

AUTUMN SEABIRD MIGRATION AT MANOMET POINT

by Vincent G. Yurkunas, Bondsville

Every year along the coast of Massachusetts thousands of seabirds migrate to their wintering grounds. Sites such as Halibut Point and Andrews Point on Cape Ann and Sandy Neck Beach and Race Point on Cape Cod provide observers with excellent views of this fascinating avian phenomenon. Manomet Point, an elevated promontory located on the South Shore in Plymouth, is another reliable lookout. Since 1967 an average of 41,000 migratory seabirds have been recorded annually during "Operation Seawatch," an ongoing research project conducted by personnel at Manomet Bird Observatory.

Over the years the primary purpose of "Operation Seawatch" has been to monitor the migratory populations of Black (*Melanitta nigra*), Surf (*M. perspicillata*), and White-winged (*M. fusca*) scoters, and various aspects of scoter migration have been described (Petersen 1971, Norton 1974, Riccitelli 1978, Sommers 1982, Bryan 1983, Yurkunas 1985). However, large numbers of other seabird species, particularly Common Eider (*Somateria mollissima*), Red-breasted Merganser (*Mergus serrator*), Northern Gannet (*Sula bassanus*), and Oldsquaw (*Clangula hyemalis*), are also seen (Yurkunas 1985).

The most important factor governing the observation of migrants at Manomet Point is the weather. Local weather systems influence the bird-to-shore distance when a flight is in progress. Generally, weather systems with strong northwest to southwest winds drive birds away from shore, decreasing the chance for close-up viewing, while systems with strong northeast to southeast winds blow birds toward shore, many times affording observers a "bird's-eye view" of passing migrants. Particularly affected by strong offshore winds are the more pelagic species such as gannets, shearwaters, storm-petrels, and alcid.

The main purpose of this article is to describe the migratory populations of sixty-one species of seabirds observed at Manomet Point during the first eighteen years of "Operation Seawatch."



Flying White-winged Scoters

Illustration by Denise Braunhardt

Because the entire population of any migratory species cannot be counted from a single location, a relative abundance rating was used to assign the descriptive terms depicted graphically in Table 1. This rating was based on the mean monthly number of birds per hour (BPH) over the entire observation period and was computed by dividing the total number of individuals of each species per month by the total number of hours of observation for that month. The number of hours of observation for the months of September, October, November, and December were 329.3, 1372.8, 319.4, and 36.0, respectively. As an example, 16 Red-throated Loons (*Gavia stellata*) were observed during the month of September. Therefore, a BPH of $16/329.3$ or 0.049 places this species in the Rare category.

Another way of determining which species are most likely to be seen when was to calculate the probability of observation (Table 2). This method was based on the monthly frequency of occurrence of each species during the entire observation period and was computed by dividing the number of months a species was seen by the total number of months of observation. The number of months during which observations were made for September, October, November, and December were 16, 18, 16 and 5, respectively. As an example, the Red-throated Loon was observed during 4 of the 16 months of observation during September. Therefore, the chance of seeing that species that month is $4/16$ or 0.25.

The relative abundance rating and probability of observation may seem underestimated for several species. Because the emphasis of "Operation Seawatch" has been on scoter migration, observers have concentrated on those species, perhaps resulting in a less thorough count of other birds.

Records of species observed ten or fewer times (Table 3) are presented to detail as much as possible the temporal pattern of their migration at Manomet Point.

I would like to thank Trevor Lloyd-Evans, Senior Staff Biologist at Manomet Bird Observatory, for the extended use of "Operation Seawatch" data. Duncan S. Evered provided helpful comments on an earlier draft of the article.

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Table 1. Relative abundance of 61 seabird species observed migrating southward past Manomet during "Operation Seawatch," 1967-1984.

Legend: Abundant (100.000+ BPH) ██████████
 Common (10.001 - 100.000 BPH) ██████████
 Uncommon (1.001 - 10.000 BPH) ██████████
 Occasional (0.101 - 1.000 BPH) -----
 Rare (0.011 - 0.100 BPH)
 Accidental (0.000 - 0.010 BPH) *
 Ten or fewer records *

