

Summary report: Tagging and tracking of endangered North Atlantic right whales in Florida waters – February 2014 field season.

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Motivation for proposed research

The endangered North Atlantic right whale migrates to coastal waters off Florida and Georgia during the winter months. The planned construction and use of an undersea warfare training range (USWTR) in the Jacksonville Range Complex off the coast of Florida may result in interactions with this species on its winter calving ground. Aerial and vessel based visual surveys and passive acoustic monitoring are currently being used to detect right whales in the coastal waters of Florida and Georgia, as well as at the site of the planned USWTR. These methods give the positions of individual whales but only provide information about location at a single point in time. Currently there are few data on the movement patterns of individuals, including movement rates both in North/South and East/West directions, dive depths, and dive durations, and the rates of sound production by individuals. These data are important to assess the effectiveness of current monitoring techniques and to assess the potential for disturbance to right whales as the training range construction and implementation commences.

Proposed study

We proposed a multi-year targeted tagging program to fill in these knowledge gaps, by collecting horizontal movement, dive profile, and vocal behavior from individual right whales using non-invasive suction cup tags (anticipated tag duration from 1-36 hours) including fastloc GPS technology, time depth recorders (TDR), 3-D movement measurements, and acoustic recordings. NMFS permits to conduct this research are held by Duke University with Dr. Nowacek as lead investigator and Dr. Parks as co-investigator. IACUC approval was obtained from both Duke University and Syracuse University IACUC committees prior to data collection.

Preliminary results from February 2014

The first field season was conducted in February 2014 with the field team, consisting of team members from Duke University and Syracuse University, operating out of Fernandina Beach, FL. Weather conditions were suitable for tagging operations on 11 days during the month, and right whales were located on 9 of these days. Tags were successfully deployed on 7 individual right whales with durations approaching 12 hours. (Table 1, Figure 1). Individual whales showed variation in movement patterns along the coastline (Figure 2).

Analyses of the data, including horizontal movement patterns, dive statistics and acoustic data, are ongoing and are being conducted under the supervision of Dr. Nowacek and Dr. Parks with students and technicians in their laboratories. Preliminary results of this work were reported at the [Navy's annual marine species monitoring Atlantic technical review meeting](#) in March 2014. Additional tagging sessions are anticipated in February 2015 and 2016. Additional information and results will be available through the [Navy's marine species monitoring web portal](#) as they become available.

Table 1. Summary of data collection from February 2014

Date	Attempts	Tag on?	Whale ID	Mom/calf	Duration
3-Feb-14	1	No	2645	X	--
9-Feb-14	1	Yes	2123	X	1:35
10-Feb-14	2	Yes	2040	X	5:30
16-Feb-14	2	Yes	4057	--	3:36
17-Feb-14	3	No	2745	X	--
18-Feb-14	1	Yes	3157	X	11:36
19-Feb-14	2	Yes	2503	X	2:56
23-Feb-14	2	Yes	3546	X	6:41
25-Feb-14	3	Yes	2645	X	5:35

Figure 1. Map of survey effort (colored lines). Shaded green box represents planned USWTR location with visual survey study area (dashed box)

