

# FISHERIES RESEARCH BOARD OF CANADA

## Atlantic Biological Station

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## Seals of the Canadian East Coast

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### Classification

Seals belong to an order of mammals called the Pinnipedia, which is closely related to the land carnivores (dogs, bears, cats, otters, etc.). The order is divided into three families:

- (1) "Eared" seals (Otariidae) containing the fur seals and sea lions of the Pacific coast and Southern Hemisphere. Seals seen in circuses and zoos usually belong to this family.
- (2) Walruses (Odoboenidae) of the Arctic and Subarctic.
- (3) "Earless" or "hair" seals (Phocidae) widely distributed throughout the Northern Hemisphere.

The eared seals are not represented on our east coast, and there is only a rare occurrence of the walrus south of the Strait of Belle Isle. All seals in our Atlantic waters belong to the "hair" seal family.

The eared seals and walruses both possess the ability to turn the hind limbs or flippers forward for use in movement on land. This is one of the characteristics which distinguish them from the hair seals whose smaller hind limbs cannot be turned forward and are not used for movement on land.

### Six Eastern Canadian seals

Four species of hair seal commonly occur in the Canadian east-coast waters south of the Strait of Belle Isle. Two of these, the **Harbour or Bay seal** and the **Great Gray or Horse-head seal**, are resident in this area throughout the year. The other two, the **Harp or Saddleback seal** and the **Hooded or Bladdernose seal**, are migratory, spending the late winter and early spring in the Gulf of St. Lawrence and off Newfoundland, and the summer and fall in the Arctic and Subarctic. Two other species, the **Square-flipper or Bearded seal**, and the **Ringed or Jar seal**, are primarily resident in the Arctic and Subarctic, but may occasionally occur in the Gulf of St. Lawrence and off Newfoundland. More detailed information on Arctic and Subarctic seals is contained in Bulletin No. 85 of the Fisheries Research Board of Canada (see footnote) which can be obtained by writing to the Department of Fisheries, Ottawa, Ontario.

"The Pinnipedia of the Arctic and Subarctic" by M. J. Dunbar, Bulletin No. LXXXV, Fisheries Research Board of Canada, Ottawa, 1949.

### The fishery for the migratory species

The **Harp** seal herds which occur in the early spring on the ice in the Gulf of St. Lawrence and on the east coast of Newfoundland form the basis of the commercial sealing industry. "Harps" are also taken in small numbers in the fall and late spring along the lower North Shore of the Gulf and in parts of Newfoundland by means of nets set during ice-free periods. Harps under one year in age constitute over 80 per cent of the catch on the ice by vessels. **Hooded** seals are taken in very small numbers, seldom forming more than one per cent of the catch.

The total annual take of seals has decreased considerably over the last sixty years from about 500,000 to about 150,000 with changes in numbers and types of ships and crews. The seals are valued chiefly for the oil from their blubber, though the skins are used also as fur or for leather.

### Control of resident species

Unlike the Harp and Hooded seals, which are valuable and apparently do no damage to the fisheries, Harbour and Gray seals have little economic value because of their scattered distribution and the difficulty of securing them in numbers. They damage the fisheries by harbouring the adult stage of a worm of which the immature stage occurs in the flesh of cod and of some other species and, though harmless, makes these fish less attractive to the consumer and less readily salable. Harbour and Gray seals also interfere with some fishing operations by taking fish caught in gill nets and in other ways. It is therefore desirable to control the numbers of Harbour and Gray seals while assuring the continued abundance of Harp and Hooded seals.

It is believed that Gray seals can be controlled by local measures in the few areas where they are numerous enough to do serious damage. To control the more numerous Harbour seals the Dominion Department of Fisheries pays a bounty on that species in the waters of Nova Scotia, New Brunswick and Prince Edward Island. Previous to 1949 the bounty was paid on submission of the snout as proof of the destruction of each seal. It is, however, difficult and sometimes impossible to tell the snouts of the various species of hair seals apart. To insure that only the Harbour seal is affected by the bounty the lower jaw is now required in support of a bounty claim. The teeth of the various species are quite distinct and seals can be identified for purposes of bounty payment by examining the jaws.

