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REPORT ON NANTUCKET GREY SEALS, WINTER AND SPRING 1982.

ABSTRACT

National Marine Fisheries Service-supported surveys in 1981 and 1982 show that the Nantucket Sound grey seal population has increased from 18 individuals older than one year in 1980 to 22 individuals older than one year in 1982. The 1982 herd included 8 females, 6 of them of breeding age as determined by their relative size. Two cows in late pregnancy were seen on 26 December 1981. No whitecoat pups were found during the normal pupping season, mid January to early February; however one hauled out on a riverbank in West Yarmouth on 11 April, the latest date on which a whitecoat pup has been recorded in southern New England. At least 2 molted pups of the year were seen with the herd during the large spring haulout; they had no Canadian tags and were probably born locally. Two pups tagged at Sable Island were reported in Nantucket Sound in May.

Based on present data, this grey seal population is likely to continue growing, despite deterioration of the traditional pupping site at Muskeget, and various human disturbances. Future surveys are recommended to monitor the population and to identify alternative sites which may be used for pupping.

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Surveys of the Nantucket Sound grey seal (Halichoerus grypus) population were conducted in winter and spring 1982, with support from National Marine Fisheries Service, Purchase Order No. NA-81-FB-A-00282. The purpose of this research was to assess the grey seals' stock size, composition, and reproductive success or potential, with particular reference to data from 1980 surveys; also condition of the grey seals' habitat, and other environmental effects including weather, human disturbance, and numbers of harbor seals in the area. Nineteen aerial surveys were flown, and were the primary means of censusing.

In February 1980 a whitecoated grey seal pup was observed at Southwest Point, Muskeget, the first such sighting in 10 years. Southwest Point was a traditional grey seal pupping site from about 1944 to 1970, during which time the local population declined, probably because of bounty killing, from over 40 to about 12. During the 1970's counts remained at this level and no pups were seen at Muskeget. Then, in April 1980, 18 grey seals older than one year were counted, suggesting that the population might be recovering, while the February pup sighting was evidence that local production might be contributing to the increase.

The 1982 surveys confirmed this trend, with 22 seals older than one year counted in late March and early April. No pups were found at Muskeget, however evidence for local production was documented. An aerial survey on 26 December 1981 found 6 grey seals at Wasque Shoal, about 3 miles south of Chappaquiddick. Two were adult females, hauled out and clearly visible, with noticeably swollen bellies indicative of late pregnancy. One of the females (cow F) had been observed in the Nantucket area in 1981 and 1980. She was seen again on 12 February and 16 March, 1982, and was slimmer than she appeared on 26 December 1981.

The pupping surveys from mid January to mid February were inconclusive. Waterfowl hunters left Muskeget by 12 January, 4 days before the end of goose season. At this time ice filled all local harbors, and a more or less solid field of ice was present north of Nantucket at times from 19 January to about February 1 when the ice was dispersed. Aerial rather than ground surveys were used to search for pups because: a) ice conditions in the second half of January prevented boat travel to Muskeget; b) it seemed desirable to avoid disturbing any breeding seals at Muskeget; c) it was necessary to inspect several island sites and also the sea ice near Nantucket. The attached table shows counts from 19 aerial surveys between 26 December 1981 and 22 May 1982.

On 13 January 2 adult grey seals were noted at Southwest Point, Muskeget, and one hauled out there. 1 was seen in the water there on 21 January, but none were found in the area from Nantucket to Chappaquiddick on flights of 26 January, 27 January, 5 February and 12 February. Two people who were on Muskeget 30 January to 1 February saw an adult grey seal near Southwest Point; it did not haul

out. Human presence deters hauling out and therefore also pupping. However Southwest Point, as described in the 1981 Draft Report prepared for N.M.F.S. (Contract No. 41 USC 252 (c) 3), has physically deteriorated as a pupping site attractive to the seals. During the 1970's the point tip migrated northward and closer to Muskeget; in the process it both flattened out and shoaled up the adjacent deep water which had given the seals easy access to and escape from the land. In 1982 this condition remains unchanged and is a likely reason why no pupping occurred at Muskeget.

At least two molted pups were seen with the local herd during the spring, and they were untagged, suggesting their birthplace was local. The question is where did pupping take place? In 1981, on 25 January, an observer on the Nantucket ferry spotted a probable grey seal and pup on a distant ice floe, about 2 miles outside the island's harbor. In 1982 all sea ice around Nantucket was checked, but no seals other than harbor seals were seen on the ice. I flew over No Mans Land on 27 January but saw only harbor seals. Because of its restricted status I was unable to survey No Mans at other times. The flight to the Elizabeth Islands was delayed, due to logistical problems, until 12 February which was probably too late for breeding activity to be found. No grey seals were seen at the Elizabeth Islands on that date.

