THE NANTUCKET OLDSQUAW FLIGHT: NEW ENGLAND'S GREATEST BIRD SHOW?

by William E. Davis, Jr.

On December 30, 1995, at about 3:00 P.M., Edith Andrews drove us down Smiths Point (Esther Island), the western tip of Nantucket Island, to witness the evening flight of Oldsquaws. At about 3:30 small flocks began to appear on the southern horizon and wend their way in our direction, flashing overhead and disappearing to the north, swallowed up by Nantucket Sound. Within minutes the southern horizon became smudged with swirling, distant flocks of Oldsquaws, "clouds of smoke" as Edith described them. The wisps coalesced into a continuous dynamic skein of ducks making its way over us. Some flew in tight clusters, others in V's, a more or less continuous tube of ducks, a sinusoidal wave splitting into different threads much like a braided stream, ducks careening about and changing altitude from near sea level to a few hundred feet. We were bombarded by the babbling chatter which gives the bird its name. Sometimes the main flocks were to the right of us, sometimes to the left; occasionally they flew directly overhead.

This massive flight continued unabated for nearly an hour before gaps signaling diminished numbers began to appear, but never during that hour were Oldsquaws not in sight. The following afternoon the Oldsquaws were counted by a team of observers for the Nantucket Christmas Bird Count (CBC), and at the tally that evening the number reported was 251,754. We may not have seen that many, since the CBC counters spend several hours or more, but it was close. Nearly a quarter of a million Oldsquaws flying by in about an hour—certainly one of the greatest, if not the greatest, bird show in New England. If Bellrose's (1976) estimate of the North American Oldsquaw population of 3-4 million is correct, then in one hour we saw approximately one out of every fourteen Oldsquaws in North America.

When and where do they go?

Oldsquaws, which breed on the arctic tundra around the world, are probably the most Arctic-adapted duck in the world (Johnsgard 1975). Wintering birds arrive around Nantucket in numbers, according to Edith Andrews, during mid-November, and daily flights involving hundreds of birds begin about Thanksgiving. Their numbers increase until about mid-December and then remain stable until about mid-April, when the birds begin departing for the arctic breeding grounds.

Some mystery surrounds Nantucket's daily Oldsquaw flights since no one is sure about the birds' daily routine. The evening flights proceed northward from the Atlantic Ocean, across the island, and into Nantucket sound. Oldsquaws tend