### RESIDENT SPECIES

#### HARBOUR SEAL (*Phoca vitulina*)

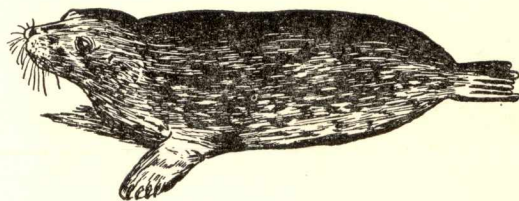
OTHER COMMON NAMES—Bay, Ranger, Common, Spotted and Doter seal.

DESCRIPTION—5-6 feet, 125-300 pounds. Marking variable, usually dense black spotting on back, paler on belly. When dried out in sun appearance is silvery or whitish.

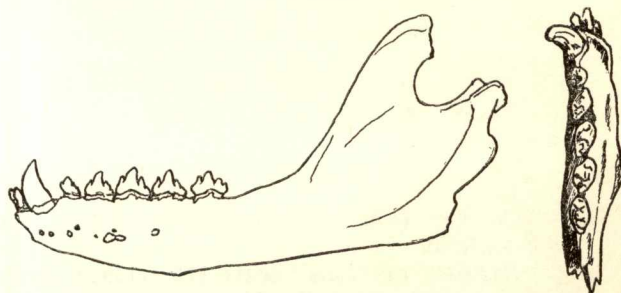
DISTRIBUTION—Widely distributed and common throughout east coast. Nova Scotia: most common from Shelburne to Louisburg, and Sable Island. New Brunswick: Miramichi estuary and coast below Saint John. Prince Edward Island: Pownal Bay area. Also common on Magdalen Islands, and south and west coast of Newfoundland.

PUPPING SEASON—Mid-May to mid-June.

CHARACTERISTICS OF LOWER JAW—Back teeth set obliquely in jaw bone, especially in young seals where they actually overlap. Except for small first one, each back tooth 4- or 5-pointed, may be worn down in old seals. Best distinguishing feature is oblique position in bone.



Harbour Seal



Lower Jaw, side and top view

#### GRAY SEAL (*Halichoerus grypus*)

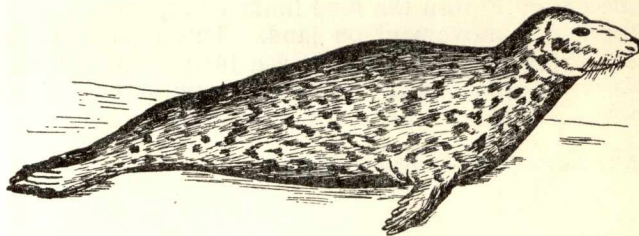
OTHER COMMON NAMES—Horse-head.

DESCRIPTION—5½-9 feet, up to 900 pounds. Dark gray with heavy mottling. Sometimes almost black. Front part of head longer than in other seals. Nose hangs slightly in older specimens.

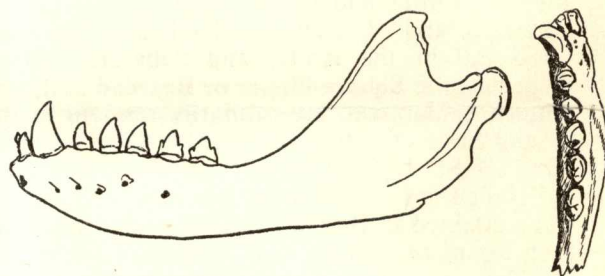
DISTRIBUTION—Widely distributed on east coast, but uncommon. Found along north shore of Anticosti Island, around Mingan Islands, along south shore of St. Lawrence estuary, Miramichi estuary, Magdalen Islands, Northumberland Strait, Cape Breton Island on west and north, east coast of Nova Scotia, Miquelon Island, Sable Island, Grand Manan.

PUPPING SEASON—January and February.

CHARACTERISTICS OF LOWER JAW—Jaw bone heavy. Teeth large, round, and back teeth tend to come to large, sharp, single point, curved slightly backwards.



Gray Seal



Lower Jaw, side and top view

## MIGRATORY SPECIES

HARP SEAL (*Phoca groenlandica*)

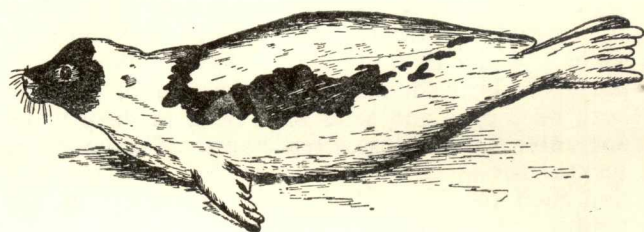
OTHER COMMON NAMES—Saddleback, Greenland seal. Newly-born called "white-coats". In Newfoundland, fully moulted pup called "beater", one-year-old called "rusty", and from 2 years to adult, "bedlamer".

