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The Status of Pinnipeds in the Newfoundland Region

by

G. B. Stenson

Science Branch, Department of Fisheries and Oceans  
P. O. Box 5667, St. John's, Newfoundland, Canada A1C 5X1

**Harp seals**

In the northwest Atlantic, harp seals whelp in the Gulf of St. Lawrence and off the coast of southern Labrador or northeastern Newfoundland ('Front'). Although seals from both areas mix in the Canadian Arctic or Greenland during the summer, they are thought to exhibit some site fidelity during the whelping and breeding periods. The most recent estimate of pup production were made in 1990 based on a combination of photographic and visual aerial surveys (Stenson et al. 1991). An estimated 467,200 (SE=31,200) pups were born at the Front, 106,300 (SE=23,000) in the southern Gulf (Magdalen Is.) and 4,373 (SE=1,264) in the northern Gulf (Mecatina) for a total of 577,900 (SE=38,800). Previous estimates of pup production were based primarily on age composition data (Sergeant 1971, 1975; Benjaminsen and Oritsland 1975; Winters 1978; Cooke 1985), aerial surveys (Lavigne et al. 1980, 1982), and mark-recapture experiments (Bowen and Sergeant 1983, 1985). However, the results were often conflicting, for example ranging from 251,000 (1975/77, Lavigne et al 1980, 1982) to 450,000 - 534,000 (1977-1983, Bowen and Sergeant 1983, 1985) for the same period. The Royal Commission on Seals and Sealing in Canada concluded that pup production in 1978 was probably in the order of 300,000 - 350,000. Although it is difficult to compare the latest estimate with earlier ones due to the different methods used and the wide range in the latter, it does suggest that an increase in pup production has occurred but that the rate of growth cannot be estimated.

Shelton et al. (1992) applied a harp seal estimation model to the 1990 pup production estimate to provide an estimate of total population. Fitting this model to estimates of pup production in the late 70's and 1990 suggests that the total population in 1990 was in the order of 3.1 million (range 2.7 - 3.5 million). The Royal Commission on Seals and Sealing in Canada estimated the total population to be approximately 1.5 - 1.75 million in 1978. If this estimate was correct, the population has grown at an average annual rate of 7%. However, the Commission (Anon 1986) did not consider the mark-recapture estimates of pup production when developing its estimate of total population. If they are incorporated into the population model, it suggests that the population has increased since the 1970's but at a lesser rate (Shelton 1992)

Commercial hunting of harp seal along the east coast of Canada has been reported since the mid 1800's. A TAC was first set at 200,000 for the large vessel hunt in 1971. The TAC varied until 1982 when it was set at the present 186,000. With the demise of the large vessel hunt in 1983 catches declined rapidly from an annual average of 172,000 between 1978 and 1982 to range between 19,035 (1985) and 94,046 (1987). The annual average catch in eastern Canada between 1983 and 1992 was 51,696. Current regulations do not allow the use of vessels > 65ft or the hunting of whitecoats for commercial purposes.

With the possible exception of 1987, the reported catch does not include harp seals caught incidentally in fishing gear. In 1991, over 44,000 seals were estimated to have been caught in fishing gear in Newfoundland (Lien, unpubl. data). In addition to hunting in eastern Canada, harp seals are also hunted in the Canadian Arctic and Greenland. No recent catch statistics are available for the Canadian Arctic but were estimated to range between 1,200 and 6,500 in the late 1970's and early 1980's. Catches in Greenland were estimated to be in the order of 14,000 - 18,000 in the early 1980's. Recent catch figures are not available.

### **Hooded Seals:**

Hooded seals whelp on pack ice near Jan Mayen Island in the eastern Atlantic, in Davis Strait, off the coast of southern Labrador or northeastern Newfoundland (the 'Front'), and in the Gulf of St. Lawrence (the 'Gulf'). It is not known if there is interbreeding among these populations although seals from the Front, Gulf and Davis Strait areas appear to intermix during the non-breeding season.

