Chronicling Spring Hawk Migration on Cape Cod

Melissa J. Lowe and Donald Manchester, Jr.

For many of us the word "hawkwatch" conjures up images of sitting atop a mountain in September watching a kettle of hundreds of Broadwings soar lazily overhead. But here on Cape Cod we lack mountainous peaks and a strong fall migration of hawks. Instead, the spring season offers us the best and most numerous looks at birds of prey as they make their way north, and it is the furious flight of Sharpshins and kestrels that occupies most of our attention.

One of the best places to observe the spring migration of hawks on the Cape is at Pilgrim Heights in North Truro, located within the boundaries of the Cape Cod National Seashore. It is here, on a bluff with views of the Atlantic Ocean, where you can find staff and volunteers from Massachusetts Audubon's Wellfleet Bay Wildlife Sanctuary, at least five days a week during the months of April and May, observing and recording the hawks that go by (or whales when the hawks are slow!).

Organized by the Wellfleet Bay Wildlife Sanctuary, with support from Eastern Massachusetts Hawk Watch and permission from the Cape Cod National Seashore, the Pilgrim Heights Hawk Watch has just completed its fourth season. While up at Pilgrim Heights, staff and volunteers are responsible for spotting and identifying hawks, keeping records of each individual bird seen — recording its species, the time, direction of travel, and age and sex. Weather observations, including wind direction, wind speed, and temperature, are recorded on an hourly basis. During our first year in 1998 we spent 24 days totaling 112 observation hours at the site, and we recorded 577 hawks. We increased our coverage in 2001 to 59 days equaling 315 observation hours and saw 2462 hawks.

We didn't choose Pilgrim Heights as our location to study spring migration just because of its fantastic views, although that certainly helps! This narrow strip of land, situated on top of a bluff overlooking dunes, marsh, and heathland, provides an almost 360-degree panorama. Hawks often fly right overhead or at eye-level, especially when the winds are strong, offering excellent views of the birds. As documented at other coastal sites, hawks migrating in the spring in the northeast tend to follow leading edges — the coast or large bodies of water like the Great Lakes — and the prevailing winds encourage the birds to move along the coast. Peninsulas like Cape Cod and Sandy Hook, New Jersey, act as a sort of funnel. Many birds following the coast end up on the Outer Cape and pass by Pilgrim Heights. Other good locations

for spring hawkwatching on the Cape include Fort Hill in Eastham, Marconi Site in Wellfleet, and Highland Light in Truro. Like Pilgrim Heights, these spots are located on the east side of Cape Cod's "forearm," overlooking the Atlantic Ocean.

Past records from Pilgrim Heights also indicate it is a good spot. Our hawkwatch is certainly not the first time the spring migration of hawks has been documented here. There is a long history of hawkwatching here, including the efforts of Ginger Carpenter in the 1980s. Other individuals like Tom Carrolan and Blair Nikula also have long ties with this spot and have spent (and continue to spend) considerable time documenting the movement of hawks in the spring on the Outer Cape.

The Wellfleet Bay Wildlife Sanctuary has invested time in this hawkwatch for several reasons. One of the goals is to collect local data on the migration and natural history of hawks. Little is known about the spring migration of hawks in general, and our data could help to complete a piece of that picture. It also provides a contribution to the knowledge of the population status and migration habits of raptors on an international level through submission of our reports to the Hawk Migration Association of North America.

More importantly, and the main reason the count was started, is the educational value of the hawkwatch. Our count is conducted at a public spot, and anyone can stop by to learn more about our efforts. We have purposefully advertised the hawkwatch to promote public involvement, and on a nice weekend day we can have as many as twenty-five people stop by. We also post our results on the internet, including weekly postings to MassBird. Through these educational efforts, the hawkwatch can serve a valuable role in raising an appreciation for the conservation of birds of prey and the importance of protecting flyways, as well as increasing the public's awareness of the Wellfleet Bay Wildlife Sanctuary.

Our education extends beyond the visiting public to include the many volunteers who donate their time to the hawkwatch. Over the course of the four years, we have had over fifty people become actively involved in this form of wildlife research, and many are new to the identification and natural history of hawks. Not all have remained to help us out—the low counts and bitter winds in the beginning of the season result in a high attrition rate; however, many of the twelve dedicated volunteers who are with us this season have taken part in the hawkwatch since its inception in 1998. We are extremely fortunate to have these volunteers, especially coauthor Don Manchester, who donates hundreds of hours each season as the primary observer.

As with other hawkwatches, the Pilgrim Heights Hawk Watch is not without its rewards and challenges. One of the more exciting aspects of watching hawks on the Outer Cape is the opportunity to see rare species like Mississippi and Swallow-tailed kites. These birds are most often seen on Cape Cod during the months of May and June, during periods of warm weather and southwest winds. Over the years these vagrants have been seen with increasing regularity, and every year at least one of the species of kites makes its way to the Cape and is often seen at Pilgrim Heights. During our 2001 season we recorded 6 Mississippi kites (5 subadults and 1 adult).

Perhaps our increased coverage and the sustained warm temperatures and southwest winds we experienced in May accounted for this high number. Other vagrants recorded at Pilgrim Heights include Swainson's Hawk and Black Vultures. Both species were represented during the 2001 season as well.

