

Mammals of Prince Edward Island AND ADJACENT MARINE WATERS



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Young Grey Seal with its "beater" coat. (Courtesy of Charles Caraguel, CWHC)



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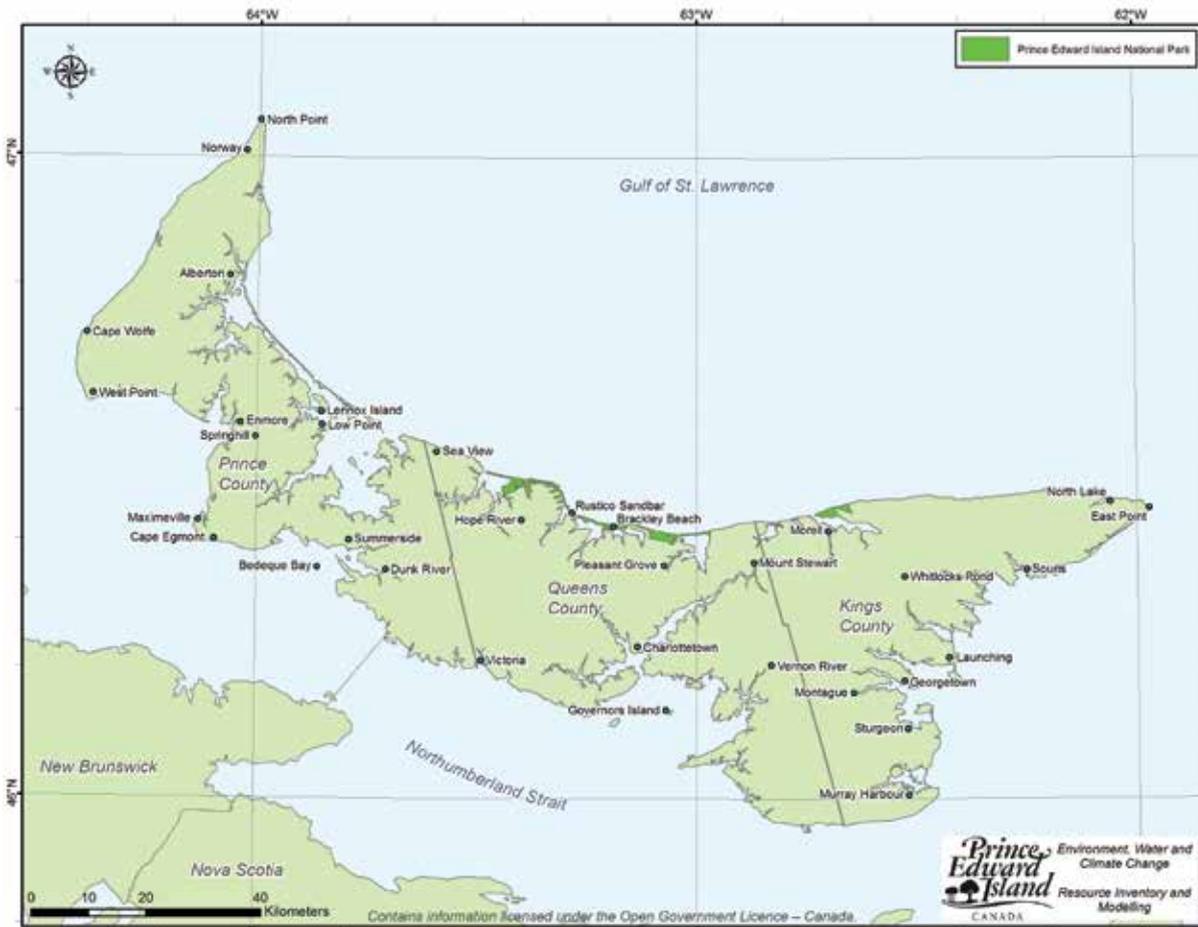
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INTRODUCTION



Map of Prince Edward Island

The mammal fauna of Prince Edward Island (PEI) is so poorly known that since 1980 several native species have been recorded for the first time on the Island and in its marine waters. These include the Water Shrew, Eastern Coyote, Hoary Bat, Northern Myotis, and Sowerby's Beaked Whale. Many Island residents are not familiar with the mammal species of PEI; most do not realize that the nocturnal Northern Flying Squirrel is common in Island woodlands, or that introduced mammals like the Raccoon and Striped Skunk were first imported for the purpose of fur-farming. When the largest mammal to have ever lived on earth, the

Blue Whale, drifted ashore at Nail Pond in 1987, it was front-page news, but the unheralded Pygmy Shrew, the second-smallest mammal in the world, can also be found on PEI.