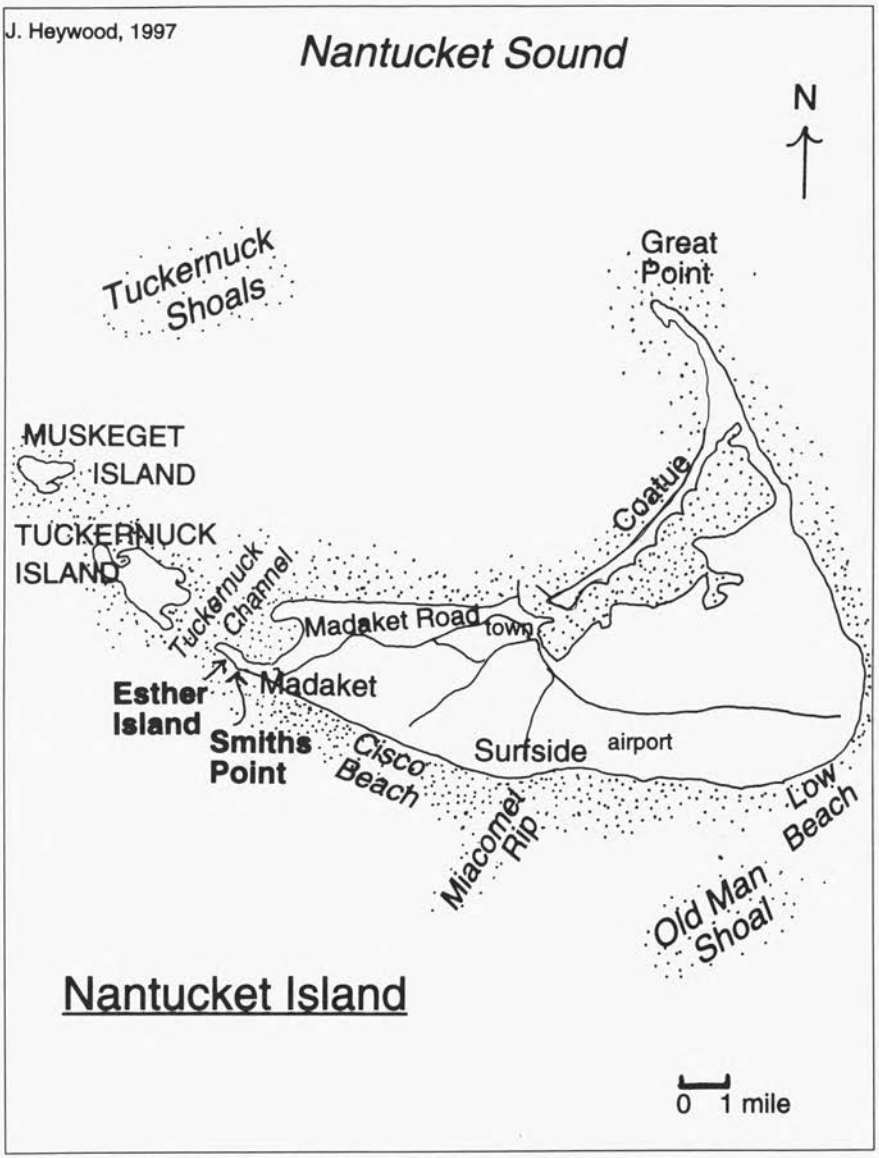


Figure 1. Nantucket area

to spend the night in deeper waters (Johnsgard 1975), so the Nantucket flocks presumably find sufficiently deep water on Nantucket Sound north of Tuckernuck and Muskeget Islands (Figure 1). Simon Perkins reports that concentrations of Oldsquaws could be more readily seen from the Steamship Authority ferry that used to run between Nantucket and Woods Hole, as it passed by the area of the Tuckernuck Shoals. But according to Edith Andrews, there is a paucity of fishing boats in the Sound area, so people do not get a chance to hitch a ride and see the evening distribution of the birds. The precise roosting area(s) of the Oldsquaws are not known. The best indication is the direction in which they disappear in the evening and reappear in the morning flight.

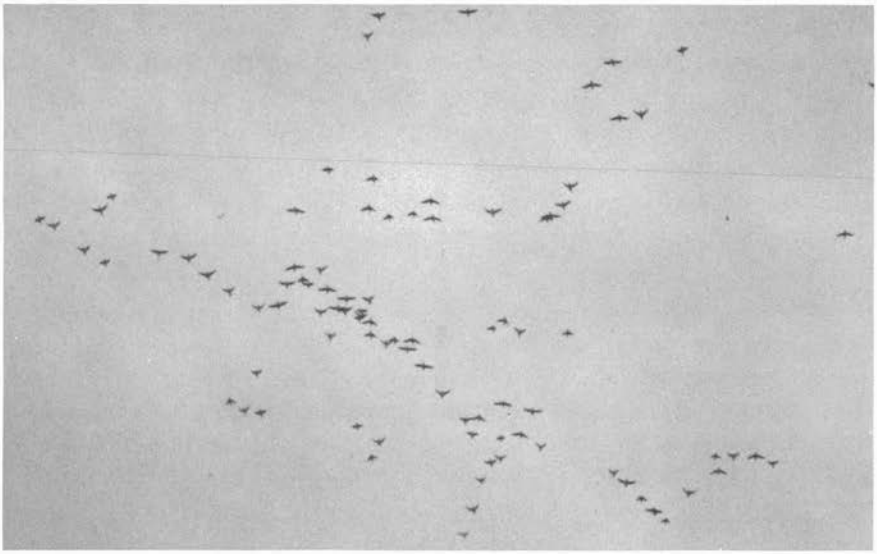
The birds usually pass over the west end of the island on their way to the Sound in the evening and at dawn return south, largely reversing the afternoon pattern. The morning flight is more likely to occur over water through Tuckernuck Channel than over the Island. However, it may be even more spectacular than the evening flight because it is briefer and therefore more compact. Perkins (1988) describes how birds "approach from the north like clouds of insects, and wing toward the open ocean. Their incessant calls create a pleasant babble that drifts across the water. . . . Within thirty minutes the main flight is over." They fly through Tuckernuck Channel and fan out across the various Nantucket shoals where presumably they feed during the day. Early records (Mackay in Bent 1925) report flocks estimated at 2000 birds off the south shore of Nantucket, and congregations at Miacomet Rip and Old Man Shoal (Figure 1). The location and direction of the morning flights are influenced by the vagaries of wind and tide conditions.