On the afternoon of the same day, February 12, an adult male and female grey seal hauled out at Meadow Point, Esther Island. Both were recognizable as individuals which had been there several times in winter and early spring of 1981. The female was cow F, no longer rotund as she was on 26 December. It may be inferred that she had given birth. The bull showed no interest in her, and it may be inferred that mating had taken place already (not necessarily between these two individuals). The two had left Esther Island the next day, and no grey seals were seen after that for almost three weeks. Post-breeding dispersal has been documented in previous years also.

The flight of 4 March showed the grey seals were starting their spring assembly (which is associated with the annual molt); there were 6 at Wasque Shoals, 2 at Muskeget, and one at Eel Pt. Shoal. Later counts were higher still: 19 at Wasque and 2 at Muskeget on 16 March; 21 at Wasque on 19 March; 20 at Wasque and 3 at Muskeget on 24 March; and 23 at Wasque on 2 April. In April 1980 the seals had used the northwest shoal at Muskeget. However in 1982 the Muskeget shoals were eroded, while the Wasque shoal was large and well elevated, and thus more attractive to the seals. The Wasque shoals can be monitored only from the air.

The haulout continued but was disrupted after swells from a storm on 6 April overwashed the dry shoal at Wasque. The shoal was still awash on 11 April when 10 grey seals were counted there, and on 14 April when 9 were seen. One would predict that the other grey

seals might have sought temporary haulout space elsewhere, and indeed a young male grey seal was hauled out at Meadow Point, Esther Island, on 11 April, with 120 harbor seals, until all were scared into the water by a low flying single engine plane. On 20 April the Wasque shoal was dry once more and occupied by 22 grey seals. After this date Wasque counts decreased, although the shoal stayed dry. There were 16 on 30 April; 7 on 13 May; and, on 22 May, the last census date, 10 at Wasque and 1 at Muskeget. In 1982 the dates of peaking and falling numbers were within the range of dates recorded for these phenomena in other years.

Although the spring assembly is associated with the molt in grey seals over 1 year old, I was unable to verify molting from the air. No brands were sighted during the 1982 aerial surveys, although 2 were seen during ground surveys in 1980. It is possible that branded seals were present in 1982 and that the brands were not distinguishable from the air. Photo analysis of the 1982 haulout is incomplete, however a few points may be noted: The group is mixed, although males outnumber females. Eight females were identified, 3 large adults, 3 smaller adults and 2 juveniles. The males were of all sizes.

A molted pup of the year, with no tag, was with this group on 16, 19 and 24 March. On 11 April a whitecoat pup weighing about 75 pounds hauled out on a bank of the Parker River in West Yarmouth, and stayed there for about 24 hours until approached by New England Aquarium personnel. Such pups (in whitecoat out of normal season, alone and seeking rest, obviously not born where found) were seen occasionally in southern New England in other years. Canadian scientist Brian Beck has never seen this phenomenon at Sable Island, the largest grey seal breeding ground in the northwest Atlantic; all pups born there molt before leaving the island. The Parker River pup had no Canadian tags, and was probably born locally, although the time and place remain a mystery. This sighting marks the latest date on which a whitecoat pup has been recorded in southern New England.

On 20 April at least one molted pup was seen with the group at Wasque. On 30 April two pups of the year were noted; one had molted and the other was in a very light coat, either lanugo or a pale second coat. On 21 May a pup tagged at Sable Island was found drowned in a fish weir near Stage Harbor, Chatham. On 22 May a Sable Island tagged pup was seen with the grey seal herd at Wasque shoals.

On 7 and 8 July a yearling grey seal, apparently blind, was reported at Strong Island, Chatham. On 12 or 13 July a wounded grey seal was seen at Muskeget; it had lost the left eye and had cuts above the socket.

Numbers of wintering harbor seals (Phoca vitulina) at Nantucket have continued to increase; a record high count of 448 was obtained on 19 March. The Madaket alewife run began on 11 March.

Grey seal haulout at Meadow Point, Esther Island has become less frequent each year since 1980, perhaps because there are so many harbor seals to occupy the available space. Several harbor seals were hauled out with the grey seals at Wasque shoal in late April, but space there was not limited at that time.