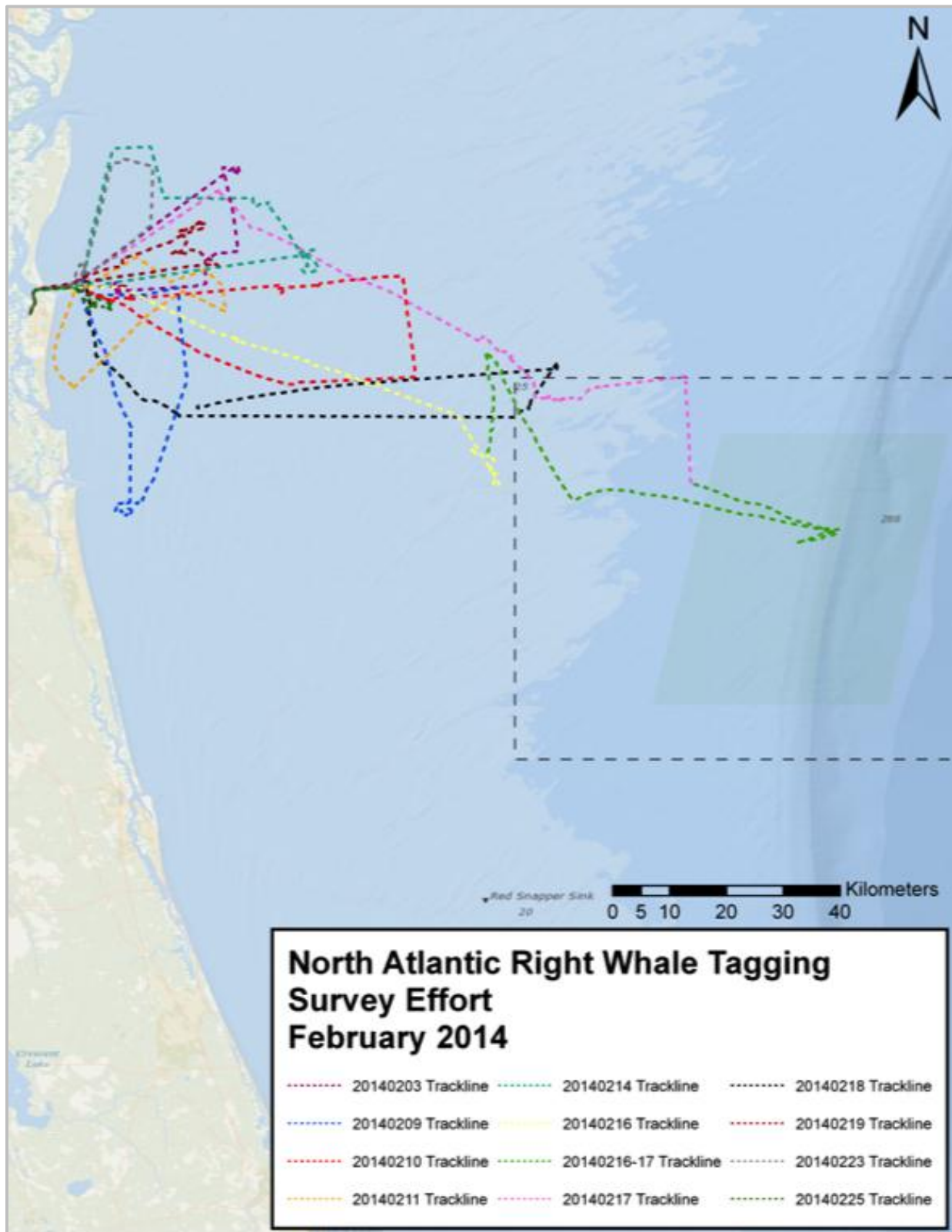


Figure 2. Map of tagging locations and Whale ID numbers

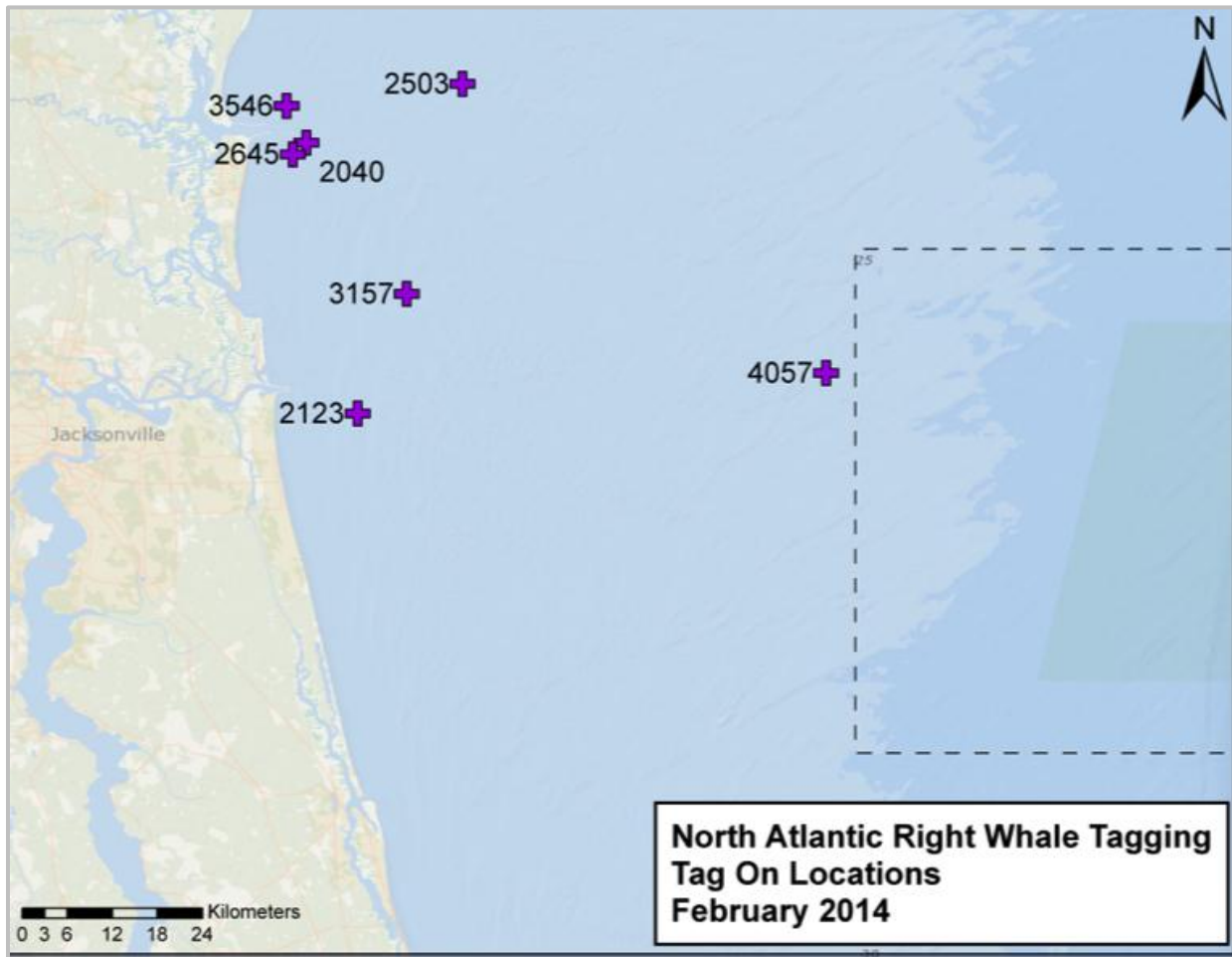


Figure 3. Fastloc GPS tag tracks from February 10 (green) and February 16(orange), 2014. The inset map shows the position of the enlarged map in red, relative to the training range location.

