

A Season of Plover Monitoring on Martha's Vineyard

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On April 2, 2000, I boarded the *Islander* in Wood's Hole, MA. The cloud-choked sky was both expected and welcomed. Coming from points west where the sun overstates its welcome and precipitation is usually a tease at best, I was looking forward to a slow and dreary spring on Martha's Vineyard. Although somewhat out of reach of friends and family off-island, the prospect of spending a summer in the Northeast had me in a good mood. I grew up in southeastern Massachusetts; the first birds I ever learned were there and in New Hampshire. Now I would have the chance to better acquaint myself with many of them. This was a motivating factor in accepting a job monitoring the Piping Plovers (*Charadrius melodus*) of the Vineyard. A member of an underworld of itinerant field ornithologists, I have been traveling around, finding ornithological field work in return for housing, good scenery, and modest payment. What follows is the summation of one of those jobs, the experience of a spring and summer as a plover monitor for the Sheriff's Meadow Foundation on an overly visited island.

Sheriff's Meadow Foundation (SMF) is a Vineyard nonprofit land trust. Mainly concerned with the acquisition, protection, and stewardship of the remaining and rapidly dwindling undeveloped land on the island, it owns over 100 properties comprising more than 1750 acres. SMF also sponsors a shorebirds program, developed and still run by Debra Swanson. This broad-sounding program is mostly limited to Piping Plover monitoring but also involves some oversight of Least Terns, the only Common Tern colony on the island, and a growing population of American Oystercatchers. The unique value of the SMF's program is its cooperation with private landowners. Piping Plover management across the island is split between Dukes County, Massachusetts Audubon, The Trustees of Reservations, and SMF, depending upon land ownership. Many private landowners find themselves more comfortable dealing with a local private group instead of large nonprofits or government agencies. The latter, by their very nature, can seem to apply pressure without intention. While a couple of property owners on the island refused us access, the vast majority allowed for plover management. This nearly unanimous gesture is a comforting indicator of public interest in the environment and allows protection efforts where none existed twelve years ago.

Sheriff's Meadow Foundation is generally responsible for about half the island's nesting pairs, depending on where the plovers find appropriate habitat each year. The island's population has varied recently from 45-57 pairs, up from a dismal nine pairs just a decade ago. Most sites remain attractive to home-shopping plovers from year to year, but with the dynamic nature of ocean shores this can readily change. Anyone familiar with New England winters and the accompanying storms does not have to stretch the imagination very far to see how this is possible. Therefore, early in the

season it is important to walk all beaches with known habitat or with the potential to have been transformed into habitat during the winter. This walking, through April's damp demeanor, was to characterize my first month of work.

On April 3 I met my supervisor at SMF, Debra Swanson. An eleven-year veteran of Piping Plover protection, she familiarized me with the various plover sites around the island and what plover behavior and sign to look for. She is a fiercely dedicated and extremely knowledgeable woman who contributed many hours of help and guidance each week. After Debra's initial instruction, it soon became easy for me to spot the inconspicuous scrapes the males make shortly after arriving in mid-to-late March. In attempting to attract a female, the male plovers maintain a territory and will often make these practice nests even before paired. This behavior is not so unusual among birds; Verdins and males of many wren species will also make multiple nests before one is chosen by the female.



Eventually, when the plovers are paired and the female has chosen a suitable scrape, the pair begins to adorn it with small white bits of shell. This decoration will continue even after egg laying has commenced. But we must not forget courtship, that interesting set of behaviors that stimulates avian hormonal changes yet befuddle the minds of humans trying to tease out the evolutionary processes that lead to such complexity. Courtship begins with the male making a scrape by pushing his breast into the beach and kicking sand

out with his feet. During this effort he calls incessantly in hopes of attracting the female's attention. If she approaches, he stands up on the edge of the scrape, with his back to her, tail up, and wings slightly spread. She inspects the scrape and may work on it a bit herself if she deems his efforts and site selection worthy. She then stands up with her head under his tail for a few moments. He moves off slightly to the side, then picks up shell fragments and tosses them haphazardly over his shoulder into and around the scrape. She may also contribute to this shell-tossing before she moves off a few feet. The male crouches low with feathers ruffled and stalks after her, head down, rump up. If she does not move away when he has bridged half the distance between them, he stands up as tall as possible. Then, with breast protruding, he marches toward her, with feet raised high and forward, a behavior known as high-stepping. His orange legs rapidly pumping up and down, he reaches her and continues to march in place against her side. Five to ten seconds later, he mounts her, sitting on her back while they copulate for forty-five to ninety seconds, his feet twitching, seemingly in ecstasy, the whole time.