One of the greatest challenges we have at Pilgrim Heights is differentiating migrant birds from resident birds. Some of the more troublesome species include Turkey Vultures, American Kestrels, and Northern Harriers. While Turkey Vultures represent one of the largest total number of species at this hawkwatch, with 647 recorded in 2001, their numbers should be viewed with a fair amount of caution. Are we counting individual birds twice (or more) as they make wide, lazy circles around the Outer Cape? How long do they remain on the Cape before finally moving on to other destinations?

American Kestrels pose similar challenges. The month of April is when we see the majority of kestrels. We assume most of these are migrants because the nesting kestrel population on Cape Cod has declined sharply over the years. Many of these migrating small falcons are seen hanging out on the dunes, hunting for up to several hours at a time. One female was observed for an hour. She progressed steadily north, stopping to hover-hunt every few seconds, then flew south along the dunes to start all over again. With not enough observers to watch each individual bird, the question is raised: are we recounting individuals as they hunt the dunes? In attempts to tackle this problem, in the 2001 season, we did our best to scan the dunes every thirty minutes and record the maximum number of Kestrels per scan.

Northern Harriers are thrilling to watch up at Pilgrim Heights as they float and twist over the marsh. However, they can cause a level of frustration when we try to determine who is a migrant or who is a resident. A resident male and at least two females make the marsh their home each year. These birds can be seen daily, coursing over the dunes and marsh, and in early April, exhibiting courtship displays. (We assume these are the same male and females each day anyway!) Accordingly, an adult male harrier and up to two females observed in this type of flight pattern and display are considered residents and are not recorded (male harriers have been documented to support more than one mate). Any harrier seen flying at a considerable altitude and making its way steadily to north, however, is considered a migrant. Also, any time more than one male is seen at a time, one of those males is considered a migrant. Not a perfect science, but consistency is key!

Another challenge at this location is keeping track of southbound birds. While you would think of spring migration as a cut-and-dry movement north, this is not necessarily so on the Outer Cape. Some species and individual birds, upon reaching the tip of Cape Cod and seeing the expanse of Cape Cod Bay and the Atlantic Ocean before them, turn around and head south and west, following the coastline back off Cape. This is especially the case on days with strong winds over 15 mph, when a large percentage of the total number of birds seen are observed traveling in a southerly direction.

But what happens on those days when we don't see many south-bound birds? As with all hawkwatch migration, wind direction, wind speed, and temperature have a profound influence on the movements of the birds. On days featuring southwest winds and warm temperatures that create considerable lift, we often see large numbers of Sharp-shinned Hawks and American Kestrels moving north toward Provincetown. But very few of these birds, if any, are observed returning and heading south. Are these birds using the weather conditions to gain lift and, seeing the mainland to the north and west, crossing the water? Or have they reached such altitudes that we don't see them if they turn around? Interestingly, the majority of the birds we see are immature birds. How does their inexperience affect their movements when encountering the Cape's water barriers?

Wind not only affects what direction the hawks take, but we believe it also affects the numbers of hawks seen on any given day. Without having thoroughly analyzed our data, our general impression is that southwest winds produce the greatest number of birds at Pilgrim Heights. However, this is variable. For example, in 1999 the days with light northeast winds constituted our highest counts. Contributing to this may be the fact that there were very few days of southwest winds during that year. Out of the 32 observation days, only 7 days had winds from a southerly direction. Conversely, in the 2001 season, 21 of the 59 observation days featured winds from a southerly direction, and the majority of the highest daily totals of hawks were recorded on those days. We are curious to see if this general pattern holds for next season.

Because our consecutive-day coverage at Pilgrim Heights is still in its infancy, we have not yet acquired a substantial amount of data, so we have far more questions than conclusions. And perhaps, given the nature of nature, we may never arrive at any answers. We do have goals, however. These include continuing the regular coverage at Pilgrim Heights (as long as the surrounding, growing vegetation will allow us to see and record from this spot), adding a second site to the west or north of Pilgrim Heights to better document southbound movement of birds, promoting more involvement by experienced hawkwatchers to meet the first two goals, and soliciting the help of more experienced researchers to help interpret our data. Most importantly, however, is the goal to continue having fun and sharing our experiences with other people.

Melissa Lowe *is an Education Coordinator for Massachusetts Audubon Society's Wellfleet Bay Wildlife Sanctuary, and she coordinates the Pilgrim Heights Hawk Watch. Melissa's interest in birds of prey was nurtured at the Blue Hills Trailside Museum in Milton where she worked as a naturalist using live, injured animals (owls and falcons) in educational programs. Melissa has also worked for Manomet Center for Conservation Sciences in Manomet, Massachusetts and HawkWatch International in Salt Lake City, Utah. She resides in North Eastham with her husband, Ed Cestaro, and two dogs, Murphy and Jed.* ***Donald Manchester, Jr.*** *of Sandwich, Mass., is the primary observer at the Pilgrim Heights Hawk Watch. Retired from his profession of surveying, Don now volunteers his time to count hawks for Wellfleet Bay in the spring. Don also employs his hawk identification skills for the United States Fish & Wildlife Service's Monomoy National Wildlife Refuge, conducting a fall count of migrating hawks for them on Morris Island in Chatham. His passion for birding and hawks began early while growing up on Cape Cod in Osterville, Massachusetts.*