THE FLIGHT OF THE SEA COOT

A LOOK AT AUTUMN SCOTER MIGRATION

by Wayne R. Petersen, Whitman

Picture a sparkling blue sea, a cloud-studded azure sky, and a brisk north wind, and you have just the ingredients for one of midfall's finest coastal migration spectacles - the flight of the sea coot. Sea coot are more properly called scoters, of which we in North America have three species: the Black Scoter (Melanitta nigra), the Surf Scoter (M. perspicillata), and the White-winged Scoter (M. fusca). Colloquial names like "black coot," "skunkhead," and "bull whitewing" are widely used among veteran sea duck hunters and are descriptively appropriate. Regardless of name, all scoters are chunky, soot-colored sea ducks whose preferred winter haunts are the storm-tossed waters of the Atlantic Ocean. Males of each species are distinctive. The Black Scoter sports a swollen yellow knob on top of its bill, and the Surf Scoter displays white patches on the front and back of its head. Both male and female White-winged Scoters flash large white wing patches. Females and immatures of all scoters are brownish-gray in color and in Black and Surf scoters lack the distinctive bill and head markings of the adult males.

The autumnal passage of these sea fowl provides viewing pleasure to the casual observer, ornithologist, and sportsman alike. In long wavy strings they come, some flying high in loose formations that melt into ever-changing bunches as they draw closer, while others travel low in lines, barely clearing the wave tops as they scud along among the troughs. On days with favorable migration conditions, spectacular numbers of southward-bound scoters can be witnessed in only a few hours of morning observation. The flights are best observed from an exposed headland that affords a full view of the sea, ideally during the month of October, although any time from mid-September to mid-November will promise at least a few birds. The favored locations along the Massachusetts coast include Halibut Point in Rockport, Point Allerton in Hull, the Glades in North Scituate, Gurnet Point in Duxbury, Manomet Point in Plymouth, and Sandy Neck Beach in Barnstable. Wind conditions will influence both the height that the birds fly and their distance from shore, but at prime locations, such as Manomet Point, many flocks are within easy naked-eye viewing distance. Generally the largest flights occur in early

to mid-morning, but on days of heavy migration, the birds move all day. In spite of subtle interspecific differences in the timing of migration, all three scoters can often be encountered in a single flock. In addition, various other species often migrate south with the scoter flocks, the most frequent being Common Eiders (Somateria mollissima) and Oldsquaws (Clangula hyemalis).

Gunners with a taste for adventure (few but the most ardent gourmets have a genuine appetite for scoters!) enjoy hunting the birds from small boats. Historically, undertaking their sport in cooperative fashion, coot shooters would form long lines of boats anchored in such a way that passing flocks would run a gauntlet of gunfire. The scoters would often repeatedly return to crippled companions or to investigate the dark wooden blocks that served as decoys for these unsuspecting birds. Today, few sportsmen are intrepid enough to brave an October gale or skillful enough in aiming a shotgun in a bouncing boat to make the endeavor very fruitful. Manomet was, and remains still, one of the preferred localities to observe the migration as well as to see coot shooting.

Of course, there is more to be derived from the observation of scoter migration than aesthetic pleasure. In fact, there is much that remains to be learned about scoters, especially the Surf Scoter, which is possibly the least studied waterfowl in North America. With this in mind, the author undertook the responsibility of designing and directing a sea duck migration study for the Manomet Bird Observatory during the fall seasons of 1969-1973. With the initiation of the Seawatch Project, a number of questions were immediately raised. What was the relative abundance of the three species of scoters during their fall migration? What local weather conditions seemed to most strongly affect scoter migration in southeastern Massachusetts? What were the flight pathways for scoters entering Massachusetts waters? How did migrant scoters entering lower Cape Cod Bay negotiate Cape Cod on the way to their wintering grounds? What was the timing sequence of age and sex classes in the scoter species? For a detailed discussion of the findings of the study on these questions, the reader should consult the author's Manomet Bird Observatory research report listed in the references. For the purposes of this article, only the principal findings concerning migration routes and behavior, weather correlations, and the relative abundances of the species will be discussed.

All three scoter species breed in the boreal forest areas of western Canada and Alaska with only the White-winged Scoter barely reaching the northern border of the western prairie states in the United States. The Black Scoter's breeding range is confined largely to Alaska. However, both the Black and the Surf Scoter have disjunct populations of uncertain size in the northern reaches of the Ungava region of Quebec. All three species winter on both Atlantic and Pacific coasts in varying numbers, but the Surf Scoter is much the most

abundant on the Pacific coast, and the Black Scoter is the least common on both coasts. Migration from arctic and subarctic breeding areas to the coasts of North America is accomplished in several ways, but only the Atlantic coast approach will be outlined.