This book includes accounts of the 28 species of terrestrial mammals native to PEI. Of these, one species has been extirpated and reintroduced, while a second extirpated species is now recolonizing the province. Five other species remain extirpated. In addition, five introduced (non-native) terrestrial species have established self-sustaining populations in the wild on the Island since Europeans arrived. We also include information on one failed introduction and two adventive species (present in low numbers but no population established). The historical presence of the North American Moose on PEI remains unlikely and scientific confirmation of Smoky Shrew presence is desirable. We also include 29 species of marine mammals (walrus, seals, and whales) that have been observed in the Gulf of St. Lawrence and have either been recorded on or off PEI shores, could conceivably be recorded in the future, or are now extirpated.

The terrestrial mammal community of PEI has been influenced by a combination of events, some natural, others of human origin. Glaciers that once covered the Island melted about 10,000 years ago. This allowed mammals and other life forms to recolonize the now ice-free land across a broad bridge of land from New Brunswick and Nova Scotia. Gradually, this land bridge flooded to become the Northumberland Strait, preventing those mammals that were late arrivals to the region from colonizing PEI naturally. Though only 13 km in width, this saltwater Strait now separates most terrestrial mammal populations on PEI from the adjacent mainland. The Eastern Coyote is an apparent recent exception, having crossed the Strait via ice floes. Surrounded by saltwater, and isolated on an island, populations of PEI mammals are particularly vulnerable to human impacts. Thus, PEI has an unenviable record of extirpated mammal

species, which includes the Woodland Caribou, Wolf, Black Bear, American Marten, River Otter, Canada Lynx, and Atlantic Walrus. No other Canadian province has lost such a large proportion of its large mammal species since European colonization. The conversion of the province from a forested to a largely (70%) agricultural landscape by 1900 resulted in the loss of most mammals that required large blocks of undisturbed forest habitat. Unregulated hunting and trapping also contributed, and settlers persecuted some species they deemed pests. Today, 18th-century reports of caribou herds wandering the woodlands of PEI challenge the imagination. Conversely, the shortage of historical records of American Beaver seems a mystery. But not all losses are historical. Today some once abundant bat populations are endangered due to an invasive fungus believed introduced unwittingly to North America by humans. The result is that two PEI bat species were recently listed as endangered in Canada.

Less was written historically about marine mammals due to the shorebound nature of most observers, and a general ignorance about marine life in the region. Nevertheless, early accounts allow us to imagine herds of Atlantic walrus dredging clams from the shallows of the southern Gulf of St. Lawrence and hauling out on the Sandhills of Prince County, PEI. The archaeological record indicates both walrus and seal harvests by Indigenous peoples, while Europeans recorded the “grampus” (likely dolphins or Harbour Porpoise) in the bays. In the 20th century, many marine mammals, especially large whales and some seals, were so rare due to prior centuries of human exploitation that any sightings or strandings in the Gulf were recorded. While some previously depleted marine mammal populations have made a comeback due to protection, today others may be again declining due to climate change. Ice-dependent Harp and Hooded Seals may eventually retreat from the warming Gulf of St. Lawrence. Conversely, Grey Seal populations continue to expand. The recent use of the southern

Gulf by the endangered North Atlantic Right Whale has highlighted the difficulties of protecting a species alongside the commercial fishing that sustains so many communities in the Maritimes.

