

# Western and Central Scotian Shelf Basins IMMA

## Summary, continued.

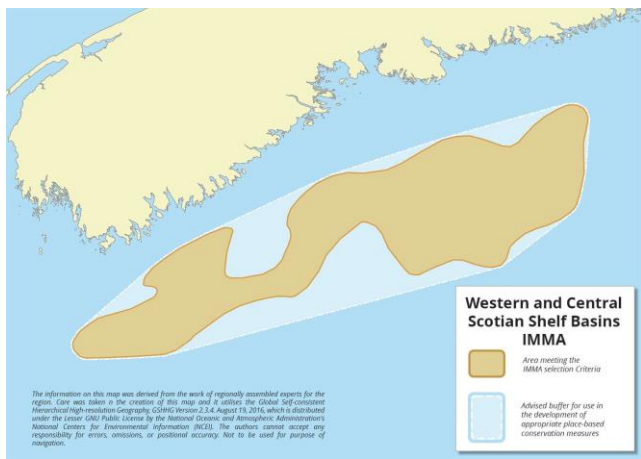
area. Multiple other marine mammal species are also known to regularly occur within and around these basins.

## Description:

Roseway, LeHave and Emerald basins are located on the Scotian Shelf off Nova Scotia, Canada. This area encompasses much of these large oceanographic basins with physical attributes and oceanographic processes that concentrate cetacean prey, including *Calanus* copepods, the primary prey of North Atlantic right whales. This area includes the identified Roseway Basin Critical Habitat boundaries for North Atlantic right whale (#NWATLO\_CCH\_002), which is recognized as an International Maritime Organization (IMO) Area To Be Avoided (ATBA), and parts of the Ecologically or Biologically Significant Areas: "Emerald Basin and the Scotian Gulf" (#NWATLO\_EBSA\_033), "Emerald Western Sable Banks Complex" (NWATLO\_EBSA\_034), and "LaHave Islands and Surrounding Areas" (NWATLO\_EBSA\_049).

## Criterion A: Species or Population Vulnerability

The primary Qualifying Species for this area is the North Atlantic right whale (*Eubalaena glacialis*), which is considered the most endangered of the large whales in the Northwest Atlantic and is listed as Critically Endangered (CR) according to the global IUCN Red List (Cooke, 2020). Additionally, the



## Area Size

14,046 km<sup>2</sup>

## Qualifying Species and Criteria

North Atlantic Right Whale – *Eubalaena glacialis*

Criterion A; B (2); C (2)

## Other Marine Mammal Species Documented

*Balaenoptera acutorostrata*, *Balaenoptera musculus*, *Balaenoptera physalus*, *Cystophora cristata*, *Halichoerus grypus*, *Leucopleurus acutus*, *Megaptera novaeangliae*, *Pagophilus groenlandicus*, *Phocoena phocoena*

## Summary

The Western and Central Scotian Shelf Basins IMMA is located on the Scotian Shelf off Nova Scotia, Canada. It includes three large oceanographic basins (Roseway, LeHave and Emerald basins), extending approximately 250 km over the western and central Scotian Shelf. This area encompasses a well-known aggregation area for the Critically Endangered North Atlantic right whale (*Eubalaena glacialis*), where many sightings and acoustic detections have occurred, and where individuals have been observed socializing and feeding. High concentrations of the primary prey of right whales, *Calanus* copepods, are present in this



Figure 1: A Critically Endangered North Atlantic right whale (*Eubalaena glacialis*) mom and calf pair sighted in Roseway Basin, located within the Western and Central Scotian Shelf Basins IMMA. Photo credit: H. Moors-Murphy.

Canadian Species at Risk Act (the Canadian legislation for protection of at-risk species) lists the NARW as Endangered (DFO, 2014).

## **Criterion B: Distribution and Abundance**

### **Sub-criterion B2: Aggregations**

Roseway Basin was identified as Critical Habitat for North Atlantic right whales under the Canadian Species at Risk Act based primarily on a concentration of sightings in the area (DFO, 2014). Data from field studies provide a strong indication that Roseway Basin is an important aggregation area where right whales have been observed socializing and feeding. Though there have been increased sightings of right whales in the Gulf of St. Lawrence and fewer observations in Roseway Basin in recent years (Meyer-Gutbrod et al., 2022; Record et al., 2019), there has also been a shift in survey effort with

relatively limited coverage off southwestern Nova Scotia (DFO, 2019, 2020). Ongoing passive acoustic monitoring efforts in and around Roseway and Emerald basins demonstrate that basins of the western and central Scotian Shelf remain important for right whales with relatively high frequencies of acoustic detections in comparison to deeper waters along the Scotian Slope, particularly in spring, summer and fall. In addition to the Bay of Fundy/Grand Manan Basin region, these areas within the IMMA have the highest acoustic presence of right whales off eastern Canada outside of the Gulf of St. Lawrence (Davis et al., 2017; Durette-Morin et al., 2022; Moors-Murphy et al., 2025).