Piping Plovers are wraiths of the beach, their tan-colored mantles very closely matching the hue of dry sand. With practice, their silhouettes can be teased out of the

similar colored background, if their sharply contrasting black collars are not hidden from sight. The human eye is adept at picking up on motion, and often the only chance of spotting the plovers is to wait until they move. Even after a whole season of having a search image beaten into my brain, I can still occasionally scan over a motionless bird two or three times before it resolves itself out of its habitat. Fortunately, the plovers usually give themselves away with an anxious *peep*.

When one stops to ponder their continued, albeit tenuous, presence these days, a feeling of admiration is unavoidable. If nesting on an open beaches with chicks that are flightless for nearly a month was not hard enough, humans have provided additional challenges. At the turn of the 20th century there was pressure from market gunning and the millinery industry. Then there was the explosion of beach use with the attendant four-wheel-drive vehicles. Most recently, growing populations of predators such as skunks, raccoons, crows, and gulls are being subsidized by human slovenliness. Fortunately, unlike many native species, Piping Plovers have surprisingly little competition with the myriad of exotic species introduced during the past few centuries. However, two main threats are hard to ignore — unrestrained cats from nearby beachfront homes and unleashed, overly exuberant beach-going dogs. Even though reproduction was surely easier in precolonial times, there can be little doubt that it was still difficult. By simply laying their eggs on the open beach with little or no cover, plovers have always had to rely on their cryptic coloration and their ability to remain motionless in the presence of danger in order to survive. They are the epitome of patience when the situation calls for it.

Sometimes it seems that groups involved in plover conservation are the only forces on their side. I was quite surprised that I saw no “Plovers Taste Like Chicken” bumperstickers on the Vineyard as I have before on Cape Cod. But I still ran into that attitude here, at least indirectly. Our signs frequently disappeared or were vandalized. One time someone drove illegally onto the beach, through our symbolic fencing (rope and signs), just feet away from the enclosure containing an active nest. Another night, a group decided to have a beach party only a few meters from an enclosure. The next morning fire pits and broken glass lingered as evidence, along with several stones and a bottle on top of the netting that covered the enclosure. Clearly, the slow road of education is one we will have to keep driving if we hope to change peoples’ attitudes toward wildlife and nature. But stopping here in my description of beachgoers would represent a half-truth. The plover-haters worked at night or under the security of isolation and were rarely seen. Not once did I hear more than a subtly disapproving comment on a beach. In contrast, daytime beachgoers frequently came up to me with curiosity and kind comments, thanking me for looking out for these lovely little creatures. This year was poor in terms of reproductive success for the plovers, and these people often made my day bearable after sitting in Vineyard traffic and arriving at a site to find missing chicks yet again.

The thought of these downy little fluffballs filling the bellies of another creature is not so awful to me, nor should it be to anyone. To denounce predation is to question the morality of natural processes (a job not for us mortals) and would be hypocritical coming from the lips of almost any member of modern societies. What frustrates me

is that nearly every one of the predators on the Vineyard has been brought here, directly or indirectly, by Europeans. There are various local tales of how raccoons and skunks arrived, some even pinning guilt on named individuals who brought a few over as a part of a prank. Skunks are now so common that to go for a walk at night and not see one is something to talk about. Herring Gulls and Great Black-Backed Gulls were not breeders this far south until fishing was industrialized and open dumps swelled with refuse. In addition to their predation on plover chicks, the gulls have usurped some of the islands that once harbored Roseate and Common tern breeding colonies. The American Crow was once a reticent dweller of the deep woods, according to Thoreau, but it did not take long for this corvid to learn there was a living to be made cleaning up after man. Following us to the beach was only the next logical step. And surely there is no need to discuss the role man has played in bringing cats and dogs to the beach.

The obvious result of all these predators this year was poor reproduction. Twenty-one of the twenty-four pairs we monitored hatched eggs. The remaining three pairs abandoned their nests without a re-nesting attempt. From these twenty-one pairs, some of which nested a second time after an initial failure, a total of twenty-two chicks were fledged. This is the second lowest fledgling rate in the history of this program. We were largely spared the devastating effects of the June 6-7 Nor'easter which wiped out many nests across the state, most notably at Crane Beach in Ipswich, MA. Predatory pressures and several weeks of wet weather in July made for rough going for young chicks lacking adequate feathering. Once soaked, and with no sun in sight to dry their down, their poor thermoregulatory abilities made them especially vulnerable to hypothermia and death. This year's reproductive success of 0.92 fledglings/pair was far below the 1.25/pair that the Plover Recovery Team has estimated necessary for long-term survival of the species. The news from the statewide plover and tern conference this year revealed a predicted productivity of 0.75-1.21 young per pair. The higher value would be obtained if all unfledged chicks on the beaches as of this writing were to survive until their twenty-fifth day, and the lower value if none were to do so. Productivity somewhere around 1.0 is expected. The Massachusetts Rare and Endangered Species Zoologist, Scott Melvin, promises grief counseling for all field technicians who put in hundreds of hours of hard work this summer for disappointing results!