For several reasons, some mammals present, or possibly present, on PEI are not included in this book. Species occurring on PEI only as domesticated mammals are not included here, although their bones may be encountered frequently, and some species are prominent across the PEI landscape, including cows, horses, pigs, sheep, goats, even llamas. Fenced wildlife species like Bison are akin to domestic cattle, never roaming in the wild. This account also excludes the domestic cat, that when free-ranging or feral has devastated island wildlife populations elsewhere. Occasionally, escaped wild boar are reported on PEI, but we can be thankful there are no permanent populations. Porcupine are sometimes found dead on PEI roads, road kills that are believed to have been retrieved from the adjacent mainland and transported to the Island to surprise friends and neighbours. Porcupine specimens on shorelines presumably floated ashore after drowning. The Fisher was described as present on PEI in the 1950s, but there are no previous historical records and the Fisher could at that time be purchased from fur farmers elsewhere in North America. If individuals were released, they have not survived. There are no confirmed Cougar reports on PEI, either historical or modern. Bat researchers with bat detectors have recorded for the first time either the Silver-haired Bat or the Big Brown Bat on PEI. Although both species are known as specimens from New Brunswick, it is not possible to separate the species on the basis of echolocation call alone. Confirmation of one or both species awaits future research. Likewise, a possible sighting of the wide-ranging Red Bat at Fortune, PEI, in 1954, has not been confirmed.

The decline of bats is of concern across Canada. The survival of two bat species on PEI, the Little Brown Myotis and Northern Myotis, will depend

on the ability of these species to combat the fungal disease now devastating bat populations across North America. However, there are reasons to be optimistic about the future of mammals and mammal study on PEI generally. In the past 70 years, much cleared, but marginal, farmland, has reverted to forest that is suitable habitat for mammals native to PEI. Local knowledge has been enhanced by the work of the Canadian Wildlife Health Cooperative, Parks Canada, universities and other agencies, along with individuals such as Dan McAskill whose research on Red Squirrels and Northern Flying Squirrels informs this volume. The use of new and refined study techniques on land and in the sea will continue to reveal more about the secretive lives of wild mammals on and around PEI, and improve our ability to conserve our native mammals.

Humpback Whale

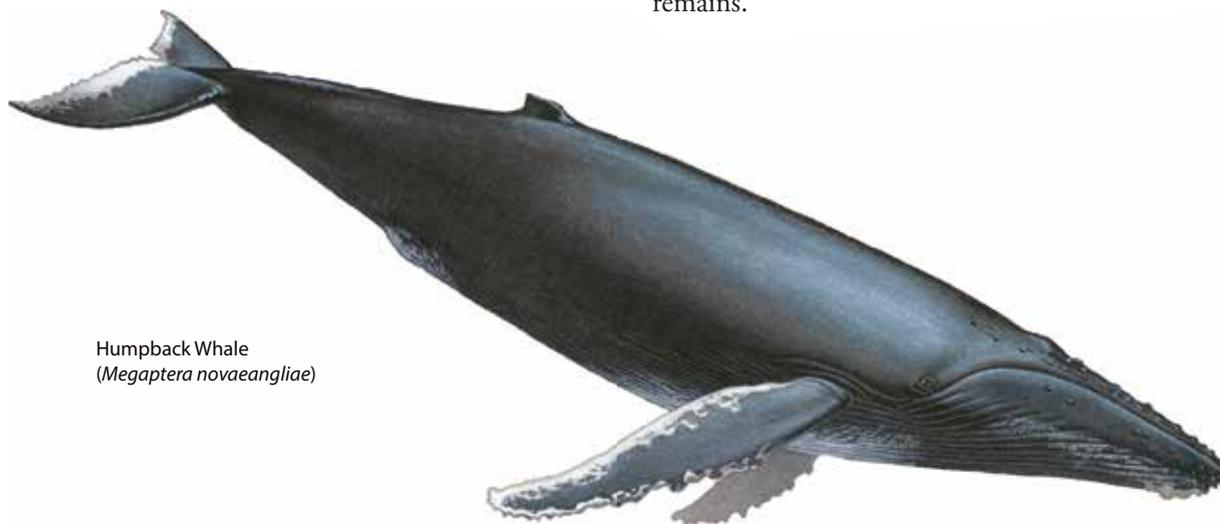
Megaptera novaeangliae

FRENCH NAME: Rorqual à bosse

MI'KMAQ NAME: putup [whale] pronounced "buh duhb"