While some uncertainty surrounds the precise migrational strategy employed by scoters as they head for Atlantic coastal wintering areas, it is thought that most either make nocturnal flights to the southeast from James Bay, probably hitting the coast on a broad front in northern New England, or else fly eastward toward Labrador and the Gulf of St. Lawrence before turning southward down the coast. Regardless of their approach to New England waters, it appears that two distinct flight lines exist by the time the birds reach Massachusetts. The first of these local routes follows the inner coast and accounts for the birds that one sees off Cape Ann and in lower Cape Cod Bay. The other route brings birds over the Atlantic to outer Cape Cod from the northeast, possibly from flights originating in the Canadian Maritime Provinces.

The way in which the large numbers of scoters that enter Cape Cod Bay actually make their way around Cape Cod is quite interesting, if not still somewhat mysterious. On days of major flights at Manomet, one finds upon a visit to Sandy Neck in Barnstable that as birds reach Scusset Beach, at the southwestern corner of Cape Cod Bay, they swing east parallel to the shore and fly for several miles, often to the cul-de-sac at Eastham where the shore turns northward. Here, they circle to the west which brings them back toward Barnstable. Thus, an observer at Barnstable is frequently able to see large flocks of scoters headed in two directions, some close to the beach headed eastward and some way off shore headed to the west. Ultimately, these milling flocks congregate several miles off Barnstable Harbor forming dense rafts comprising thousands of birds. They will usually remain there until late afternoon when small groups of birds begin to take off. After some preliminary circling at great heights, they set off to the south on a course that brings them out, undoubtedly, somewhere near Centerville on the Cape's south side. It is known that scoters are loath to fly over land by day. So they must be using this technique in order to make the cross-Cape flight by night, despite the short distance. Variations on this theme suggest that some of the birds, but certainly not most of them, will cross the Cape directly by day - near the canal, over Barnstable Harbor, or at Eastham. This usually occurs on heavy flight days, most frequently in early morning or late afternoon.

Once the birds cross the Cape, their behavior is difficult to ascertain, because most often the flights occur at night. Undoubtedly some birds (perhaps many?) swing east to the shoals off Monomoy, or they continue south across Nantucket Sound passing east of Martha's Vineyard on their way to wintering areas off Long Island or points south. The precise

wintering destinations and concentrations vary, but the majority of the population of each species ends up between southern New England and the capes off Virginia.

The heaviest scoter flights tend to come following a Canadian cold front or with winds from the north and east sides of the compass. Severe northeast storms in October always generate major flights often with counts of many thousands being recorded in a day at such favored localities as Manomet. Southwest winds are the very worst for observing sea duck flights.

The species composition of each day's flight may vary somewhat, but on a seasonal basis, the Seawatch Project showed that at Manomet in the early 1970s Surf Scoters dominated the season's passage by better than 2:1 over the White-winged Scoter, and Black Scoters were consistently the least common species. To illustrate these generalizations, some figures from the Manomet Bird Observatory data for the years 1969-1972 may be useful. The combined four-year totals for each species were as follows: Surf Scoter - 165,425, White-winged Scoter - 74,358, and Black Scoter - 32,662. What is particularly interesting about this data is that the White-winged Scoter traditionally dominated the flights in the 1930s and earlier. Even today it is the Whitewing that constitutes the majority of the huge scoter rafts wintering on the Nantucket and Monomoy shoals. The principal wintering grounds of the Surf Scoter lie to the south, off New Jersey and Virginia. Indications from a variety of sources seem to suggest that a decade ago there had been an increase in the Atlantic population of the Surf Scoter rather than any decline in White-winged Scoter numbers. More study of this situation would definitely be of value.

There is still much to be learned about the local behavior and population of Massachusetts' scoters. Of particular interest, in addition to the assessment of present scoter population numbers, is the migratory behavior of scoters reaching outer Cape Cod from the northeast. Also, what is the final destination of scoters that cross the lower Cape, and how do the great Monomoy and Nantucket aggregations arrive? And finally, an area that is rich for further investigation is the spring migration of the scoters. Circumstantial and historical evidence suggests that their spring migration strategies may be very different from those they use in autumn.

Keeping some of the above facts and questions in mind, with the first brisk north winds of October, indulge yourself in a day of coastal migration watching that promises to provide both mystery and pleasure. Follow, as the author has done, the flight of the sea coot.

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adverse conditions. Their findings deserve grateful acknowledgment. Where would ornithology be today if it were not for generations of willing volunteers?

For those wishing additional information on scoters, the following references are recommended.

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