synonyms are :

For *E. australis* : *B. antarctica* Lesson , 1828

B. mysticetus antarctica Schlegel , 1841

B. antipodarum Gray , 1843

B. glacialis Mueller , 1776

B. glacialis australis Scheffer & Rice , 1963

E. capensis Gray , 1866

E. glacialis australis Tomilin , 1962

Halibalaena britannica Gray , 1873

Hunterus temminckii Gray , 1864

Macleayius australiensis Gray , 1865

For *E. glacialis* : *B. biscayensis* Eschricht , 1860

B. glacialis glacialis Scheffer & Rice , 1963

B. mysticetus islandica Kerr , 1792

B. nordcaper Lacépède , 1804

Baloena glacialis Robineau , 1989

E. glacialis glacialis Tomilin , 1957

Hunterius swedenborgii Lilljeborg , 1867

Macleayius britannicus Gray , 1870

For *E. japonica* : *B. japonica* Lacépède , 1804 (basionym)

B. sieboldii Gray , 1864

Balaenoptera antarctica Temminck , 1841 (lapsus for *Balaena*)

E. glacialis japonica Imaizumi , 1958

E. sieboldii Gray , 1868

= = Description = =

Unlike other whales , a right whale has distinctive callosities (roughened patches of skin) on its head , along with a broad back without a dorsal fin , occasionally with white belly patches , and a long , arching rostrum , or upper jaw , that begins above the eye . The callosities appear white due to large colonies of cyamids (whale lice) . Each individual has a unique callosities pattern . In 2016 , a competitive effort resulted in the use of facial recognition software to derive a process to uniquely identify right whales with about 87 % accuracy based on their callosities . The primary role of callosities has been considered to be protection against predators . Right whale declines might have also reduced barnacles . Right whales are very large , robust whales that can grow up to more than 18 m (59 ft) long and weigh up to 100 short tons (91 t ; 89 long tons) , almost as big as bowhead whales and much larger than other species with high dependencies on shallow waters . An unusually large 40 % of their body weight is blubber , which is of relatively low density . Consequently , unlike many other species of whale , dead right whales tend to float . Right whales swim slowly , reaching only 5 kn (9 @. @ 3 km / h) at top speed . However , they are highly acrobatic and frequently breach (jump clear of the sea surface) , tail @-@ slap and lobtail .

= = Anatomy = =

Adults may be between 11 ? 18 m (36 ? 59 ft) in length and typically weigh 60 ? 80 short tons (54 ? 73 t ; 54 ? 71 long tons) . The most typical lengths are 13 ? 16 m (43 ? 52 ft) . The body is extremely thick with girth as much as 60 % of total body length in some cases . The tail fluke is broad (up to 40 % of body length) . The North Pacific species is on average the largest of the three species . The largest specimens may weigh 100 short tons (91 t ; 89 long tons) . Right whales have a distinctive wide V @-@ shaped blow , caused by the widely spaced blowholes on the top of the head . The blow rises 5 m (16 ft) above the surface . Right whales have between 200 and 300 baleen plates on each side of their mouths . These are narrow and approximately 2 m (6 @. @ 6 ft) long , and are covered in very thin hairs . The plates enable the whale to filter feed .

The penis on a right whale can be up to 2 @. @ 7 m (8 @. @ 9 ft) ? the testes , at up to 2 m (6 @. @ 6 ft) in length , 78 cm (2 @. @ 56 ft) in diameter , and weighing up to 525 kg (1157 lbs) , are also by far the largest of any animal on Earth . The blue whale may be the largest animal on the planet , yet the testicles of the right whale are ten times the size of those of the blue whale . They also exceed predictions in terms of relative size , as well ? they are six times larger than would be expected on the basis of body mass . Together , the testicles make up nearly 1 % of the right whale 's total body weight . This strongly suggests sperm competition is important in mating , which correlates to the fact that right whales are highly promiscuous .

Many of southern right whales are seen with rolls on fats behind blowholes that northern species often lack , and these are regarded as a sign of better health condition due to sufficient nutrition supply , and could have contributed in vast differences in recovery status between right whales in southern and northern hemisphere , other than direct impacts by mankind .

= = Life history and ecology = =

= = Courtship and reproduction = =

During the mating season , which can occur at any time in the North Atlantic , right whales gather into " surface @-@ active groups " made up of as many as 20 males consorting a single female . The female has her belly to the surface while the males stroke her with their flippers or keep her underwater . The males do not compete as aggressively against each other as male humpbacks . The female may not become pregnant but she is still able to assess the condition of potential mates . The mean age of first parturition in North Atlantic right whales is estimated at between 7 @. @ 5

and 9 years . Females breed every 3 ? 5 years . Both reproduction and calving take place during the winter months . Calves are approximately 1 short ton (0 @.@ 91 t ; 0 @.@ 89 long tons) in weight and 4 ? 6 m (13 ? 20 ft) in length at birth following a gestation period of 1 year . The right whale grows rapidly in its first year , typically doubling in length . Weaning occurs after eight months to one year and the growth rate in later years is not well understood ? it may be highly dependent on whether a calf stays with its mother for a second year .