Oldsquaws eat predominantly crustacea (amphipods are a major item) and mollusks; fish represent a minor food item (Bellrose 1976, Cramp 1977, Palmer 1976 and references therein). Bird diets, however, tend to be sensitive to season and location, and Nantucket Oldsquaws may be eating something different , e.g., sand lance (R. Veit pers. comm.). Oldsquaws forage at a variety of depths up to 150+ feet, but generally forage to about 25 feet in coastal areas (Johnsgard 1975). Hence they should show a preference for the shallower shoal areas.

The daily dispersal pattern of the birds among the Nantucket shoals remains another of mystery, since, as with the evening flights, no one has followed the birds to record where they go. The daily whereabouts of the birds is even more poorly known than their roosting site in the Sound. Edith Andrews reports, however, seeing about 15,000 Oldsquaws swarming around a fishing boat off Surfside one afternoon. Several people have considered following the birds with fixed-wing aircraft, but pilots are hesitant to chase the birds at low altitudes far over the water during the winter—a dunking in these frigid waters could prove most unfortunate.

How many Oldsquaws are there?

Counting the morning or evening flight of Oldsquaws is a real challenge. When I asked Edith Andrews how people count these birds, she replied "Oh, with difficulty!" Generally, most counts are done with several observers and someone recording the numbers as they are called out. It is virtually impossible to count individual birds because there are so many and they fly so fast, so counts of estimated segments of the flock, often a hundred birds, are made. The difficulties are compounded by the dynamic flight of the birds, the flocks often changing altitude and splitting into smaller skeins and then rejoining the main flock. In 1996, on the evening before the Christmas count, I again joined Edith Andrews and others for the evening flight. This year the main flocks were passing over Madaket (Figure 1), so we did not need to venture out onto the beach. By 3:40 the flight was well underway and, although somewhat diminished in intensity, was still going strong at 4:40 when the fog closed in, ending the show. I did a little experimenting with estimating numbers of Oldsquaws by videotaping flocks in ten-second segments every two minutes or so. I later determined the time it took for birds to pass across the video screen (about 2 seconds for birds flying directly overhead, 3.5 seconds for flocks to the left or right), and then repeatedly pressed the pause button and counted the birds visible on the screen. I then averaged the counts and divided by the number of seconds, and multiplied by 3600, the number of second in an hour. Counts of the more distant flocks (much harder to count) produced an estimate of 126,000 Oldsquaws; counts of closer flocks, 198,000. These estimates are clearly biased



Skeins of Oldsquaws fill the sky. *Photo by W. E. Davis, Jr.*

in a number of ways (e.g., the sample was neither strictly random nor distributed across the entire period of the flight, and the number of my counts was small). But it was encouraging to find that the two numbers bracketed the Christmas count tally of the following day, 148,615.

There are other problems—if you videotape the birds using high magnification you don't record the whole flock, but if you use low magnification the dots on the screen are smaller and more difficult to count. The flocks are often split so that it would be impossible to videotape all the passing birds with a single camcorder. A transcription of a segment of the tape may give some indication of the problems involved: "550 in the flock that just went over—here's another batch over here! Gotta get counting!" [another person]: "You can't count them!" [another person] "There's a whole bunch of small flocks further down—look over here to the left, a sizable flock, a pretty compact one." Videotaping, done with planning and care, may provide a technique for making better estimates of Oldsquaw flights than the traditional counting methods, but at present the old-fashioned way is probably more reliable.

The numbers of Oldsquaws reported from the Nantucket and Tuckernuck Christmas Bird Counts (CBC) have increased over the years, but have shown enormous variability (Table 1). The early low numbers for Nantucket are probably related to the paucity of observers, and such gross abnormalities as the 1989 Nantucket count of 994 and Tuckernuck count of 77 were weather related. Some of the variability is related to the response of Oldsquaws to tide and wind conditions. For example, on this year's CBC the morning flight was abnormal. Usually at least part of the flight can be viewed from Cisco Beach (Figure 1), but this morning we saw only a few stragglers—an hour or more of observation yielded fewer than 300 Oldsquaws. How much of the reported variability is due to actual differences in Oldsquaw numbers remains obscure. The increase in numbers during the late 1970s, however, appears to be real and may be related to increasing sand lance populations (R. Veit pers. comm.).