DESCRIPTION—5-6 feet, up to 400 pounds. Adults light gray or yellowish with black face and two black bands on back. Immatures have variation of dark spots on pale background.

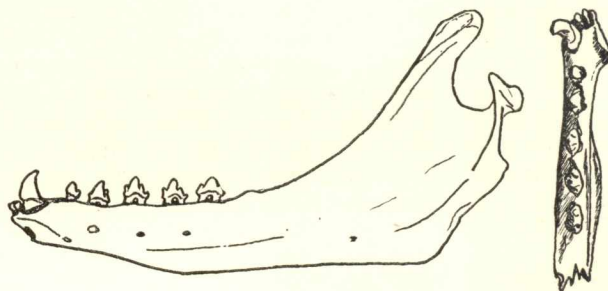
DISTRIBUTION—Summers in Arctic. Late fall and early winter, swims south, part of population going through Strait of Belle Isle into Gulf of St. Lawrence, remainder down east coast of Newfoundland. Late February, found in great numbers on ice in mid-Gulf and off Belle Isle. Herds drift south on ice down east coast of Newfoundland and out of Gulf through Cabot Strait. Drift west off Nova Scotia before northward movement to Arctic begins in late May and June.

PUPPING SEASON—Late February to mid-March.

CHARACTERISTICS OF LOWER JAW—Back teeth smaller, "daintier", than those of harbour seal. Always set in straight line in jaw bone. Usually well separated, tend to appear 3-pointed rather than 4-pointed as in the Harbour seal.



Harp Seal



Lower Jaw, side and top view

HOODED SEAL (*Cystophora cristata*)

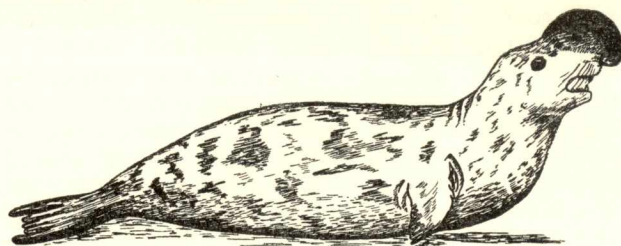
OTHER COMMON NAMES—Bladdernose, Crested, Hood seal.

DESCRIPTION—Over 8 feet, up to 900 pounds. Dark in colour with black, brownish or dark gray mottling on light gray background. Pups dark bluish on back with silvery tint, white on belly. Adult male possesses air sac or bladder over fore part of head in front of eyes which inflates with air during anger or excitement. This hangs limply over mouth when deflated. Confused at times with Gray seal.

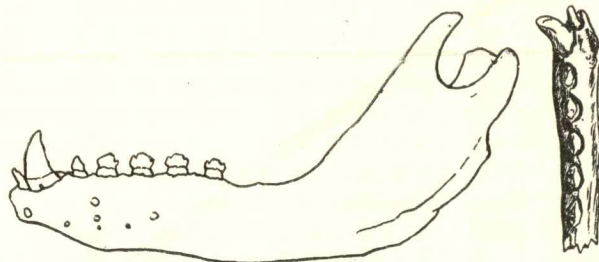
DISTRIBUTION—Summers in north toward Greenland. Migrates south in fall and winter, mounts ice floes in February to bear young east of Strait of Belle Isle, and in the Gulf of St. Lawrence northeast of Magdalen Islands. Distribution and movements not fully known. Does not migrate as far north as does the Harp seal.

PUPPING SEASON—Late February to March.

CHARACTERISTICS OF LOWER JAW—Only two incisors (the small teeth between the large fangs) in lower jaw, one on each side, instead of four (two on each side) as in other seals. Back teeth set in straight line, usually well separated, and "peg-like" in appearance, with narrow neck and fine wrinkly grooves in enamel.



Hooded Seal



Lower Jaw, side and top view

## RESIDENT SPECIES

### Harbour seal (*Phoca vitulina*)

**Life history:** Birth of the pups occurs from mid-May to mid-June, being at a peak early in June. More than one pup to a female is very rare. Pups are born with normal adult markings, and short hair which is softer than in adults. They weigh 15 to 28 pounds at birth, doubling within a month. They are born on ledges and sand bars close to deep water, and enter water within a few hours. The young are suckled for three to four weeks before learning to find food for themselves. Mating occurs in September and October.