SPECIES	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Red-throated Loon (<i>Gavia stellata</i>)	.....	.....	.....	.....
Common Loon (<i>Gavia immer</i>)	.....	.....	.....	.....
*Pied-billed Grebe (<i>Podilymbus podiceps</i>)	.....	.....	Acc.	.....
Horned Grebe (<i>Podiceps auritus</i>)	Acc.	.....	Acc.	-----
Red-necked Grebe (<i>Podiceps grisegena</i>)	.....	.....	.....	-----
*Northern Fulmar (<i>Fulmarus glacialis</i>)	.....	Acc.	.....	.....
Cory's Shearwater (<i>Calonectris diomedea</i>)	.....	.....	.....	.....
Greater Shearwater (<i>Puffinus gravis</i>)	.....	.....	.....	.....
*Sooty Shearwater (<i>Puffinus griseus</i>)	Acc.	.....	.....	.....
*Manx Shearwater (<i>Puffinus puffinus</i>)	.....	Acc.	.....	.....
*Wilson's Storm-Petrel (<i>Oceanites oceanicus</i>)	.....	Acc.	.....	.....
*Leach's Storm-Petrel (<i>Oceanodroma leucorhoa</i>)	.....	Acc.	.....	.....
Northern Gannet (<i>Sula bassanus</i>)	-----	-----	██████████	██████████
Great Cormorant (<i>Phalacrocorax carbo</i>)	.....	.....	.....	.....
Double-crested Cormorant (<i>Phalacrocorax auritus</i>)	-----	-----	-----	-----
*Snow Goose (<i>Chen caerulescens</i>)	.....	Acc.	.....	.....
Brant (<i>Branta bernicla</i>)	.....	.....	.....	.....
Canada Goose (<i>Branta canadensis</i>)	.....	.....	.....	.....
*Wood Duck (<i>Aix sponsa</i>)	Acc.	Acc.	.....	.....
Green-winged Teal (<i>Anas crecca</i>)	.....	.....	.....	.....
American Black Duck (<i>Anas rubripes</i>)	-----	-----	-----	-----
Mallard (<i>Anas platyrhynchos</i>)	Acc.	.....	.....	.....
Northern Pintail (<i>Anas acuta</i>)	.....	.....	.....	.....
Blue-winged Teal (<i>Anas discors</i>)	.....	.....	.....	.....
*American Wigeon (<i>Anas americana</i>)	.....	.....	.....	.....
*Canvasback (<i>Aythya valisineria</i>)	.....	Acc.	.....	.....
Greater Scaup (<i>Aythya marila</i>)	.....	.....	.....	.....
*Lesser Scaup (<i>Aythya affinis</i>)	.....	Acc.	.....	.....
Common Eider (<i>Somateria mollissima</i>)	-----	██████████	██████████	██████████
*King Eider (<i>Somateria spectabilis</i>)	.....	Acc.	.....	.....
*Harlequin Duck (<i>Histrionicus histrionicus</i>)	.....	Acc.	.....	.....
Oldsquaw (<i>Clangula hyemalis</i>)	Acc.	██████████	██████████	██████████
Black Scoter (<i>Melanitta nigra</i>)	██████████	██████████	██████████	██████████
Surf Scoter (<i>Melanitta perspicillata</i>)	██████████	██████████	██████████	██████████
White-winged Scoter (<i>Melanitta fusca</i>)	██████████	██████████	██████████	██████████
Common Goldeneye (<i>Bucephala clangula</i>)	.....	.....	██████████	██████████
Bufflehead (<i>Bucephala albeola</i>)	-----	-----	-----	-----
*Hooded Merganser (<i>Lophodytes cucullatus</i>)	.....	Acc.	Acc.	.....
Common Merganser (<i>Mergus merganser</i>)	.....	.....	.....	.....
Red-breasted Merganser (<i>Mergus serrator</i>)	-----	██████████	██████████	██████████
*Ruddy Duck (<i>Oxyura jamaicensis</i>)	.....	Acc.	.....	.....
*Red-necked Phalarope (<i>Phalaropus lobatus</i>)	.....	Acc.	.....	.....
*Pomarine Jaeger (<i>Stercorarius pomarinus</i>)	Acc.	Acc.	Acc.	.....
Parasitic Jaeger (<i>Stercorarius parasiticus</i>)	.....	.....	.....	.....
Laughing Gull (<i>Larus atricilla</i>)	Acc.	.....	.....	.....
*Little Gull (<i>Larus minutus</i>)	.....	Acc.	.....	.....
*Common Black-headed Gull (<i>Larus ridibundus</i>)	.....	Acc.	Acc.	.....
Bonaparte's Gull (<i>Larus philadelphia</i>)	.....	.....	.....	.....
*Iceland Gull (<i>Larus glaucooides</i>)	Acc.	Acc.	Acc.	.....
Black-legged Kittiwake (<i>Rissa tridactyla</i>)	Acc.	.....	.....	.....
*Caspian Tern (<i>Sterna caspia</i>)	.....	Acc.	.....	.....
*Royal Tern (<i>Sterna maxima</i>)	.....	Acc.	.....	.....
*Roseate Tern (<i>Sterna dougallii</i>)	.....	Acc.	.....	.....
Common Tern (<i>Sterna hirundo</i>)	.....	.....	.....	.....
*Forster's Tern (<i>Sterna forsteri</i>)	Acc.	.....	Acc.	.....
*Least Tern (<i>Sterna antillarum</i>)	.....	Acc.	.....	.....
Dovekie (<i>Alle alle</i>)	.....	.....	.....	-----
*Common Murre (<i>Uria aalge</i>)	.....	.....	Acc.	.....
*Thick-billed Murre (<i>Uria lomvia</i>)	.....	.....	.....	.....
Razorbill (<i>Alca torda</i>)	.....	Acc.	.....	-----
*Black Guillemot (<i>Cepphus grylle</i>)	.....	Acc.	Acc.	-----

