

Results of a Winter Aerial Harbor Seal Survey  
in New England

by

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## Survey Period and Area

The first survey flights were, 1/25/84, 1/26/84, 1/27/84, and the second were, 2/12/84, 2/27/84, 2/28/84. The area of operations were divided into two segments: a northern leg extending from Plymouth, MA north to the Isle of Shoals, NH (excluding Boston Harbor), and one southern leg which includes the Cape and Islands, Noman's and the Elizabeths, Buzzards Bay and from Plymouth to the Canal on mainland MA.

## Objectives

The objectives were to: (1) conduct an aerial survey of New England waters to examine the variation in maximum counts of harbor seals (Phoca vitulina concolor) at known haul-out sights (Fig. 1 and 2); (2) to continue to perfect aerial survey methods for harbor seal counts; (3) to provide a basis for long-term monitoring of the seal populations in New England; and (4) collect photographs of seals at haul-out sights for further analysis.

## Methods

Aerial surveys were conducted for three days in January and three days in February using a Cessna 172 fixed-wing aircraft. The flight pattern paralleled the coastline allowing for more complete coverage. Those locations which have been traditionally used by seals for hauling-out were examined in detail. The Boston Harbor outer islands and harbor proper were not surveyed due to the proximity of these areas to Logan International Airport. To maximize the number of seals seen, surveys began 1½ hours before a mid-day low tide.

Observer ability to visually estimate densities of animals varies. Therefore seals were photographed at each haul-out location with a Canon A-1 camera using A 200 mm lens and ASA 64 black and white film.

## Results

A total number of 2904 harbor seals were observed at all sites during the January survey, and 2881 during the February survey of 1984, (Table 1).

These preliminary results appear to be consistent with the counts of 1983 which were, January 2712 and February 3005.

Flight log sheets and photographs will be maintained at the Manomet Bird Observatory for further analysis.

## Scientific Personnel

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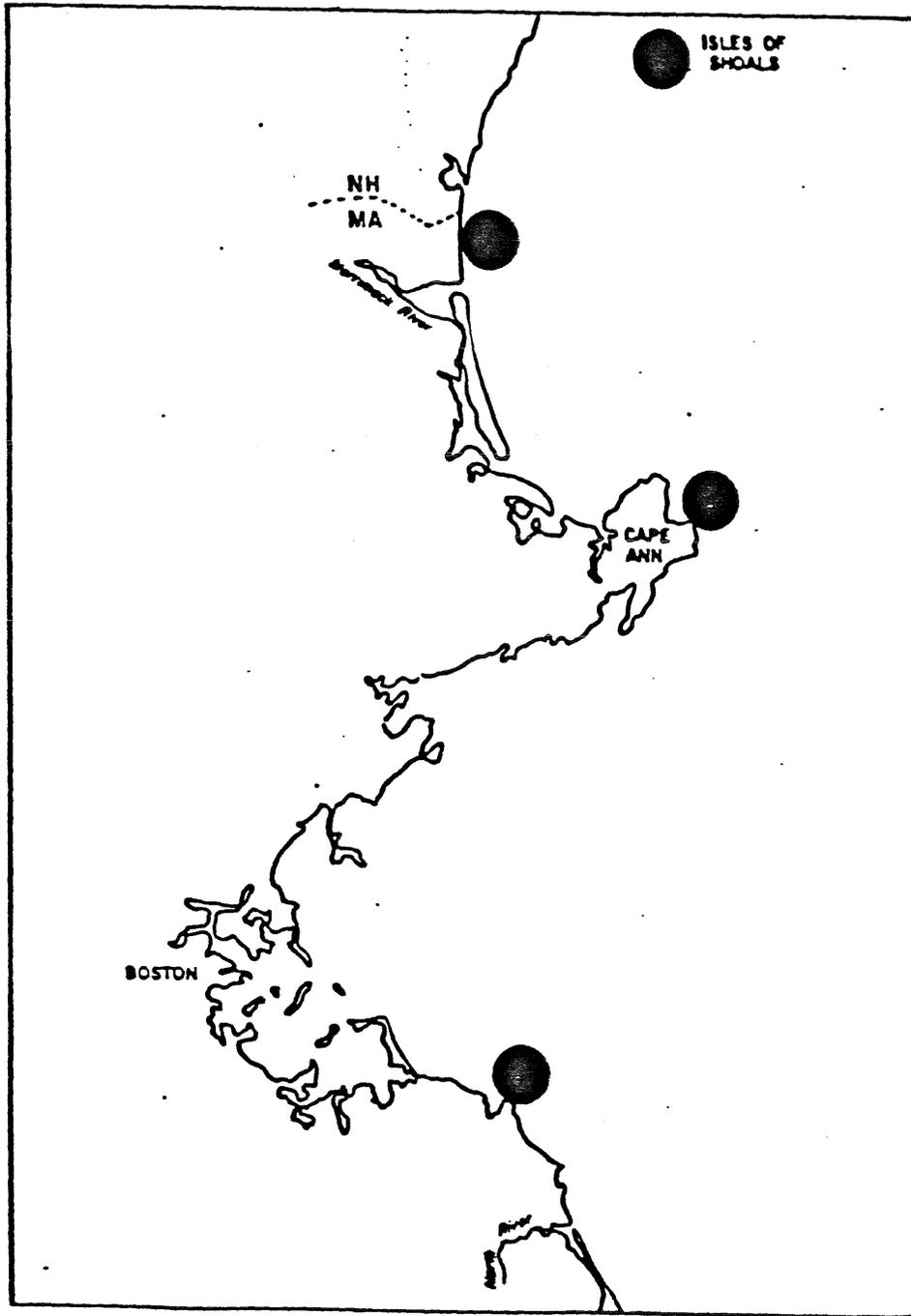


Figure 1. The area surveyed for harbor seals during winter 1984 (northern leg) extending from Plymouth, Massachusetts to the Isle of Shoals, New Hampshire.