**General habits:** Harbour seals are found around low-lying ledges or sand bars, and have a general tendency to be close to mainland shores in spring and summer and more offshore around outer ledges and islands in fall and winter. Adults have a variety of squalls, grunts, growls and barks, heard only when a group is hauled out on a ledge or bar, especially in the fall during the mating season. Pups have a soft high-pitched bleat. Pups begin feeding on shrimps after weaning, turning to sardines and other small fish by the end of their first summer. Adults feed on almost any kind of fish available, and on squid.

### Gray seal (*Halichoerus grypus*)

**Life history:** Birth of white-coated pups, usually only one to a female, occurs chiefly in February on isolated rocks or bars, sometimes on ice. The mating season is not definitely known but probably occurs in May. The young are suckled for at least two weeks.

**General habits:** This species frequents isolated rocky areas or sand dunes. There are local seasonal movements in some areas that are not yet fully known. Its food habits are not well known, but are probably similar to those of the Harbour seal. The voice is a weird wail or howl, unmistakable and very typical of this species, heard generally only when the animals are "hauled out". Not infrequently Grays are found in close association with Harbour seals, though while hauled out they keep to themselves as a group.

## MIGRATORY SPECIES

### Harp seal (*Phoca groenlandica*)

**Life history:** Birth of the pups occurs from the last few days of February to mid-March. Pups weigh about 12 pounds at birth, increasing in weight about five-fold in two weeks on the milk of the mother seal. Mating takes place two or three weeks after the birth of the pups. Pups never normally enter the water until the white coat has moulted off. More than one pup per female is rare.

**General habits:** Adult Harps seem to feed little if at all from the time at which they haul out on the ice to bear their young until after mating. At other times capelin (frequently referred to as "whitefish") are eaten extensively in Newfoundland waters, and in more northern waters a variety of small crustacea are eaten. They undoubtedly

feed on several types of fish besides capelin, though this appears to be a major item of diet.

Harp seals are seldom or never seen hauled out on land, and aside from the whelping and moulting periods on the ice in early spring they appear to live entirely in the water though staying close to the coasts.

The white-coats have a high-pitched little cry sounding almost human at times. Adults generally are silent except for an occasional soft low note uttered by mother seals to their pups.

### Hooded seal (*Cystophora cristata*)

**Life history:** Pups are born late in February and mating is in March. Very little more is known.

**General habits:** On the ice it is found typically in family groups of bull, cow and pup, sometimes at considerable distances from the nearest breathing hole or open water. Both bull and cow will refuse to desert the pup on the ice when approached by sealers, the bull in particular putting up a good fight, the air sac forming an effective cushion for blows on the head. As in the Harp seal, adults appear to feed little or not at all during the pupping and mating period. Pups live on milk until they enter the water.

## POSSIBLE STRAYS FROM THE NORTH

### Square-flipper or Bearded seal (*Erignathus barbatus*)

This large seal is not commonly found in the area covered by this circular, being more northern in distribution. A few are reported each year, however, off Newfoundland and in the Gulf of St. Lawrence by commercial sealers. In the Arctic, pups are reported to be born in April and May.

This seal goes up to 10 feet in length. Colour is variable from brownish to light gray. It has the reputation of being solitary and avoiding the company of other species. Females are reported by sealers to have four teats instead of two as in other seals.

### Ringed or Jar seal (*Phoca hispida*)

This little seal is occasionally taken along the lower North Shore of the Gulf of St. Lawrence. It is similar in colouration to the Harbour seal and sometimes is not easily distinguishable by colour alone but is usually more "marbled" in colour pattern. Length of adults is 4½ to 5½ feet. Teeth are very similar to those of the Harp seal, and therefore are readily distinguishable from those of the Harbour seal. In the Arctic pups are born in February and March.

### Atlantic walrus (*Odobenus rosmarus*)

While the walrus rarely occurs now south of Hudson Bay and Hudson Strait, sealers have reported it occasionally off the northeast coast of Newfoundland and on the lower North Shore of the Gulf of St. Lawrence. The chief distinguishing feature is provided by the two greatly developed upper canines or tusks. In animals too young for noticeable tusks the prominent bristles on the large upper lip may help to identify it.