Table 2. Probability of observing 61 seabird species from Manomet Point during "Operation Seawatch," 1967-1984.

Legend: 81% - 100% ██████████
 61% - 80% ██████████
 41% - 60% ██████████
 21% - 40% ██████████
 0% - 20% ██████████
 Ten or fewer records *

SPECIES	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Red-throated Loon (<i>Gavia stellata</i>)	-----	██████████	██████████	-----
Common Loon (<i>Gavia immer</i>)	██████████	██████████	██████████	-----
*Pied-billed Grebe (<i>Podilymbus podiceps</i>)
Horned Grebe (<i>Podiceps auritus</i>)
Red-necked Grebe (<i>Podiceps grisegena</i>)
*Northern Fulmar (<i>Fulmarus glacialis</i>)
Cory's Shearwater (<i>Calonectris diomedea</i>)
Greater Shearwater (<i>Puffinus gravis</i>)
*Sooty Shearwater (<i>Puffinus griseus</i>)
*Manx Shearwater (<i>Puffinus puffinus</i>)
*Wilson's Storm-Petrel (<i>Oceanites oceanicus</i>)
*Leach's Storm-Petrel (<i>Oceanodroma leucorhoa</i>)
Northern Gannet (<i>Sula bassanus</i>)	██████████	██████████	██████████	-----
Great Cormorant (<i>Phalacrocorax carbo</i>)	██████████	██████████	██████████	-----
Double-crested Cormorant (<i>Phalacrocorax auritus</i>)	██████████	██████████	██████████	-----
*Snow Goose (<i>Chen caerulescens</i>)
Brant (<i>Branta bernicla</i>)	██████████	██████████	-----
Canada Goose (<i>Branta canadensis</i>)	██████████	██████████	-----
*Wood Duck (<i>Aix sponsa</i>)
Green-winged Teal (<i>Anas crecca</i>)	██████████	██████████	██████████	-----
American Black Duck (<i>Anas rubripes</i>)	██████████	██████████	██████████	-----
Mallard (<i>Anas platyrhynchos</i>)
Northern Pintail (<i>Anas acuta</i>)
Blue-winged Teal (<i>Anas discors</i>)
*American Wigeon (<i>Anas americana</i>)
*Canvasback (<i>Aythya valisineria</i>)
Greater Scaup (<i>Aythya marila</i>)	██████████	██████████	-----
*Lesser Scaup (<i>Aythya affinis</i>)
Common Eider (<i>Somateria mollissima</i>)	██████████	██████████	██████████	-----
*King Eider (<i>Somateria spectabilis</i>)
*Harlequin Duck (<i>Histrionicus histrionicus</i>)
Oldsquaw (<i>Clangula hyemalis</i>)	██████████	██████████	-----
Black Scoter (<i>Melanitta nigra</i>)	██████████	██████████	██████████	-----
Surf Scoter (<i>Melanitta perspicillata</i>)	██████████	██████████	██████████	-----
White-winged Scoter (<i>Melanitta fusca</i>)	██████████	██████████	██████████	-----
Common Goldeneye (<i>Bucephala clangula</i>)
Bufflehead (<i>Bucephala albeola</i>)
*Hooded Merganser (<i>Lophodytes cucullatus</i>)
Common Merganser (<i>Mergus merganser</i>)
Red-breasted Merganser (<i>Mergus serrator</i>)	██████████	██████████	██████████	-----
*Ruddy Duck (<i>Oxyura jamaicensis</i>)
*Red-necked Phalarope (<i>Phalaropus lobatus</i>)
*Pomarine Jaeger (<i>Stercorarius pomarinus</i>)
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Laughing Gull (<i>Larus atricilla</i>)
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*Common Black-headed Gull (<i>Larus ridibundus</i>)
Bonaparte's Gull (<i>Larus philadelphia</i>)
*Iceland Gull (<i>Larus glaucooides</i>)
Black-legged Kittiwake (<i>Rissa tridactyla</i>)
*Caspian Tern (<i>Sterna caspia</i>)
*Royal Tern (<i>Sterna maxima</i>)
*Roseate Tern (<i>Sterna dougallii</i>)
Common Tern (<i>Sterna hirundo</i>)	██████████	██████████	-----
*Forster's Tern (<i>Sterna forsteri</i>)
*Least Tern (<i>Sterna antillarum</i>)
Dovekie (<i>Alle alle</i>)
*Common Murre (<i>Uria aalge</i>)
*Thick-billed Murre (<i>Uria lomvia</i>)
Razorbill (<i>Alca torda</i>)
*Black Guillemot (<i>Cephus grylle</i>)