Human disturbance was referred to above. Low flying private planes were seen to scare hauled out seals on several occasions. I have notified Dick Whittaker of the situation. The waterfowl season, which affects Muskeget, ended on 16 January except for scaup (probably not hunted at Muskeget) which ended on 23 January. Hunters had left Muskeget by 12 January. Their impact on the grey seals is difficult to assess, but it may be less critical than the eroded condition of Southwest Point at the present time. Nevertheless an earlier closing date for the waterfowl season, around 10 January, would be to the seals' advantage.

Based on surveys over the last three years the Nantucket grey seals seem to be holding their own, despite habitat deterioration, and producing at least one or two pups annually. Immigrant recruitment may be taking place also, based on sightings of Sable Island tagged pups. Further growth of this population may be anticipated. The question of where local pups may be born, other than at Muskeget, remains unanswered. The parturient cow(s) may select a pupping site opportunistically depending on environmental conditions, including but not limited to physiographic status of Southwest Point, Muskeget; human disturbance; and stability of the sea ice. It is recommended that future pupping surveys be expanded to include weekly coverage of Monomoy, Elizabeth Islands, and, whenever possible, No Mans Land, as well as the Nantucket area, from mid January to early February.

AERIAL COUNTS OF SEALS page 1

HG = Grey seals
 PV = Harbor seals

26 Dec 81 13 Jan 82 21 Jan 82 26 Jan 82 27 Jan 82
 0930 - 1030 1200 - 1250 0900 - 1000 0900 - 0950 1515 - 1640

Location	HG	PV								
Wasque Shoals	6	1	0	0	0	0	0	0	0	0
Muskeget	0	2	2	0	1	2	0	0	0	0
Tuckernuck			0	0	0	0	0	0	0	0
Esther Is.			0	0	0	0	0	0	0	0
Eel Pt. Shoals			0	0	0	0	0	0	0	0
Ice, north side of Nantucket			0	0	0	0	0	0	0	0
Great Pt.			0	10	0	0	0	0	0	0
South shore of Martha's Vineyard										
No Man's Land									0	100
TOTAL	6	3	2	10	1	2	0	0	0	100

AERIAL COUNTS OF SEALS page 2

HG = Grey seals

PV = Harbor seals

5 Feb 82 12 Feb 82 19 Feb 82 4 Mar 82 16 Mar 82
 1200 - 1300 1030 - 1145 1210 - 1310 0850 - 0945 0900 - 0955

<u>Location</u>	HG	PV	HG	PV	HG	PV	HG	PV	HG	PV
Wasque Shoals	0	0	0	0	6	0	19	1		
Muskeget	0	0	0	0	2	0	2	0		
Tuckernuck	0	0	0	0	0	0	0	0		
Esther Is.	0	30	0	66	0	82	0	120 ⁺	0	40
Eel Pt. Shoals	0	18	0	7	0	25	1	57	0	168
Nantucket Harbor Jetties									0	20
Great Pt.	0	0								
South shore of Martha's Vineyard			0	0						
Penikese			0	0						
Gull Is.			0	0						
Nashawena			0	2						
Weepeckets			0	2						
Naushon			0	19						
TOTAL	0	48	0	96	0	107	9	177	21	228

AERIAL COUNTS OF SEALS page 3

HG = Grey seals

PV = Harbor seals

19 Mar 82 24 Mar 82 2 Apr 82 11 Apr 82 14 Apr 82
 0845 - 0945 0815 - 0915 1200 - 1250 0745 - 0845 0800 - 0850

<u>Location</u>	HG	PV								
Wasque shoals	21	1	20	2	23	2	10	0	9	1?
Muskeget	0	0	3	0	0	0	0	0	0	0
Tuckernuck	0	0	0	0	0	0	0	8	0	0
Esther Is.	0	165	0	126	0	100	1	96	0	140
Eel Pt. shoals	0	197	0	120	0	76	0	30	0	45
Nantucket Harbor Jetties	0	85	0	68	0	20	0	30	0	59
TOTAL	21	448	23	316	23	198	11	164	9	244