This remarkable flight of Oldsquaws may not be a new phenomenon. Mackay (Bent 1925) describes the situation in 1891:

> Here [the shoals south of Nantucket] they live in security, with an abundance of food, during the day. About 3 o'clock p.m. they commence to leave this place for the Sound (the movement continuing until after dark) where they regularly roost, flying around that part of the island which affords them at the time the greatest shelter from the wind, returning the following morning to their feeding ground by whichever route is most favorable.

Ludlow Griscom and Edith Folger (Andrews) make no reference to the daily flights of Oldsquaws in their *The Birds of Nantucket* (1948), suggesting that the flights at least may not be a consistent phenomenon. But Edith Andrews recently suggested that the flights probably did occur, since duck hunters

consistently frequented Smiths Point, and that the few birdwatchers available simply may not have been aware of the phenomenon. Her brother-in-law, George Andrews, who used to hunt ducks with his father and Edith's husband Clint, told her that he thinks that gunners have known about the flight for 150 years or more. They used to go to Smiths Point for the afternoon flight and to Eel Point for the morning flight.

Phillips (1922-1926) suggested that the Oldsquaw's status had not changed much in the previous half century, and attributes variability in numbers to local weather and habitat conditions, concluding, "With a bird like this a local wintering group may vary from one to a thousand without a particle of change in its status over a hundred miles of coast." He points out that Oldsquaws are safer from man than most ducks, nesting in the high Arctic, and tasting "several grades worse than the Golden-eyes."

Thus, although quantitative counts are lacking, it seems probable that large winter concentrations of Oldsquaws in the offshore waters of Massachusetts and the remarkable phenomenon of these daily flights of thousands of Oldsquaws have been ongoing, at least intermittently, for a century or more.

How can I see this Oldsquaw show?

The best way to visit Nantucket during the winter is by ferry from Hyannis (508-477-8600). There is also a high-speed ferry (Hyline) and plane service. Unless the fog is thick, birding from the ferry can be excellent. The 9:15 A.M.

Table 1. Counts of Oldsquaws on Nantucket and Tuckernuck Christmas Bird Counts. Numbers in parentheses are actual numbers reported, all other numbers represent thousands of birds, rounded to the nearest thousand.

	Nantucket	Tuckernuck		Nantucket	Tuckernuck
1956	(166)	-	1984	8	5
1960	(45)	-	1985	86	27
1965	(17)	-	1986	50	57
1970	(10)	-	1987	179	141
1975	27	-	1988	71	142
1976	4	-	1989	(994)	(77)
1977	15	26	1990	32	85
1978	24	3	1991	115	50
1979	65	18	1992	159	3
1980	13	14	1993	50	125
1981	8	1	1994	16	-
1982	82	21	1995	251	8
1983	11	4	1996	149	-

ferry arrives at 11:30, which provides plenty of time to get to viewing areas by 3:00 P.M. The most reliable place in recent years to view the flight has been from Smiths Point (Esther Island) at the extreme western tip of Nantucket (Figure 1). The flight location can be variable, however, and Edith Andrews reports having seen the flight from as far west as the airport. But Smiths Point is the best bet. It can be reached by getting onto Main Street from the ferry dock (Old North Wharf) and following Main Street until it joins Madaket Road (Figure 1). Follow Madaket Road until it ends in Madaket (a distance of not much more than five miles). Then turn left on Ames Avenue and follow it until it ends. Then follow (for less than half a mile) the "unimproved surface" road taking your first right and then at the "T" turning left and parking by the little wooden guardhouse. From there you can walk (or, with the proper permit, four-wheel drive) onto Smiths Point. How far you have to go depends on where the ducks decide to cross that day. This is a good place to watch the morning flight at daybreak as well.

As long as you are already on Nantucket, you might as well bird the rest of the island. I would highly recommend the chapter on Nantucket by Marcia Litchfield in *A Birder's Guide to Eastern Massachusetts* (Bird Observer 1994), and *Birding Nantucket* by Edith Andrews and Kenneth Blackshaw (1993).

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