These basin areas overlap the distributional range of many other marine mammal species that occur off eastern Canada. Other baleen whales such as blue, fin, sei, minke (*Balaenoptera acutorostrata*), and

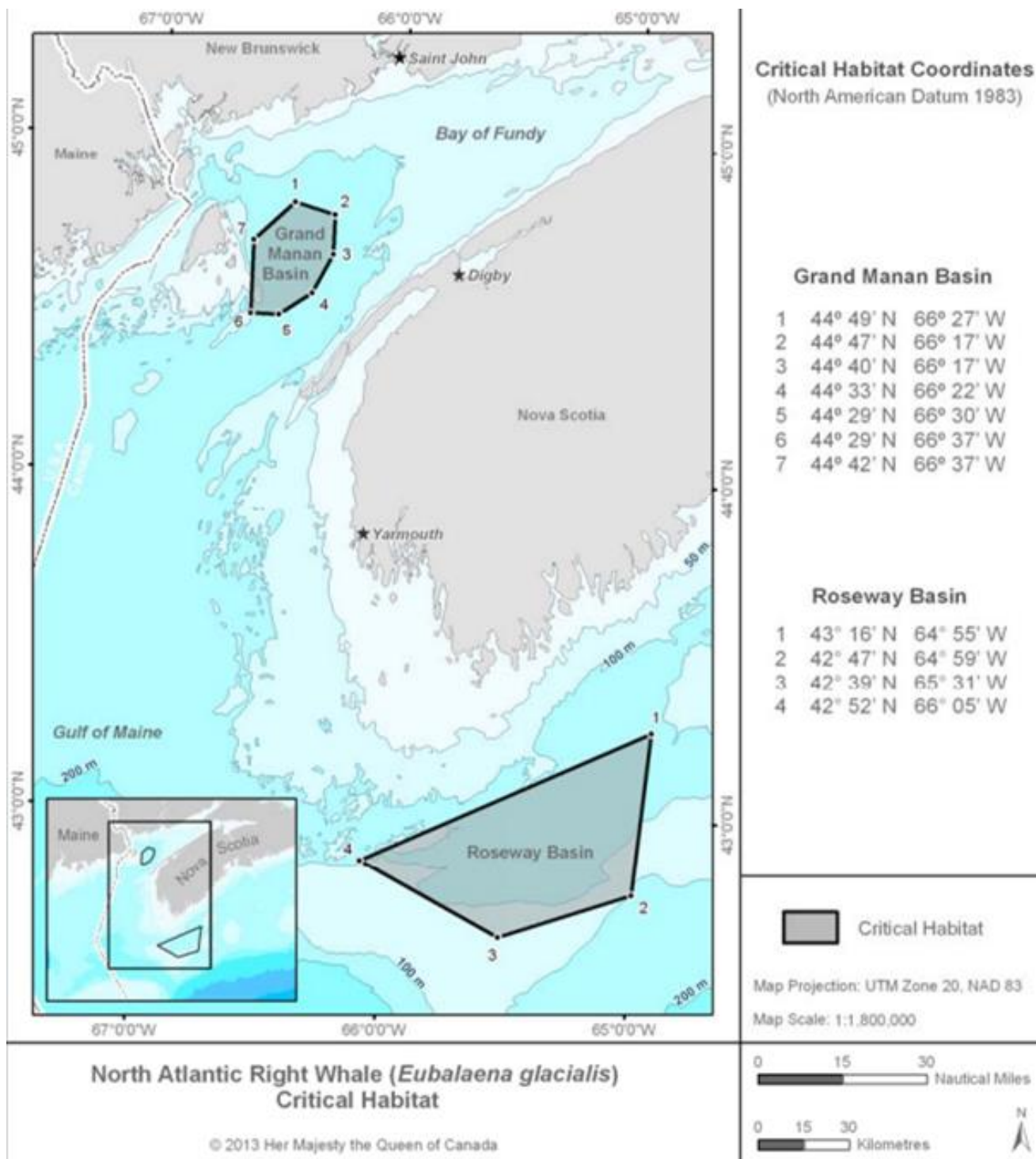


Figure 2: Boundaries of North Atlantic right whale (*Eubalaena glacialis*) Critical Habitat identified and protected under the Canadian Species at Risk Act within Grand Manan Basin and Roseway Basin. Roseway Basin is an important aggregation area for this Critically Endangered species located within the Western and Central Scotian Shelf Basins IMMA. Excerpt from: DFO (2014).



Figure 3: A surfacing North Atlantic right whale (*Eubalaena glacialis*). This Critically Endangered species has been observed socializing and feeding within the Western and Central Scotian Shelf Basins IMMA. Photo credit: H. Moors-Murphy.

humpback whales (*Megaptera novaeangliae*); sperm whales; multiple dolphin species including pilot whales (*Globicephala melas*), Atlantic white-sided dolphins (*Lagenorhynchus acutus*), white-beaked dolphins (*Lagenorhynchus albirostris*); and harbour porpoise (*Phocoena phocoena*), are known to regularly occur within and around the basins (Gomez et al., 2020; Davies et al., 2020; Johnson, 2022), but the relative importance of the western and central Scotian Shelf to these other species is not well studied.

### **Criterion C: Key Life Cycle Activities**

#### **Sub-criterion C2: Feeding Areas**

North Atlantic right whales have been observed feeding in Roseway Basin. The combination of physical attributes and oceanographic processes that occur in this area concentrate their primary prey,

*Calanus* copepods, within the basin and particularly along the southern slope of the basin, making this basin a uniquely lucrative area for feeding right whales (Davis, 2013, 2014). Davis et al. (2014) present evidence to support a strong rationale for expanding the Critical Habitat to the east to better encompass the *Calanus* distribution around the basin and thus the right whale feeding area. While survey efforts and sightings data have been limited off southwest Nova Scotia in recent years, acoustic detections demonstrate that right whales are detected both within the Critical Habitat boundaries as well as to the east. The relatively high frequency of acoustic detections in Roseway and Emerald basins (Davis et al., 2017; Durette-Morin et al., 2022; Moors-Murphy et al., 2025), combined with *Calanus* modelling study results (Plourde et al., 2024) suggest that basins of the western and central Scotian Shelf support right whale foraging.

## Supporting Information

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