



Seals in Canadian and NAFO Waters

Biology

- Are 6 species of seals in Atlantic Canadian waters, all of which occur in Newfoundland
 - Two Arctic Species (Ringed, Bearded)
 - Two temperate (Grey, Harbour)
 - Two migratory (Harp, Hood)
- With the exception of bearded seals that appear to feed mostly upon benthic invertebrates such as crab, clams, etc., seals feed upon a wide variety of finfish and invertebrate prey
- Diets vary geographically and temporally
 - Pelagic forage fish such as capelin, sand lance and herring are the most common
 - In most studies, commercial fish species make up a relatively small proportion of the diet





Seals in Canadian and NAFO Waters

Bearded

- No estimates of population but abundance is generally low
- Low numbers of animals are taken during the Labrador hunt, mostly for subsistence purposes

Ringed

- Generally found close to shore but have been observed in offshore areas; whelp in dens built into the shorefast ice
- No estimates of abundance; relatively common in much of northern Labrador
- Taken in the subsistence hunt in Labrador; calls from LIA for a commercial harvest
- Allowance of 2000 ringed seals per year based upon the historical reported harvest
- One of the major food species identified in the LIA land claims





Seals in Canadian and NAFO Waters

Harbour

- Commonly found along shores and in bays
- Currently no takes are allowed (even by Personal Use license)
- No estimates of abundance
 - Likely in the order of 20-30,000 in Atlantic Canada
- Numbers reduced significantly during a directed bounty (1940's-1960's); also taken during grey seal bounty (1960's-1990)
- Generally remain close to traditional haul-outs so local areas could be severely affected by hunting
- Known to travel up rivers to take fish
 - Most common species identified preying upon salmon





Seals in Canadian and NAFO Waters

Grey

- Northwest Atlantic grey seals form a single stock
 - Often considered as two management groups based on location of major whelping sites
- Whelping occurs in from late December to early February
 - Largest group whelps on Sable Island, Nova Scotia
 - Second, referred to as Gulf animals, whelps primarily on the pack ice in the southern Gulf of St. Lawrence and some small islands along the Nova Scotia Shore
 - Recently, small numbers have colonized areas of the New England States
- Animals from both areas summer in nearshore and offshore areas throughout Atlantic Canada from the US border to mid-Labrador
 - Highest concentrations are found on the Scotian Shelf, along the south coast of Newfoundland and in Gulf of St. Lawrence



- Abundance:



Seals in Canadian and NAFO Waters

Grey

- Population in Canada reduced to extremely low levels during the 19th century and rare up until 1960's
- Between the early 1970's and mid 1990's, Sable Island colony increased rapidly at an annual rate of approximately 13%
- The Gulf population has shown a different trend
 - Increased from around 7,000 pups in the mid-1980s to 11,000 in 1996 then declined rapidly to 7,300 in 1997 and 5,400 in 2000
- Since 1996, there has been a sharp decline in the quantity of suitable ice breeding habitat in the southern Gulf of St Lawrence
 - Loss of breeding habitat has led to an increase in pup mortality and/or to movement of large numbers of animals to other sites.
- In the early 1970s, the Gulf component accounted for 70-80% of the total grey seal population; currently they account for < 20%
- Population was estimated to be 195,000 animals in 1997





Seals in Canadian and NAFO Waters

Grey

- Subject to a bounty program from the 1960's until 1990
 - Some also taken during the harbour seal bounty prior to this
- Directed cull of grey seals was carried out in the Gulf of St. Lawrence during the 1980s
- In recent years only small numbers of grey seals hunted each year and a TAC has not been established
 - Sealing limited to a small traditional commercial hunt in an area off Magdalen Islands and to commercial hunts of small numbers in other areas, except Sable Island where no commercial hunting is permitted
- Since 1998, commercial sealers have taken only 819 grey seals





