

Media Relations

Protecting Whales? Thanks To UNH, There's An App For That






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WhaleALERT, a free app for iPads and iPhones, can be downloaded from the iTunes store. Credit: NOAA

DURHAM, N.H. – Researchers at the University of New Hampshire's Center for Coastal and Ocean Mapping (CCOM) helped develop a new iPad and iPhone application that aims to protect critically endangered North Atlantic right whales from collisions with ships. Kurt Schwehr, affiliate assistant professor, research associate professor Lee Alexander, and research scientist Roland Arsenault, led key technical aspects of the WhaleALERT app launched last week.

The free app, developed by many partners led by the National Oceanic and Atmospheric Administration (NOAA), sends data about right whale detections directly to an iPhone or iPad on a ship's bridge. The app links whale calls detected by a series of listening buoys to captains transiting the busy shipping lanes in and around Stellwagen Bank National Marine Sanctuary at the mouth of Massachusetts Bay.

 
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Numbering between just 350 and 500, North Atlantic right whales are one of the world's most endangered large animals; collisions with ships are a leading cause of right whale deaths.

The UNH researchers leveraged their technical experience to translate whale call data collected by acoustic buoys, deployed and developed by Cornell University's Lab of Ornithology, into information that can be quickly accessed by busy mariners. "We grab the data, push it through a minefield of confusing standards and techno-babble, and get it to people," says Schwehr, who is also a GIS data engineer for Oceans at Google.

Schwehr and Arsenault worked to ensure that the app can use Automatic Identification System (AIS), a communication system onboard all ships, as well as Internet (wireless or satellite) or 3G networks to deliver information about right whales in the vicinity and right whale conservation measures.

Imagine, Schwehr says, you're driving down the highway and you receive a cell phone call that delivers warning of an accident ahead – with global positioning system coordinates. While continuing to drive, you must write down the coordinates and find them on a map to determine where the accident is and how you can avoid it. "Now imagine your car is 900 feet long," he says, noting the difficulty of maneuvering a ship. WhaleALERT transmits the location of any whales directly to a relatively inexpensive and ubiquitous device making it easier for ships to take action.

"This is a huge leap forward in terms of giving this information to mariners in a way that's part of their daily routine," he says, noting that a ship's bridge is a busy place and among the many pressures facing mariners, avoiding whales might be a lower priority. "It has to be easy to use."

The CCOM contribution to WhaleALERT was developed as part of CCOM's Chart of the Future project, a NOAA-funded effort that fuses marine technology with data visualization to maximize mariner safety and efficiency of navigation. Schwehr says WhaleALERT is just one of many possible applications of the software the CCOM team developed.

"My hope is that with the software being open-source and the app being free, this could be used for many situations," he says, including avoiding other endangered marine mammals (manatees are an example) or keeping watch for marine debris or oil spills. "UNH and CCOM are trying to be an enabler for people around the world to solve their own problems." Alexander and Schwehr worked to get the AIS message used for the whale notices accepted into an international standard with the International Maritime Organization

(IMO), thereby ensuring that the technology can be used anywhere in the world.

WhaleALERT has been developed by a collaboration of government agencies, academic institutions, nonprofit conservation groups and private sector industries, led by scientists at NOAA's Stellwagen Bank National Marine Sanctuary. In addition to UNH, collaborating organizations include the sanctuary, Bioacoustics Research Program at Cornell University, EarthNC, Excelerate Energy, EOM Offshore, Gaia GPS, International Fund for Animal Welfare, Massachusetts Port Authority, NOAA Fisheries Service, National Park Service, Cape Cod National Seashore, NYK Lines (North America), United States Coast Guard and the Woods Hole Oceanographic Institution.

Learn more about WhaleALERT here:

http://www.noaanews.noaa.gov/stories2012/20120404_whale_app.html. Download the app from the iTunes store here: <http://itunes.apple.com/us/app/whale-alert-ship-strike-reduction/id511707112?mt=8&ls=1>. Learn more about UNH's Center for Coastal and Ocean Mapping here: www.ccom.unh.edu.

The University of New Hampshire, founded in 1866, is a world-class public research university with the feel of a New England liberal arts college. A land, sea, and space-grant university, UNH is the state's flagship public institution, enrolling 12,200 undergraduate and 2,300 graduate students.

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Images available to download:

<http://www.noaanews.noaa.gov/stories2012/images/Whale-Alert-screen-view-April-2012-full.jpg>

Caption: WhaleALERT iPad display as seen by a mariner approaching Boston Harbor.

Credit: NOAA

http://www.noaanews.noaa.gov/stories2012/images/whalealert_icon_v01_02_512x512.jpg

Caption: WhaleALERT, a free app for iPads and iPhones, can be downloaded from the iTunes store.

Credit: NOAA

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