DESCRIPTION

The Humpback Whale is a relatively short and stout baleen whale with a uniformly black back. Its pectoral flippers are the largest appendages of their kind of any known animal, being 25–33% of total body length (Deméré 2014). The leading edge of the massive slender flippers are serrated and often encrusted with barnacles. The trailing edge of the caudal flukes are likewise serrated, and, in northern populations, are white on both the dorsal and ventral surfaces. The ventral surface of the body is variably coloured, from black to white or mottled black and white. The dorsal fin can vary greatly, being low and blunt or tall and falcate. Ventral throat grooves vary from 12 to 36, the lowest number among any baleen whale species, and are set more widely apart



Humpback Whale
(*Megaptera novaeangliae*)

than other whale species. Rounded subcutaneous knobs, each encompassing a sensory hair, are present in rows on the dorsal surface of the snout, chin, and mandibles (Watson 1981; Reeves et al. 2002; Naughton 2012). Dental Formula: 0/0; baleen plates 270–400.

MEASUREMENTS

Total length (m): 15–17; weight (kg): 30,000–34,000.

GLOBAL RANGE

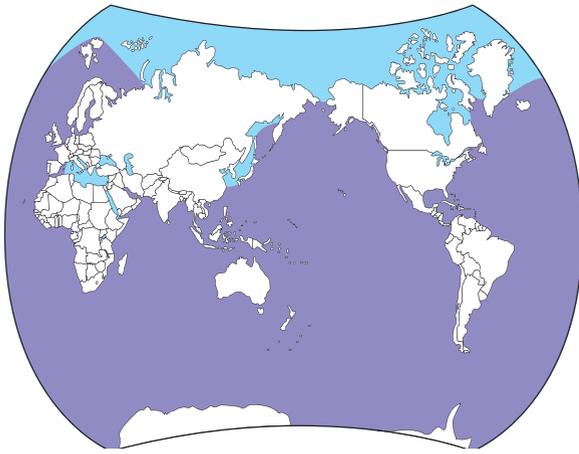
Cosmopolitan, occurring in all the oceans of the world, but with only rare occurrences into the Mediterranean (Reeves et al. 2002; Deméré 2014). Undergoes seasonal migrations from low-latitude waters, where mating and calving takes place, to the colder waters of higher latitudes where summer feeding occurs. Although primarily a coastal species, on summer and wintering grounds this species migrates over deep waters, well offshore (Naughton 2012).

STATUS IN GULF

Uncommon in the Gulf. Humpbacks are Secure (S5), common, widespread, and abundant in the Atlantic Ocean in Canada. COSEWIC lists this Western North Atlantic population as Not at Risk, but a listing of Special Concern under the federal Species at Risk Act remains.

HISTORY IN GULF

Humpbacks are regular but uncommon in the Gulf of St. Lawrence and largely restricted to the waters north off western NF and north of Anticosti Island. Although the species occurs rarely at the mouth of

Distribution of the Humpback Whale (*Megaptera novaeangliae*)

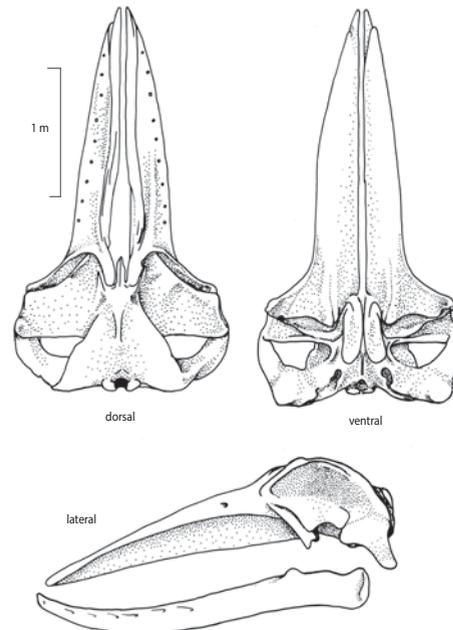
the St. Lawrence, it has been reported off the Gaspé (Edds & MacFarlane 1987; Kingsley & Reeves 1998), where there appears to be early summer congregations (Comtois et al. 2010). In the Gulf, adult Humpbacks generally avoid shallow waters, but juveniles may move closer to shore (Doniol-Valcroze 2001). Nonetheless, Humpbacks rarely strand, perhaps because of an ability to navigate in shallow water (Watson 1981). There were no strandings of Humpbacks recorded on PEI 1990–2008 (Nemiroff et al. 2010). While the probability of a Humpback Whale appearing in PEI waters is low, Humpback numbers in the Gulf have been increasing since the early 2000s (Comtois et al. 2010).