Seals in Canadian and NAFO Waters

Hooded

- Second most abundant, and largest, seal species in the Northwest Atlantic
- Two populations in the North Atlantic
 - Northeast Atlantic population whelps on pack ice near Jan Mayen (north of Iceland), off east coast of Greenland
 - Northwest Atlantic population whelps off coast of southern Labrador or northeastern Newfoundland (the 'Front'), in Davis Strait, and in Gulf of St. Lawrence (the 'Gulf')
- Not known if interbreeding occurs among NW Atlantic whelping areas, but seals from all three areas are known to mix during the non-breeding period
- Are seasonal migrants, spending most of the year near slope edges in offshore waters





Seals in Canadian and NAFO Waters

Hooded

- Northwest Atlantic hoods summer off south and west Greenland or in Canadian Arctic, and migrate to whelping areas during late fall or early winter
- Satellite telemetry indicates that Front hoods move off the Continental Shelf towards either the Flemish Cap or Rekjanes Ridge, southwest of Iceland
 - Eventually migrate to Denmark Strait near southeast Greenland to moult in late June or July
- Seals from the Gulf move to north slope of the Laurentian Channel where they feed before migrating out the Cabot Strait and along the shelf-edge of the Grand Banks enroute to Denmark Strait





Seals in Canadian and NAFO Waters

Hooded

- Abundance estimated from population model that incorporates information on number of pups, reproductive rates and catches
- Only two estimates of pup production of NW Atlantic hooded seals – 1984 and 1990
 - Total abundance estimated to be 450,000 to 475,000 animals.
- Are no estimates of abundance since 1991 so are no reliable estimates of the current size or status of the NW Atlantic hooded seal population
- Commercial sealing at the Front reported as early as 1874, but records of catches are lacking because no distinction was made between harp and hooded seals for many years
- Following a shift to hunting for fur in the 1940s, hooded seal pup, or blueback, became most valuable of all pelts and hunting effort increased accordingly
- Hunting in the Gulf of St. Lawrence prohibited since 1964





Seals in Canadian and NAFO Waters

Hooded

- No catches of hooded seals in the Davis Strait whelping concentrations
- Prior to 1974 there were no TAC's although there were restrictions on hunting season
- In 1974, a TAC of 15,000 was implemented for Canadian waters
- During late 1970's a number of regulatory changes enacted to limit percentage of adult females in harvest.
- From 1974-82 harvest was fairly constant, averaging 12,800 per year, and made up primarily of pups taken during large vessel hunt
- TAC reduced to 12,000 in 1983 and further reduced to 2,340 in 1984
- Following the demise of the large vessel hunt, commercial catches varied from a low of 33 in 1986 to a high of 6,425 in 1991, averaging 1,048 for the period 1983-92





Seals in Canadian and NAFO Waters

Hooded

- Hunting bluebacks for commercial purposes and use of vessels over 18 m was prohibited in 1987
- In 1991 the TAC was increased to 15,000 and then set at 8,000 in 1992 and increased to 10,000 in 1998 where it presently remains
- In recent years annual catches have continued to vary greatly with over 25,000 reported harvested in 1996
 - Highly variable number taken in any one year is likely due to accessibility of seals to land-based hunters
- Currently, the hooded seal hunt is only a minor part of the commercial and personal use hunts
 - In recent years harvest of has been less than 200 animals per year





Seals in Canadian and NAFO Waters

Hooded

- Hooded seals from all three NW Atlantic whelping areas are hunted in Greenland; catches have remained fairly consistent at 6,000 – 10,000 seals/year since the 1970s
 - Is no joint management plan between Canada and Greenland
- Historically, Northwest Atlantic hooded seals were also hunted at the moulting concentrations in the Denmark Strait, but this ended in 1967





Seals in Canadian and NAFO Waters

Harps

- Abundant, medium sized seal which migrates annually between Arctic and sub-Arctic regions of the north Atlantic
- Consume substantial amounts of prey in Canadian waters
 - High portion of diet is fish, with some invertebrate prey as well
 - Vast majority of fish prey is small forage fish
- Commercial species make up only a small portion of their diet
 - Due to complex nature of interactions within ecosystems, is not possible to quantify impact this predation is having on the status of commercial fish stocks





