

Larger Seasonal Speed Zones Could Save Whales

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(PhysOrg.com) -- Larger areas of speed limits for ships around major ports could significantly help North Atlantic right whales' survival, according to a new study led by Duke University scientists.

Expanding seasonal speed-restriction zones around major East Coast ports by 10 nautical miles would significantly reduce the risk of collisions between ships and the critically endangered whales and help their species recover, said Robert S. Schick, lead author of a study in the September issue of the Canadian Journal of Fisheries and Aquatic Sciences.

Collisions with ships are among the greatest threats to the slow-moving whales' survival, especially for pregnant females and nursing mothers, whose migratory route between calving grounds in the tropics and feeding grounds in the Gulf of Maine passes close to many of the busiest shipping ports on the eastern seaboard.

“More than a quarter of known ship-strike mortalities for right whales occur in this migratory corridor,” Schick said. “Estimates of population viability have stressed that if just two females per year can be saved, the [species population](#) growth will become positive.”

Despite years of study and conservation, right whales remain on the brink of extinction, with an estimated species population of fewer than 400.

Conservationists can't cordon off the entire eastern seaboard to protect the whales for the four to five month a year when they migrate, so they have to focus their efforts on areas believed to be the most important habitats.

The problem, Schick explains, is figuring out where those habitats are.

“Because of the low number of whales, the enormous size of their range, and the tremendous distances they swim, there is a critical gap in our understanding,” he said. “We’ve identified some of their ‘home bases’ at particular times of the year, but the space they use within this migratory corridor remains almost entirely unknown.”

To address this gap, Schick and his colleagues employed a sophisticated new Bayesian movement model developed at Duke’s Nicholas School of the Environment. By factoring in known variables such as water depth and distance from shore, and fitting the model with data collected from two female right whales whose movements were tracked for about six months via satellite, the scientists were able to identify large areas of previously unknown suitable habitat.

“We found that the range of suitable habitat extends considerably farther offshore than earlier estimates suggested, reaching well beyond the existing 20-mile seasonal speed restriction zones that are now in place around most major ports,” he said.

Enacting 30-mile-wide speed buffers around ports in the Mid-Atlantic region would protect an additional 15,453 square kilometers of suitable habitat, the model showed.

In 2008, the National Oceanic and Atmospheric Administration issued an 11.5-mile-per-hour speed limit for ships 65 feet or longer that travel within 20 nautical miles of major mid-Atlantic ports, and in areas where

the North Atlantic [right whale](#) breeds, feeds and migrates. Government marine scientists initially had proposed a 30-nautical-mile seasonal buffer zone around the ports, Schick notes, but that recommendation was scaled back by the Bush administration in response to political challenges to the necessity of the measure and cargo companies' concerns that it would cause their ships to lose time and burn more fuel.

Provided by Duke University ([news](#) : [web](#))

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