ECOLOGY

Humpbacks have been better studied than any other species of large whale. Northern hemisphere Humpbacks make migratory round trips of 6,000–14,000 km and more annually. The species is known to make the longest annual migrations of any mammal (Deméré 2014). Northern Humpbacks winter on common breeding grounds and then disperse to a variety of summer feeding areas. Genetic data suggests matrilineal fidelity to summer feeding waters. Calves learn the route from their mothers and return to the same areas year after year. Dive patterns between

the summer and winter grounds vary; dives on the summering grounds are relatively short, usually lasting less than 5 minutes, whereas dives on the wintering grounds are typically 10–15 minutes and may be much longer. These longer dives seem to be associated with sleeping or singing bouts, since essentially no feeding occurs on the wintering grounds. Maximum lifespan has been estimated at 48 years (Naughton 2012; Deméré 2014).

The Humpback has undergone an impressive recovery from commercial exploitation following implementation of a whaling moratorium in 1986. As of 1992–93, the North Atlantic population was estimated at 10,752 and was increasing at 3.1% annually. Threats to this species include those faced by all large whales: entanglement in fishing gear, ship strikes, noise pollution, and changing ocean conditions (Deméré 2014).



Skull of Humpback Whale
(adapted from Figures 4–6 in
Winn and Reichley 1985)

DIET

Humpbacks feed mainly on krill and small schooling fish, including herring, Atlantic Mackerel, Sand Lance, anchovies, Capelin, Pollock, and others. Mixed aggregations of planktonic and benthic crustaceans have also been reported from Northern Hemisphere Humpbacks. The latter feeding strategy is unusual for a rorqual and has led to sand and gravel being reported from Humpback stomachs. The coarseness of Humpback Whale baleen prevents this species from taking very small prey (Naughton 2012; Deméré 2014).

REPRODUCTION

Males and females reach sexual maturity at 4–5 years and at body length of about 1,000–1,200 cm for females and 1,000–1,150 cm for males. Reproduction, like most large whales, is seasonal, with breeding and parturition taking place in warmer, low-latitude waters. A single calf is born after a gestation period of about 11–11.5 months. Calves are weaned at 6–10 months and may remain with the mother for a year. Females typically give birth every 2–3 years but some females have been known to produce a calf annually (Winn & Reichley 1985; Naughton 2012; Deméré 2014).

BEHAVIOUR

The Humpback is well known for its impressive aerial displays that include breaching, lobtailing, spyhopping, and flipper slapping. Some of these behaviours serve a communication function, while others are associated with feeding. Co-operative feeding behaviour that may involve as many as 15 whales includes the production of bubble nets that serve to concentrate schooling fish. Whales release bubbles from below that create a curtain of bubbles as they rise. Loud feeding calls further “corral” fish before whales lunge-feed into the centre of the mass. Behavioural repertoires in higher vertebrates are of course not entirely instinctual. Some are learned from parents, but there is also evidence that in some whales certain behaviours are “culturally” transmitted. Lobtail feeding, in which Humpbacks

slap the water surface above a school of fish before diving to produce a bubble net, appears to be one such behaviour (Winn & Reichley 1985; Deméré 2014). Males on the low-latitude breeding grounds engage in complex vocalizations that are believed to both attract females and discourage competing males. Male songs typically last 10–20 minutes, but may last for hours or even days (Deméré 2014). While all males within an area sing the same song, over a season some variation is introduced and songs gradually change and evolve. There is also some singing by males during migration to and from the breeding grounds and both males and females produce a variety of other sounds during feeding, migration, and the breeding season (Naughton 2012).