

# Ship speed limits can save right whales

Environmental groups sue to force US government to expand conservation efforts in North Atlantic.

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A right whale off Florida gets a playful bump from her new calf. Only 450 North Atlantic right whales remain.

Speed limits on ships have been of some help in saving the North Atlantic right whales from being killed in collisions, suggest studies by the US government and independent researchers — and environmental groups are suing to expand the areas where protection measures are in force.

North Atlantic right whales (*Eubalaena glacialis*) are among the most endangered of all marine mammals: despite a recent population uptick, only about 450 remain. Ships are the biggest known killers of right whales, and reduced speeds have been reliably linked to a decrease in collisions and deaths. So in 2008 the US government introduced speed-limit zones known as seasonal management areas (SMAs). Historical data show that whale numbers are concentrated in particular areas of the US East Coast at certain times, such as calving season. At those times, ship traffic in SMAs around major ports and feeding, calving and nursing grounds must not travel faster than 18.5 kilometres per hour.

## Deaths averted

Last month, a team led by Julie van der Hoop, a biological oceanographer at Woods Hole Oceanographic Institution in Massachusetts, published<sup>1</sup> an analysis of right whale deaths from ship strikes between 1990 and 2012. The researchers found that in the zones that were later designated as SMAs, deaths dropped significantly, from 2 per year in 2000–06 to roughly 0.33 per year in 2007–12. Van der Hoop says that other factors must also be at play, given that the decrease began before the SMA designations. Still, she adds, “We’re moving in the right direction in terms of addressing this mortality issue.”

But the study also found that before 2008, only 36% of vessel-strike deaths occurred in zones that would become SMAs. Some 32% of deaths occurred outside these zones — including on unprotected migration routes — but during the times of year that the SMAs would be in effect. “It is discouraging to note areas where we do see a lot of mortality that are currently unprotected,” says van der Hoop.

One key challenge in whale protection — and in analysing the effects of protective measures — is that compliance with SMA rules is quite low. In a study published today<sup>2</sup> in *PeerJ*, researchers remotely tracked the speeds of more than 8,000 vessels travelling in SMAs between 2008 and 2013. Gregory Silber, a biologist who leads large-whale recovery activities for the US National Oceanic and

Atmospheric Administration (NOAA) in Silver Spring, Maryland, and his colleagues found that in the first two years of SMA speed restrictions, vessels complied with the rules on only around 4% of trips. By 2013, after successive programmes notifying ships and operators of the restrictions and enforcing them, compliance had improved to almost 24%.

Notification efforts have included letters sent from the NOAA enforcement office to ship operators; monthly reports on the speed of vessels; and direct radio contact with ships. However, not surprisingly, the most effective boost came from citations and fines for exceeding speed requirements.

### **Bigger is better**

Environmental groups have been pushing to expand right-whale protections, a move that they say is supported by government and independent research. On 10 April, the Center for Biological Diversity (CBD) in Tucson, Arizona, joined three other organizations — the Humane Society of the United States, Defenders of Wildlife, and Whale and Dolphin Conservation — to file a federal lawsuit calling for the government to increase the amount of space designated as critical habitat for the whales under the US Endangered Species Act. Currently, the whales have just over 10,000 square kilometres of critical habitat; the CBD is calling for almost 130,000 square kilometres. NOAA is required by law to issue a formal response by 10 June.

Sarah Uhlemann, CBD's lead lawyer on the case, says that such designation is a critical first step because it can reduce or eliminate expansion of activities that threaten whales — for instance, use of fishing gear that can entangle whales within critical habitat. And the designation would highlight key areas that can be protected by more robust measures, including establishment of SMAs.

The groups first began to petition for critical-habitat expansion in 2009. Shortly afterwards, NOAA acknowledged the need for expanded protection, but the agency has not yet proposed a rule to accomplish it. "The suit is to compel them to get on it," says Uhlemann. "We're hoping the agency will step forward and say, 'Yeah, you're right, we're going to do it'."

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### **References**

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1. van der Hoop, J. M. *et al.* *Conserv. Lett.* <http://dx.doi.org/10.1111/conl.12105> (2014).
  2. Silber, G. K., Adams, J. D. & Fonnesebeck, C. J. *PeerJ* **2**, e399 (2014).