

© 2013 Universities Federation for Animal Welfare  
The Old School, Brewhouse Hill, Wheathampstead,  
Hertfordshire AL4 8AN, UK  
[www.ufaw.org.uk](http://www.ufaw.org.uk)

*Animal Welfare* 2013, 22: 117-121  
ISSN 0962-7286  
doi: 10.7120/09627286.22.1.117

## ***Welfare of whales by-caught in fishing gear or struck by vessels***

*MJ Moore*

Biology Department, Woods Hole Oceanographic Institution, Woods Hole, MA 02543, USA  
Email: [mmoore@whoi.edu](mailto:mmoore@whoi.edu)

**Keywords:** *animal welfare, by-catch, entanglement, gillnet, vessel collision, whale*

---

**Figure 5**



Propeller incisions (with shark scavenging) along the head and chest of right whale GA 2006025 (Florida, USA 2006). Chest incisions penetrated the pleural cavity. Image by Katie Jackson, Florida Fish and Wildlife Conservation Commission, NOAA Fisheries Permit #932-1905-00/MA-009526.

**Figure 6**



Fractured transverse processes off twelve vertebrae from right whale mjm09406 (Nova Scotia, Canada 2006). Image by A Bogomolni, WHOI.

## References

- Allison PA, Smith C, Kukert H, Deming J and Bennett J** 1991 Deep-water taphonomy of vertebrate carcasses: a whale skeleton in the bathyal Santa Catalina Basin. *Paleobiology* 17: 78-89
- Alverson D, Freeburg M, Murawski S and Pope J** 1994 A global assessment of fisheries bycatch and discards. *Fisheries Technical Paper* pp 339. Food and Agriculture Organisation: Rome, Italy
- Campbell-Malone R, Barco SG, Daoust PY, Knowlton AR, McLellan WA, Rotstein DS and Moore MJ** 2008 Gross and histologic evidence of sharp and blunt trauma in North Atlantic right whales (*Eubalaena glacialis*) killed by ships. *Journal of Zoo and Wildlife Medicine* 39: 37-55. <http://dx.doi.org/10.1638/2006-0057.1>
- Cassoff RM, Moore KM, McLellan WA, Barco SG, Rotstein DS and Moore MJ** 2011 Lethal entanglement in baleen whales. *Diseases of Aquatic Organisms* 96: 175-185
- Johnson A, Salvador G, Kenney J, Robbins J, Kraus SD, Landry S and Clapham P** 2005 Fishing gear involved in entanglements of right and humpback whales. *Marine Mammal Science* 21: 634-645. <http://dx.doi.org/10.1111/j.1748-7692.2005.tb.01256.x>
- Moore MJ, Bogomolni A, Bowman R, Hamilton P, Harry C, Knowlton A, Landry S, Rotstein D and Touhey K** 2006 Fatally entangled right whales can die extremely slowly. *Oceans '06 MTS/IEEE* pp 3. 18-21 September 2006, Boston, Mass, USA
- Moore MJ, Knowlton A, Kraus S, McLellan W and Bonde R** 2004 Morphometry, gross morphology and available histopathology in Northwest Atlantic right whale (*Eubalaena glacialis*) mortalities (1970 to 2002). *Journal Cetacean Research and Management* 6: 199-214
- Moore MJ, Walsh M, Bailey J, Brunson D, Gulland F, Landry S, Mattila D, Mayo C, Slay C, Smith J and Rowles T** 2010 Sedation at sea of entangled North Atlantic right whales (*Eubalaena glacialis*) to enhance disentanglement. *PLoS ONE* 5: e9597. <http://dx.doi.org/10.1371/journal.pone.0009597>
- Moore MJ and van der Hoop JM** 2012 The painful side of trap and fixed net fisheries: chronic entanglement of large whales. *Journal of Marine Biology*. <http://dx.doi.org/10.1155/2012/230653>
- NOAA\_2** 2009 *Stock Assessment Report: North Atlantic right whale (Eubalaena glacialis): Western Atlantic stock*. <http://www.nmfs.noaa.gov/pr/pdfs/sars/ao2009whnr-w.pdf>
- NOAA\_I** 2012 <http://www.nero.noaa.gov/whaletrp/plan/disent/>
- PCCS** 2012 <http://coastalstudies.org/what-we-do/whale-rescue/introduction.htm>
- Robbins J and Mattila D** 2001 Monitoring entanglements of humpback whales (*Megaptera novaeangliae*) in the Gulf of Maine on the basis of caudal peduncle scarring. *Unpublished report to the Scientific Committee of the International Whaling Commission: SC/53/NAH25*
- Rommel SA, Costidis AM and Pitchford TD** 2007 Methods for characterizing watercraft from watercraft-induced wounds on the Florida manatee (*Trichechus manatus latirostris*). *Marine Mammal Science* 23: 110-132. <http://dx.doi.org/10.1111/j.1748-7692.2006.0.0095.x>
- RWC** 2011 <http://rwcatalog.neaq.org>
- van der Hoop JM, Moore MJ, Barco SG, Cole TVN, Daoust P-Y, Henry AG, McAlpine DF, McLellan WA, Wimmer T and Solow AR** 2012 Assessment of management to mitigate anthropogenic effects on large whales. *Conservation Biology*. <http://dx.doi.org/10.1111/j.1523-1739.2012.01934>
- Vanderlaan ASM and Taggart CT** 2009 Efficacy of a voluntary area to be avoided to reduce risk of lethal vessel strikes to endangered whales. *Conservation Biology* 23: 1467-1474. <http://dx.doi.org/10.1111/j.1523-1739.2009.01329.x>
- Vanderlaan ASM, Taggart CT, Serdynska AR, Kenney RD and Brown MW** 2008 Reducing the risk of lethal encounters: vessels and right whales in the Bay of Fundy and on the Scotian Shelf. *Endangered Species Research* 4: 283-297. <http://dx.doi.org/10.3354/esr00083>
- Winn JP, Woodward B, Moore MJ and Peterson ML** 2008 Modelling whale entanglement injuries: an experimental study of tissue compliance, line tension, and draw-length. *Marine Mammal Science* 24: 326-340. <http://dx.doi.org/10.1111/j.17487692.2008.00184.x>