Seals in Canadian and NAFO Waters

Harps

- Are three populations of which NW Atlantic stock is largest
 - Others are White Sea and Jan Mayen or Greenland Sea populations
- NW Atlantic stock spends summer in Canadian Arctic and Greenland
 - Begin southward migration in early fall and by late November reach southern Labrador coast
 - About a third of mature seals enter Gulf of St. Lawrence and rest migrate southwards along east coast of Newfoundland.
- Following breeding in March, they form large moulting concentrations on sea ice off NE Newfoundland and in northern Gulf of St. Lawrence in April and May
- Following moult, they disperse and eventually migrate northward
 - Small numbers may remain in southern waters throughout the summer





Seals in Canadian and NAFO Waters

Harps

- Most abundant pinniped in the Northwest Atlantic
- Total population size estimated using a population model that incorporates information on pup production, reproduction rates and known mortalities
- Population declined during the 1960's and reached a minimum of less than 2 million in the early 1970's
 - Increased steadily since then until the mid 1990's
 - Due to the large harvests in recent years, population has been stable since 1996
- The most recent estimated population (1999 survey) is 5.2 million (4.0 – 6.4 million) seals
- Modeling carried out in early 2003 estimated that current population size has changed little since 1996





Seals in Canadian and NAFO Waters

Harps

- Harp seals have been hunted commercially since the early eighteenth century
- About 250,000 animals harvested per year at beginning of 20th century but hunt declined during the First World War to about 150,000 from 1919 to 1939
 - Commercial harvesting almost stopped completely during WW 2
 - Increased rapidly reaching 450,000 in 1951 and averaging about 288,000 seals per year from 1952 to 1971
 - Currently hunted by land-based sealers in both the Gulf and Front areas during winter
- First TAC set in 1971 at 245,000 and varied until 1982 when it was set at 186,000
 - During this period, the average annual catch was approximately 165,000 seals





Seals in Canadian and NAFO Waters

Harps

- Prior to 1983, large-vessel take of pups on the whelping patch accounted for the majority of the harvest
 - Ban on the importation of whitecoat pelts implemented by the European Economic Community in 1983 severely reduced the market, ending traditional large-vessel hunt
- From 1983 to 1995 catches remained low, averaging 52,000 per year
- Quota increased to 250,000 in 1996 and 275,00 in 1997
- Canadian catches increased significantly to over 240,000 in 1996
 - Since 1996, Canadian catches remained high with 312,000 taken in 2002
- A new management plan implemented in 2003
 - Allows for harvest of 975,000 over next 3 years with maximum of 350,000 in any one year, provided that combined TAC over three years is maintained by reduction in the TAC in other years





Seals in Canadian and NAFO Waters

Harps

- Young of the year seals that have moulted their whitecoat ('beaters') make up majority of the recent catches
- Also hunted in Canadian Arctic and Greenland
 - Greenland catches increased steadily since the mid 1970's and currently estimated to be over 100,000
 - No recent statistics for Canadian Arctic but during late 1970's catches were thought to range between 1,200 and 6,500
- Total removals of NW Atlantic harp seals including reported catches, estimates of bycatch in the Newfoundland lumpfish fishery and estimates of seals killed but not recovered during the harp seal hunts in Canada and Greenland are estimated to be over 500,000 annually





Seals in Canadian and NAFO Waters

Harps

- Current regulations do not allow hunting of whitecoats or use of vessels greater than 20m
- Since 1995, residents adjacent to sealing areas are allowed to hunt up to six seals for personnel use
- Aboriginal peoples and non-Aboriginal coastal residents who reside north of 53°N latitude can hunt for subsistence purposes without a licence
- No joint management plan between Canada and Greenland