In the Northwest Atlantic, the majority of production occurs at the Front. A series of estimates are available for pup production of this stock. Unfortunately, many of these results were obtained using different methods and therefore, are not directly comparable. Based on the survival index method or sequential population analysis, pup production from 1966-77 was estimated to be in the order of 25,000-40,000 (Oritsland and Benjaminsen 1975, Sergeant 1976, Winters and Bergflodt 1978). Most of these estimates are similar since they are influenced by the high catch of 1966. Based on aerial surveys, pup production in 1984 was estimated to be 62,000 (95% C.I. 43,700-89,400, Bowen et al. 1987). Surveys conducted in 1990 using similar techniques, and therefore directly comparable to the 1984 estimate, produced an estimate of 82,182 (SE=12,636). These results suggest that pup production has increased slowly (5% per annum). However, because of the size of the confidence intervals and our lack of understanding concerning the relationships between the Front and other northwest Atlantic populations, we cannot rule out the possibility of a stable or slightly declining pup production.

The second most numerous population whelps in the Davis Strait. The only available estimate of pup production, 18,600 (95% C.I. 14,000-23,000), was based on aerial surveys conducted in 1984 (Bowen et al. 1987). Low numbers of hooded seals are born in the Gulf of St. Lawrence. Using visual survey techniques, Hammill et al. (1992) estimated that pup production in the Gulf during 1990 and 1991 was 1,638 (SE=466) and 2,006 (SE=190) respectively.

No recent population model is available for hooded seals. However, assuming a ratio of pups to total population of 1:5 (seen in similar species such as harp and grey seals), pup production in the Gulf and Front would represent a total population of approximately 400,000 - 450,000 hooded seals.

Commercial sealing at the Front was reported as early as 1874 and for many years there was no distinction made between harp and hooded seals. Following the shift to hunting for fur in the 1940's, the blueback became the most valuable of all the furs and hunting effort increased. Before implementation of quotas in 1974, annual catches varied greatly and ranged from less than 1,000 to over 25,000 seals. From 1974 through 1982, the average catch was 12,800 animals, mainly pups. Since 1983, catches have varied greatly, ranging from 33 in 1986 to 6,321 in 1991, with a mean catch of 1,116 between 1983 and 1992. This variation was likely due to variability in the availability of hooded seals to land-based hunters. The original TAC was set at 15,000 in 1974. This was reduced to 12,000 in 1983 and then to 2,340 in 1984. Hunting of bluebacks for commercial purposes and the use of vessels over 18 m was prohibited in 1987. In 1991 the TAC was increased to 15,000. A TAC of 8,000 was set for 1992 and 1993.

Hunting in the Gulf of St. Lawrence has been prohibited since 1964. No catches of hooded seals are permitted in the Davis Strait.

### **Other Seals:**

In addition to harp and hooded seals, four (4) other species of pinnipeds (grey, harbour, ringed, bearded) are present in Newfoundland Region. Grey seals from both the Sable Island and Gulf breeding stocks are seasonal migrants in the area. They have been reported from all areas of Newfoundland and Labrador as far north as Nain. Bounty returns indicate that Grey seals are most common during July and August but low numbers are present in all months of the year. No confirmed whelping concentrations have been found in Newfoundland and the numbers migrating into the area are unknown. Harbour seals are also present in most areas of Newfoundland and Labrador. Although locally common in many areas, the distribution and population size is not known.

Ringed and bearded seals are primarily arctic species whose southern range extends down the coast of Labrador and northern Newfoundland. Ringed seals are the most common pinniped in northern Labrador and are considered to be 'numerous' through most of their range. Bearded seals are solitary and are considered to be relatively rare. No population estimates are available for either species.

The official sealing statistics combines catches of seals other than harps and hoods as 'others'. In most years these seals are taken in Labrador and are primarily made up of ringed seals. The number of 'other' seals reported taken in the last five years are shown in Table 3. In 1992, 91.8% of these were reported to be ringed seals while harbour and bearded seals accounted for 5.5% and 2.7% respectively. No TAC is set for 'other' seals.

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Table 1. Reported catches of harp seals in Atlantic Canada

	1988	1989	1990	1991	1992
TAC	186,000	186,000	186,000	186,000	186,000
Catch	94,846	65,072	60,040	52,565 <sup>1</sup>	67,428 <sup>1</sup>

<sup>1</sup>Provisional statistics

Table 2. Reported catches of hooded seals in Atlantic Canada

	1988	1989	1990	1991	1992
TAC	2,340	2,340	2,340	15,000	8,000
Catch	908	367	636	6,321 <sup>1</sup>	119 <sup>1</sup>

<sup>1</sup>Provisional statistics

Table 3. Reported catches of 'other' seals in Atlantic Canada

	1988	1989	1990	1991	1992
Catch	1,036	2,561	1,821	1,771 <sup>1</sup>	1,127 <sup>1</sup>

<sup>1</sup>Provisional statistics