● = Haul-out Sights

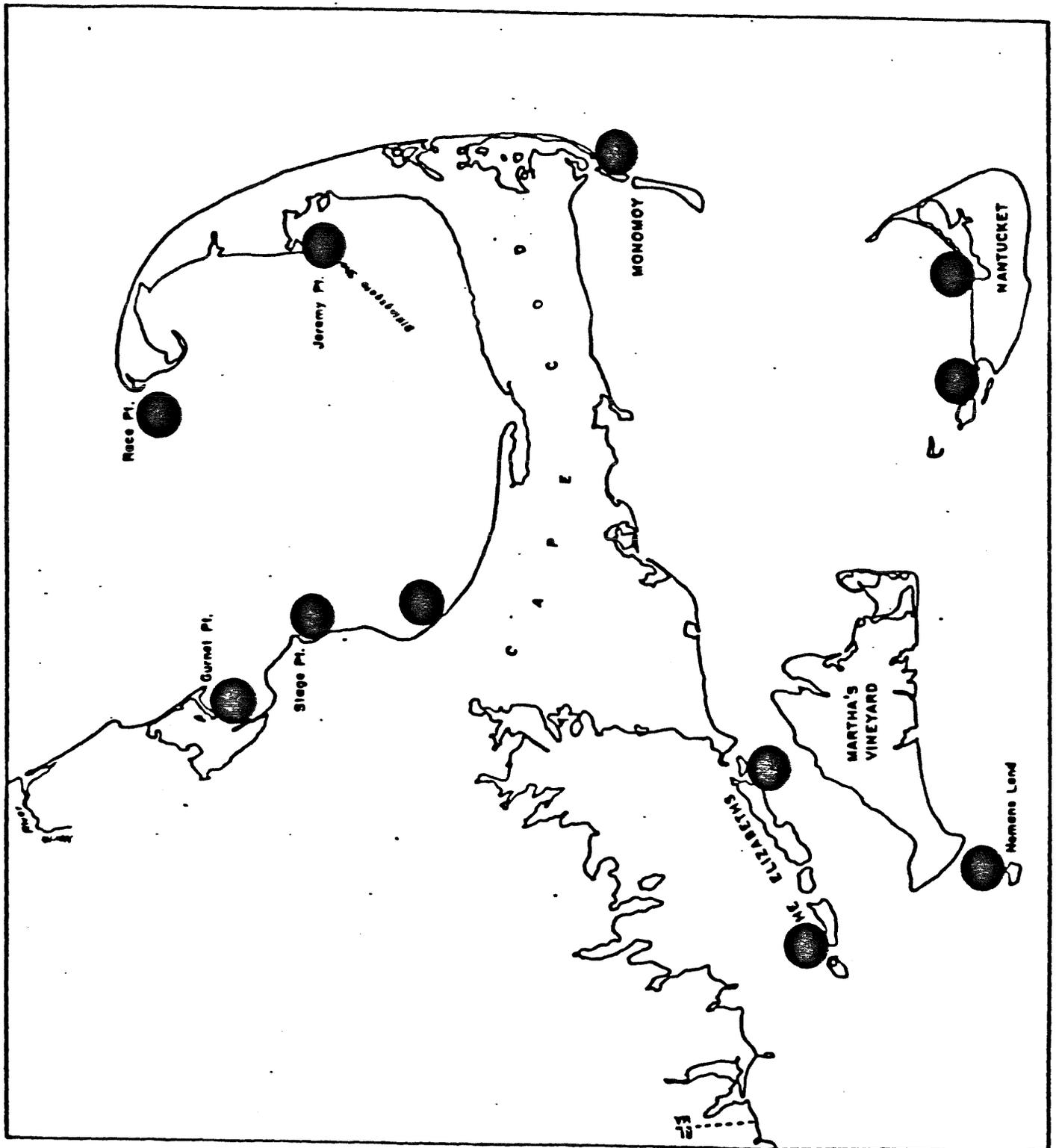


Figure 2. The area surveyed for harbor seals during winter 1984 (southern leg) included Cape Cod, Nantucket, Martha's Vineyard and adjacent islands, Noman's Land, the Elizabeth Islands, and southern mainland Massachusetts.

 = Haul-out Sight

Seal Estimates 1984

<u>Location</u>	<u>Month of Survey</u>	
	<u>Jan</u>	<u>Feb</u>
Isle of Shoals	362	443
New Hampshire Coast	76	43
Cape Ann	233	40
Scituate - Cohasset	187	220
Plymouth Harbor	33	53
Stage Point	44	51
Ellisville	61	75
Race Point - Long Point	26	75
Billingsgate Island - Jeremy Point	62	505
Nauset Marsh	67	103
Monomy	967	569
Martha's Vineyard	0	0
West Nantucket	432	394
Nantucket Harbor	110	117
Noman's Land	23	104
Elizabeth Islands	221	89
Totals	2904	2881

Table 1. The location and number of harbor seals seen at each location during January and February 1984 aerial surveys.