= = = Lifespan = = =

Very little is known about the life span of right whales . One of the few well @-@ documented cases is of a female North Atlantic right whale that was photographed with a baby in 1935 , then photographed again in 1959 , 1980 , 1985 , and 1992 . Consistent callosity patterns ensured it was the same animal . She was last photographed in 1995 with a seemingly fatal head wound , presumably from a ship strike . By conservative estimates (e.g. she was a new mother who had just reached sexual maturity in 1935) , she was nearly 70 years of age , if not older . Research on the closely related bowhead whale suggests this lifespan is not uncommon and may even be exceeded .

= = = Diet and predation = = =

The right whales ' diets consist primarily of zooplankton , primarily the tiny crustaceans called copepods , as well as krill , and pteropods , although they are occasionally opportunistic feeders . As with other baleens , they feed by filtering prey from the water . They swim with an open mouth , filling it with water and prey . The whale then expels the water , using its baleen plates to retain the prey . Prey must occur in sufficient numbers to trigger the whale 's interest , be large enough that the baleen plates can filter it , and be slow enough that it cannot escape . The " skimming " may take place on the surface , underwater , or even at the ocean 's bottom , indicated by mud occasionally observed on right whales ' bodies .

The right whales ' three known predators are humans , orcas , and sharks . When danger lurks , a group of right whales may cluster into a circle , and thrash their outwards @-@ pointing tails . They may also head for shallow water , which sometimes proves to be an ineffective defense . The sheer size of this animal is its best defense , although young calves are the most vulnerable to orca and shark attacks .

= = = Range and habitat = = =

The three *Eubalaena* species inhabit three distinct areas of the globe : the North Atlantic in the western Atlantic Ocean , the North Pacific in a band from Japan to Alaska and all areas of the Southern Ocean . The whales can only cope with the moderate temperatures found between 20 and 60 degrees in latitude . The warm equatorial waters form a barrier that prevents mixing between the northern and southern groups . Although the southern species in particular must travel across open ocean to reach its feeding grounds , the species is not considered to be pelagic . In general , they prefer to stay close to peninsulas and bays and on continental shelves , as these areas offer greater shelter and an abundance of their preferred foods .

Because the oceans are so large , it is very difficult to accurately gauge whale population sizes . Approximate figures :

400 North Atlantic right whales (*Eubalaena glacialis*) live in the North Atlantic ;

23 North Pacific right whales have been identified in the eastern North Pacific (*Eubalaena japonica*) and

15 @,@ 000 southern right whales (*Eubalaena australis*) are spread throughout the southern part of the Southern Hemisphere .

= = = North Atlantic right whale = = =

Almost all of the 400 North Atlantic right whales live in the western North Atlantic Ocean . In northern spring , summer and autumn , they feed in areas off the Canadian and northeast U.S. coasts in a range stretching from New York to Newfoundland . Particularly popular feeding areas are the Bay of Fundy and Cape Cod Bay . In winter , they head south towards Georgia and Florida to give birth . There have been a smattering of sightings further east over the past few decades ; several sightings were made close to Iceland in 2003 . These are possibly the remains of a virtually extinct eastern Atlantic stock , but examination of old whalers ' records suggests they are more likely to be strays . However , a few sightings are regular between Norway , Ireland , Spain , Portugal , the Canary Islands and even Italy and Sicily ; at least the Norway individuals come from the Western stock .

= = = North Pacific right whale = = =

The North Pacific right whale appears to occur in two populations . The population in the eastern North Pacific / Bering Sea is extremely low , numbering about 30 individuals . A larger western population of 100 ? 200 appears to be surviving in the Sea of Okhotsk , but very little is known about this population . Thus , the two northern right whale species are the most endangered of all large whales and two of the most endangered animal species in the world . Based on current population density trends , both species are predicted to become extinct within 200 years . The Pacific species was historically found in summer from the Sea of Okhotsk in the west to the Gulf of Alaska in the east , generally north of 50 ° N. Today , sightings are very rare and generally occur in the mouth of the Sea of Okhotsk and in the eastern Bering Sea . Although this species is very likely to be migratory like the other two species , its movement patterns are not known .