Table 3. Records of seabird species observed ten or fewer times at Manomet Point during "Operation Seawatch," 1967-1984

Pied-billed Grebe: November 30, 1984 - one.

Northern Fulmar: October 4, 1971 - five; October 17, 1971 - one; October 18, 1971 - one; October 30, 1972 - one; October 2, 1984 - one.

Sooty Shearwater: September 9, 1969 - one.

Manx Shearwater: October 7, 1972 - two.

Wilson's Storm-Petrel: October 26, 1970 - one; October 30, 1981 - one.

Leach's Storm-Petrel: October 17, 1971 - two; October 24, 1971 - one; October 29, 1973 - two.

Snow Goose: November 29, 1969 - one; October 23, 1980 - twelve; November 10, 1980 - fifteen.

Wood Duck: September 28, 1972 - one; October 3, 1979 - one.

American Wigeon: October 8, 1967 - thirty; September 27, 1968 - two; September 29, 1968 - three; November 8, 1969 - twenty-eight; October 9, 1970 - one; October 1, 1971 - one; October 9, 1971 - one; November 6, 1971 - three; October 9, 1973 - eight.

Canvasback: October 30, 1971 - two.

Lesser Scaup: October 10, 1968 - five.

King Eider: October 25, 1970 - one; October 27, 1970 - one; October 17, 1971 - three; October 31, 1971 - two; October 28, 1976 - one; November 19, 1984 - four; December 2, 1984 - one; December 14, 1984 - one.

Harlequin Duck: October 2, 1984 - one; November 1, 1984 - one; November 8, 1984 - three.

Hooded Merganser: October 25, 1970 - one; November 1, 1972 - three; October 30, 1977 - ten; December 6, 1984 - two.

Ruddy Duck: October 19, 1968 - one; October 21, 1971 - five; October 4, 1976 - three; October 20, 1976 - two; October 23, 1976 - two.

Red-necked Phalarope: October 24, 1971 - three.

Pomarine Jaeger: November 2, 1969 - one; September 21, 1977 - two; October 23, 1984 - one.

Little Gull: October 11, 1970 - two; October 12, 1970 - two.

Common Black-headed Gull: October 9, 1971 - one; October 24, 1974 - one; October 25, 1974 - one; November 10, 1984 - one; December 9, 1984 - one.

Iceland Gull: September 27, 1968 - one; October 26, 1976 - one; November 8, 1976 - one.

Caspian Tern: October 14, 1972 - two; October 13, 1979 - two.

Royal Tern: October 6, 1980 - three.

Roseate Tern: September 9, 1969 - five; September 10, 1969 - two; September 12, 1969 - six; October 6, 1972 - one.

Forster's Tern: September 14, 1969 - one; September 28, 1972 - two; November 11, 1976 - one; November 2, 1983 - one; November 5, 1983 - one.

Least Tern: September 12, 1969 - seven; September 18, 1969 - three; September 23, 1969 - one; September 24, 1970 - fourteen; October 23, 1976 - thirteen.

Common Murre: November 25, 1975 - two.

Thick-billed Murre: November 6, 1969 - one; November 8, 1969 - one; November 10, 1969 - eight; November 19, 1979 - five.

Black Guillemot: October 31, 1979 - one; November 25, 1984 - one; December 1, 1984 - two; December 6, 1984 - three.

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VINCENT G. YURKUNAS, who has his M.S. in Wildlife from Louisiana State, first became interested in birds in college when he took an ornithology course at the University of Massachusetts and has been an active birder ever since. He developed "an intense passion for raptors" and worked at the Raptor Information Center of the National Wildlife Federation in 1979 and at Whitefish Point Bird Observatory in Michigan in 1985. He also banded waterfowl in Alberta, Canada, for the USFWS, served as research intern at MBO, and worked as a field biologist at the Kalamazoo Nature Center, collecting data for the Michigan Breeding Bird Atlas. Most of his ten years of experience have been in the east, but since 1982, he has expanded his birding in travels through a number of western states and northern Mexico.

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