In grateful contrast to the somber fate of the plovers this year, there was some good news from a Least Tern colony on the island. At Little Beach in Edgartown, the only beach property owned by SMF, there was a Least Tern colony estimated at 350 pairs. This was by far the largest colony on the island this year and the second largest ever. In 1992 Norton Point in Edgartown had roughly 225 pairs and was very successful. The following year saw a returning colony of over 500 pairs in the same area but was unsuccessful. This year's colony on Little Beach at the end of Fuller Street was located at the tip of a spit, on dredge spoils derived from the town's efforts to keep Eel Pond open. The local food source of sand lances (*Ammodytes* spp.) was extremely abundant this summer, and with a fence we erected to keep out skunks, dogs, and raccoons, the terns were able to raise a great number of fledglings. This is

not to say that they were without any disturbance. The occasional person disregarded our signs, and a male Northern Harrier was seen taking chicks several times as was a local crow, its back speckled in whitewash, testifying to its guilt. Common Terns frequently chased adult Least Terns, pirating their catch jaeger-style.

This beach was also home to a successfully nesting American Oystercatcher pair, two pairs of Piping Plovers that produced four fledglings, and Roseate Terns that visited daily. The interactions between the plovers and the Least Terns were amusing at times. One plover pair, commencing an amazing third nesting attempt, laid their eggs on the outskirts of the colony. While this afforded wonderful protection, with Least Terns mobbing any intruder, the colony quickly expanded, and terns laid nests all around the plover nest. One day, the female plover came off her nest, and the male walked over to take her place incubating. But on the way, among the hundreds of Least Tern nests, he got confused and tried to incubate some Least Tern eggs. Needless to say, the attending Least Tern had a problem with his mistaken effort. They scuffled for several minutes, the plover managing to sit on the tern eggs for a second or two several times. Eventually the female plover returned to incubating, no doubt concluding that even when males want to help, they still lack a certain intuition.


Another great enjoyment for me this summer was reading the tales left in the sand. When the beach was conducive to imprinting from the light plover feet, it left wonderful stories. The tracks let you know what the plovers were up to. A beach covered homogeneously with tracks indicated that no nesting behavior was taking place. A beach with areas of dense tracks leading to a scrape was an obvious sign of birds likely to lay eggs soon. A scrape found already decorated with shell fragments should be well remembered, since there is a good chance it will be used as a nest. These scrapes often had the stages of

courtship left around them: the male's tracks approaching the female's, then a line of imbricated or overlapping tracks as he high-stepped toward her, terminating in a messy blur as he marched in place at her side before jumping to her back. Another tale I came across was equally interesting but far more sobering. After arriving to find no plovers around a nest that had just hatched the day before, I looked around the enclosure for clues. There were skunk tracks leading from bunch to bunch of sea rocket, a common beach forb. It was likely that the chicks were hiding in these plants, which represented the only cover away from the dunes. I soon noticed there were plover tracks crossing the skunk's at a right angle. The skunk tracks turned from the sea rocket and followed the plover's. As this happened, a drag mark became evident alongside the plover tracks. Its wing was dragging, a common display among plovers, used to distract potential predators away from chicks or nests. This tactic is



surprisingly realistic, complete with false attempts at flying, quick drops to the ground to feign fatigue, and pathetic whinings as if it were sure its end was near. This plover was successful at averting the skunk's attention for a time, but the disappearance of all of its chicks made it likely that the skunk was ultimately successful in obtaining sustenance.

While at times depressing, working with Piping Plovers proved an enjoyable experience overall. The ocean holds a mystique that beckons louder every year one is away from it. To simply be able to walk the beaches daily, especially in the solitude of April and May, was an experience worth the whole effort. But also to have this window into the life of an amazing, adorable, and threatened shorebird was the real reward. Witnessing every stage of reproduction was moving. Seeing their daily struggle for life and the survival of their species gave me a unique perspective for viewing my own life. I will always remember this summer for the trills and bubbles of the Song Sparrow, the soft, raspy song of the Savannah Sparrow, the piercing cry of the Osprey, the frantic squeals of the oystercatcher, the ascending notes of the Prairie Warbler, and the soft, endearing *peep* from the aptly named *Charadrius melodus*.

Current grants are never guaranteed for the next year, and the ability to hire additional staff would be a great asset for the monitoring and protection of Piping Plovers and the other species mentioned above. To contribute to the Shorebirds Program at Sheriff's Meadow Foundation, send a check payable to: Sheriff's Meadow Foundation, Shorebirds Program, RR1 319X, Vineyard Haven, MA 02568. 

Greg Levandoski is a traveling field ornithologist, usually taking three seasonal jobs to fill the year. He will be returning to Big Bend National Park in Texas this winter for an ongoing study of winter avian distribution and abundance and is currently tending to his sunburn and struggling to count the vertiginous kettles of hawks in Veracruz.



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