= = = Southern right whale = = =

The last major population review of southern right whales by the International Whaling Commission was in 1998 . Researchers used data about adult female populations from three surveys (one in each of Argentina , South Africa and Australia) and extrapolated to include unsurveyed areas and estimated counts of males and calves (using available male : female and adult : calf ratios) , giving an estimated 1997 population of 7 @, @ 500 animals . More recent data from 2007 indicate those survey areas have shown evidence of strong recovery , with a population approaching twice that of a decade earlier . However , other breeding populations are still very small , and data are insufficient to determine whether they , too , are recovering .

The southern right whale spends the summer months in the far Southern Ocean feeding , probably close to Antarctica . It migrates north in winter for breeding , and can be seen around the coasts of Argentina , Australia , Brazil , Chile , Mozambique , New Zealand and South Africa . Since hunting of the southern right whale ceased , stocks are estimated to have grown by 7 % a year . The South American , South African and Australasian groups apparently intermix very little , if at all , because of the strong fidelity of mothers to their feeding and calving grounds . The mother passes these instincts to her calves .

= = = Vocalization and hearing = = =

Vocalizations made by right whales are not elaborate compared to those made by other whale species . The whales make groans , pops and belches typically at frequencies around 500 Hz . The purpose of the sounds is not known but may be a form of communication between whales within the same group . Northern right whales responded to sounds similar to police sirens ? sounds of much higher frequency than their own . On hearing the sounds , they moved rapidly to the surface . The research was of particular interest because northern rights ignore most sounds , including those of approaching boats . Researchers speculate this information may be useful in attempts to reduce the number of ship @-@ whale collisions or to encourage the whales to surface for ease of harvesting .

= = Relationship to humans = =

= = = Whaling = = =

In the early centuries of shore @-@ based whaling before 1712 , right whales were virtually the only catchable large whales , for three reasons :

They often swam close to shore where they could be spotted by beach lookouts , and hunted from beach @-@ based whaleboats .

They are relatively slow swimmers , allowing whalers to catch up to them in their whaleboats .

Once killed by harpoons , they were more likely to float , and thus could be retrieved . However , some did sink when killed (10 ? 30 % in the North Pacific) and were lost unless they later stranded or surfaced .

Basque people were the first to hunt right whales commercially , beginning as early as the 11th century in the Bay of Biscay . They initially sought oil , but as meat preservation technology improved , the animal was also used for food . Basque whalers reached eastern Canada by 1530 and the shores of Todos os Santos Bay (in Bahia , Brazil) by 1602 . The last Basque voyages were made before the Seven Years ' War (1756 ? 1763) . All attempts to revive the trade after the war failed . Basque shore whaling continued sporadically into the 19th century .

" Yankee whalers " from the new American colonies replaced the Basques . Setting out from Nantucket , Massachusetts and Long Island , New York , they took up to 100 animals in good years . By 1750 , the commercial hunt of the North Atlantic right whale was basically over . The Yankee whalers moved into the South Atlantic before the end of the 18th century . The southernmost Brazilian whaling station was established in 1796 , in Imbituba . Over the next hundred years , Yankee whaling spread into the Southern and Pacific Oceans , where the Americans were joined by fleets from several European nations . The beginning of the 20th century saw much greater industrialization of whaling , and the harvest grew rapidly . By 1937 , there had been , according to whalers ' records , 38 @,@ 000 takes in the South Atlantic , 39 @,@ 000 in the South Pacific , 1 @,@ 300 in the Indian Ocean , and 15 @,@ 000 in the North Pacific . The incompleteness of these records means the actual take was somewhat higher .

As it became clear the stocks were nearly depleted , the world banned right whaling in 1937 . The ban was largely successful , although violations continued for several decades . Madeira took its last two right whales in 1968 . Japan took 23 Pacific right whales in the 1940s and more under scientific permit in the 1960s . Illegal whaling continued off the coast of Brazil for many years and the Imbituba land station processed right whales until 1973 . The Soviet Union illegally took at least 3 @,@ 212 southern right whales during the 1950s and ' 60s , although it reported taking only four .

= = = Whale watching = = =

The southern right whale has made Hermanus , South Africa one of the world centers for whale watching . During the winter months (July ? October) , southern right whales come so close to the shoreline , visitors can watch whales from strategically placed hotels . The town employs a " whale crier " (cf. town crier) to walk through the town announcing where whales have been seen . Southern right whales can also be watched at other winter breeding grounds .

In Brazil , Imbituba in Santa Catarina has been recognized as the National Right Whale Capital and holds annual Right Whale Week celebrations in September when mothers and calves are more often seen . The old whaling station there has been converted to a museum dedicated to the whales . In winter in Argentina , Península Valdés in Patagonia hosts the largest breeding population of the species , with more than 2 @,@ 000 animals catalogued by the Whale Conservation Institute and Ocean Alliance .

