North Atlantic Right Whale Report Card

Pettis, H.M.¹; Pace, R.M.III²; Schick, R.S.³; Hamilton, P.K.¹

¹ Anderson Cabot Center for Ocean Life at the New England Aquarium, Central Wharf, Boston, MA, USA 02110
² Grizzlywhaler Consulting Services, 137 W. Pelham Road, Shutesbury, MA 10702
³ Marine Geospatial Ecology Lab, Nicholas School of the Environment, Duke University, 9 Circuit Drive, Durham, NC 27708

hpettis@neaq.org

North Atlantic Right Whale Consortium members agreed in 2004 that an annual “report card” on the status of right whales would be useful. This report card includes updates on the status of the cataloged population, mortalities and injury events, and a summary of management and research efforts that have occurred over the previous 12 months. In 2017, five right whale calves were born. There were no first time mothers and the average calving interval was 10.2 years. There were 15 documented right whale mortalities in the last 12 months: three in the United States and 12 in Canada. Causes of death included blunt force trauma (five), entanglement (one), and probable entanglement (one). Cause of death was undetermined for eight whales. Eight new live entanglement cases were documented including three in the United States and five in Canada. There were no new non-lethal vessel strikes documented. Twelve severe injury cases, all of which were entanglement related, were documented since the 2016 report card. Research and management initiatives were varied and will be summarized. The best population estimate for the North Atlantic right whales in 2016 (the most recent year for which photo identification data analyses are deemed complete) is 451 individuals.
North Atlantic Right Whale
Report Card 2017

Heather M. Pettis¹, Richard M. Pace III², Robert S. Schick³, Philip K. Hamilton¹

¹Anderson Cabot Center for Ocean Life at the New England Aquarium, Central Wharf, Boston, MA, USA 02110
²Grizzlywhaler Consulting Services, 137 W. Pelham Road, Shutesbury, MA 01070
³Marine Geospatial Ecology Lab, Nicholas School of the Environment, Duke University, 9 Circuit Drive, Durham, NC 27708
North Atlantic Right Whale Identification Database “Catalog”

- Over 73,000 records of 723 (not all currently alive) whales from 1935 to present
- Nearly 500 different contributing organizations/people
- Data accessible via Consortium data access protocol
Reproduction
- age of reproductive females (sexual maturity/senescence)
- age of males at sexual maturity based on paternity data
- no. of reproductive females
- no. of nulliparous/uniparous females
- annual calf number
- inter birth interval
- fecal reproductive hormones
- non Fundy females

Survival
- age of known mortalities
- models of survival and population growth

Human Impacts
- entanglement scars
- ship strike scars

Behavior
- mating/social group composition (age/sex)
- weaning time
- associations
- male gunshot sounds
- individual response to sound playback

Genetics
- paternity & maternity
- population sub structuring (along habitat areas & matrilines)
- population size and missing whales
- identification of dead whales
- genetic characteristics of nulliparous females
- error rate check of Catalog

Health
- lesions analyses
- visual health assessment
- photogrammetry
- biotoxin exposure
- pathogens (e.g. protozoa)
- blubber thickness
- fecal and blow stress hormones

Habitat use and population sub structuring
- fundy vs. non-Fundy females
- missing whales
- changes in individual habitat use (age and sex)
North Atlantic Right Whale Report Card 2017

Purpose

- Essential population monitoring and priorities
- Population status
  - Estimate of living population
  - Reproduction
  - Mortalities
  - Live entanglement cases and vessel strikes
- Impact of injury on the health of right whales
- Survey sightings
- Research and management activities
- Right whale publications and reports
Population status
-Estimate of Living Population in 2016: 451
North Atlantic Right Whale Report Card 2017

Reproduction
- Five calves born
- 0 first time moms
- ~7% available females calved
- 10.2 yrs avg calving interval

<table>
<thead>
<tr>
<th>Year</th>
<th>Calf Count</th>
<th>Available Cows/% to Calve</th>
<th>Average Interval</th>
<th>Median Interval</th>
<th>First Time Moms</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>23</td>
<td>59/39.0%</td>
<td>3.2</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>2009</td>
<td>39</td>
<td>58/67.2%</td>
<td>4.0</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>2010</td>
<td>19</td>
<td>45/42.2%</td>
<td>3.3</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2011</td>
<td>22</td>
<td>48/45.8%</td>
<td>3.7</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2012</td>
<td>7</td>
<td>64/10.9%</td>
<td>5.4</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>2013</td>
<td>20</td>
<td>83/24.1%</td>
<td>4.6</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>2014</td>
<td>11</td>
<td>85/12.9%</td>
<td>4.4</td>
<td>4.5</td>
<td>1</td>
</tr>
<tr>
<td>2015</td>
<td>17</td>
<td>80/21.3%</td>
<td>5.5</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2016</td>
<td>14</td>
<td>81/17.3%</td>
<td>6.6</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>2017</td>
<td>5</td>
<td>71/7.04%</td>
<td>10.2</td>
<td>8</td>
<td>0</td>
</tr>
</tbody>
</table>
Mortalities
- 15 deaths documented
  6 Females, 9 Males

2017 Right Whale Mortalities by Cause and Location

- **Entanglement**: 8 deaths
  - 6 Canada
  - 2 US

- **Vessel Strike**: 5 deaths
  - 4 Canada
  - 1 US

- **Unknown**: 2 deaths
  - 2 Canada
Entanglements & Vessel Strikes
- 8 live entanglement cases
  3 Females, 4 Males, 1 unknown
- 0 non-fatal vessel strikes
North Atlantic Right Whale Report Card 2017

Summary

Population in decline
Mortalities ↑ while Reproduction ↓
Calving intervals 3x expected
Entanglements and Vessel Strikes ↑

“Alone we can do so little; together we can do so much”
— Helen Keller
Please submit your sightings to the NARWC Photo-ID database (Catalog)

The Identification database contains all known photographed sightings of right whales since 1935.

All sightings and all images are extremely important. Unless you submitted to RWData@neaq.org, don’t assume that NEAq has all the images and data. NEAq was able to match five of the nine floating carcasses in the Gulf of St. Lawrence this past summer because of small marks, scars or features from the ventral head, flippers and bodies.

We only need (at a minimum) date, time and accurate location data in addition to photos for sightings to be incorporated.

Submitting is easy – contact rwdata@neaq.org

Thumb drives and return envelopes for submissions available today!