AERIAL COUNTS OF SEALS page 4

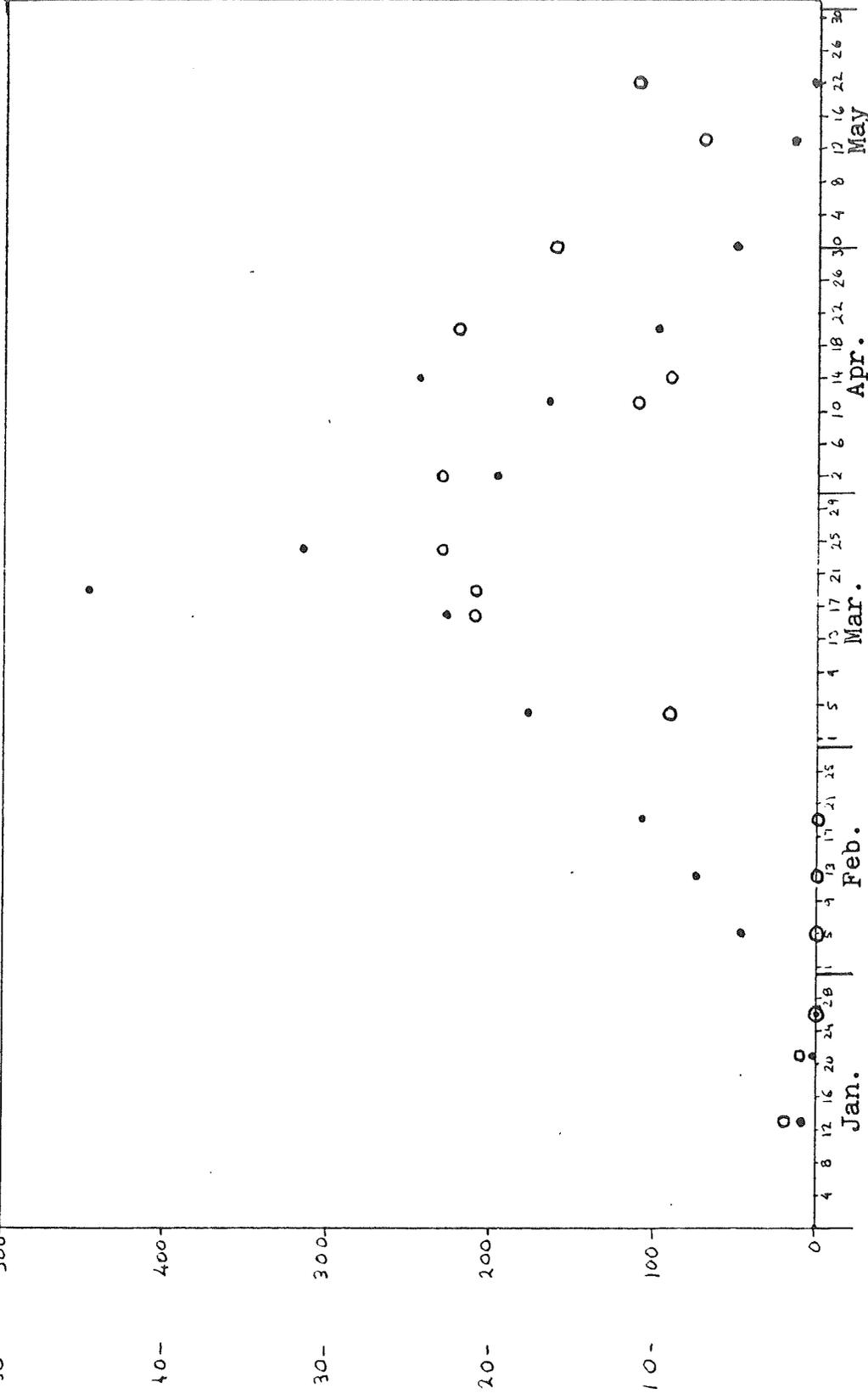
HG = Grey seals

PV = Harbor seals

20 Apr 82 30 Apr 82 13 May 82 22 May 82
 1215 - 1310 1050 - 1108 1115 - 1215

<u>Location</u>	HG	PV	HG	PV	HG	PV	HG	PV
Masque shoals	22	9	16	11	7	13	10	2
Muskeget	0	0	0	0	0	0	1	0
Tuckernuck	0	3			0	1		
Esther Is.	0	16	0	20	0	0	0	0
Eel Pt. shoals	0	30	0	16	0	0	0	0
Nantucket Harbor Jetties	0	40	0	3	0	0	0	0
TOTAL	22	98	16	50	7	14	11	2

○ HG
● PV



AERIAL COUNTS OF GREY SEALS (HG) AND HARBOR SEALS (PV) IN THE NANTUCKET AREA (INCLUDING WASQUE SHOALS), WINTER AND SPRING 1982.