= = Conservation = =

Both the North Atlantic and North Pacific species are listed as a " species threatened with extinction which [is] or may be affected by trade " (Appendix I) by CITES , and as " endangered " by the IUCN Red List . In the United States , the National Marine Fisheries Service (NMFS) , a subagency of the National Oceanic and Atmospheric Administration (NOAA) has classified all three species as " endangered " under the Endangered Species Act . Under the Marine Mammal Protection Act , they are listed as " depleted " .

The southern right whale is listed as " endangered " under the Australian Environment Protection and Biodiversity Conservation Act , as " nationally endangered " under the New Zealand Threat Classification System , as a " natural monument " by the Argentine National Congress , and as a " State Natural Monument " under the Brazilian National Endangered Species List .

The US and Brazil added new protections for right whales in the 2000s to address the two primary hazards . While environmental campaigners were , as reported in 2001 , pleased about the plan 's positive effects , they attempted to force the US government to do more . In particular , they advocated 12 knots (22 km / h) speed limits for ships within 40 km (25 mi) of US ports in times of high right whale presence . Citing concerns about excessive trade disruption , it did not institute greater protections . The Defenders of Wildlife , the Humane Society of the United States and the Ocean Conservancy sued the NMFS in September 2005 for " failing to protect the critically endangered North Atlantic Right Whale , which the agency acknowledges is ' the rarest of all large whale species ' and which federal agencies are required to protect by both the Marine Mammal Protection Act and the Endangered Species Act " , demanding emergency protection measures . According to NOAA researchers , about 83 % of right whale sightings in the mid @-@ Atlantic region occur within 20 nautical miles (37 km) of shore .

The southern right whale , listed as " endangered " by CITES and " lower risk - conservation dependent " by the IUCN , is protected in the jurisdictional waters of all countries with known breeding populations (Argentina , Australia , Brazil , Chile , New Zealand , South Africa and Uruguay) . In Brazil , a federal Environmental Protection Area encompassing some 1 @,@ 560 km² (600 sq mi) and 130 km (81 mi) of coastline in Santa Catarina State was established in 2000 to protect the species ' main breeding grounds in Brazil and promote whale watching .

On February 6 , 2006 , NOAA proposed its Strategy to Reduce Ship Strikes to North Atlantic Right Whales . The proposal , opposed by some shipping interests , limited ship speeds during calving season . The proposal was made official when on December 8 , 2008 , NOAA issued a press release that included the following :

Effective January 2009 , ships 65 feet (20 m) or longer are limited to 10 knots (19 km / h) in waters off New England when whales begin gathering in this area as part of their annual migration . The restriction extends to 20 nautical miles (37 km) around major mid @-@ Atlantic ports .

The speed restriction applies in waters off New England and the southeastern US , where whales gather seasonally :

Southeastern US from St. Augustine , Florida to Brunswick , Georgia from Nov 15 to April 15

Mid @-@ Atlantic U.S. areas from Rhode Island to Georgia from Nov 1 to April 30 .

Cape Cod Bay from Jan 1 to May 15

Off Race Point at the northern end of Cape Cod from March 1 to April 30

Great South Channel of New England from April 1 to July 31

Temporary voluntary speed limits in other areas or times when a group of three or more right whales is confirmed

Scientists will assess the rule 's effectiveness before the rule expires in 2013 .

The Stellwagen Bank area has implemented an autobuoy program to acoustically detect right whales in the Boston Approaches and notify mariners via the Right Whale Listening Network website .

== Threats ==

The leading cause of death among the North Atlantic right whale , which migrates through some of

the world 's busiest shipping lanes while journeying off the east coast of the United States and Canada , is being struck by ships . At least 16 ship @-@ strike deaths were reported between 1970 and 1999 , and probably more remain unreported . According to NOAA , 25 of the 71 right whale deaths reported since 1970 resulted from ship strikes .

A second major cause of morbidity and mortality in the North Atlantic right whale is entanglement in fishing gear . Right whales ingest plankton with wide @-@ open mouths , risking entanglement in any rope or net fixed in the water column . Rope wraps around their upper jaws , flippers and tails . Some are able to escape , but others remain tangled . Whales can be successfully disentangled , if observed and aided . In July 1997 , the U.S. NOAA introduced the Atlantic Large Whale Take Reduction Plan , which seeks to minimize whale entanglement in fishing gear and record large whale sightings in an attempt to estimate numbers and distribution .

In 2012 , the U.S. Navy proposed to create a new undersea naval training range immediately adjacent to northern right whale calving grounds in shallow waters off the Florida / Georgia border . Legal challenges by leading environmental groups including the Natural Resources Defense Council were denied in federal court , allowing the Navy to proceed . These rulings were made despite the extremely low numbers (as low as 313 by some estimates) of right whales in existence at this time , and a very poor calving season .