

From the Director, Andrea Jones



Piping Plover by Shawn Carey

In 2004, Mass Audubon's Coastal Waterbird Program (CWP) celebrated its 19th year of protecting and monitoring nesting sites for Piping Plovers, tern colonies, and other shorebirds at 75 locations throughout coastal Massachusetts! While our core program consistently uses the same tried and true methods, every field season we face new challenges to successfully protect these vulnerable birds.

This summer we employed several new tactics to counteract the continued and increasing threat to nesting plovers and terns...predators. In some cases, non-native predators such as Red Foxes and feral cats destroy nests; foxes in particular can wipe out entire colonies of tern nests. Skunks are attracted to some beaches by the presence of humans and by trash that beachgoers leave behind.

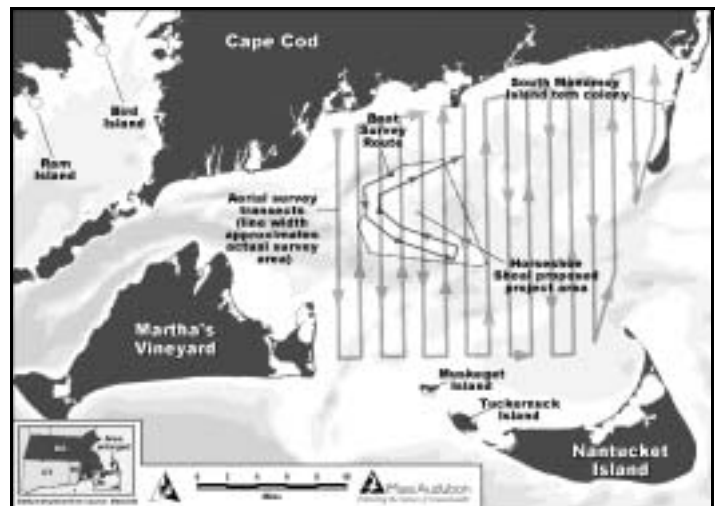
To protect the birds from these animals, we are beginning to experiment with electric fencing as a nonlethal and nonharmful means to keep mammals out of tern and plover nesting areas. This past summer on Sampsons Island, with a grant from the Davis Conservation Foundation, we installed electric fencing in an area where terns nest, prior to their arrival. Unfortunately, the terns didn't cooperate...nesting outside the electric fence, only to have their

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Study of Terns Using Nantucket Sound by Giancarlo Sadoti

The proposed wind farm on Horseshoe Shoal, a crescent-shaped shallow in Nantucket Sound off Cape Cod, would be the first of its kind in North America. Despite its proximity to population centers on the Cape and Islands, very little information was known about birds using the Sound prior to 2002. Cape Wind, the development company, conducted studies in the region from Spring 2002 to Spring 2004 to gather information on birds using the Sound. We applauded their efforts to document baseline avian information but believed it was important to augment their survey data and began conducting a planned three-year study in order to detect changes in bird distribution and abundance.

Mass Audubon science staff, with assistance from CWP staff, commenced boat and plane surveys in the late summer of 2002, focusing on three seasons: 1) late summer during pre-migration ("staging") when tens of thousands of terns, including nearly the entire northeastern US population of federally endangered Roseate Terns, gather in Nantucket Sound to fatten up on fish before the long trip to South America, 2) spring and summer, focusing primarily on the use of Horseshoe Shoal by returning and nesting terns, and 3) winter, when hundreds of thousands of sea ducks overwinter in Nantucket Sound.



(Continued on page 5)



Counting birds on South Beach
by Andrea Jones



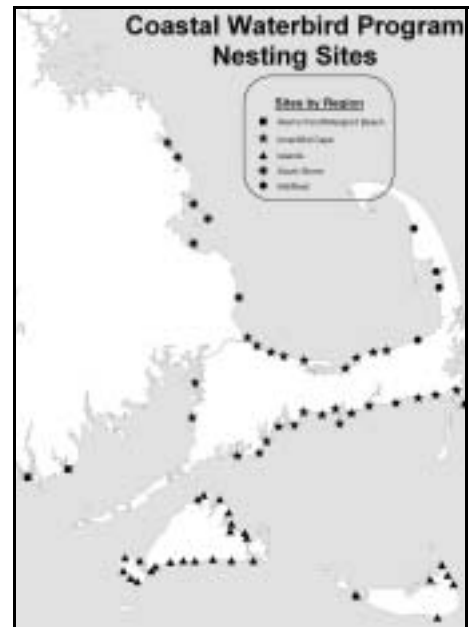
Installing symbolic fencing by Matt Bailey



Piping Plover exclosure by Matt Bailey

How You Can Help

- **Volunteer as a *Beach Monitor*** for the Coastal Waterbird Program.
- **Donate** to the Coastal Waterbird Program's *Intern Fund!*
- **Respect** nesting signs and fencing. Don't disturb nesting birds; uncovered eggs and young can be killed by sun or cold in a matter of minutes.
- **Retreat** when a bird appears to be disturbed or when a bird is trying to "lure" you away. It is trying to protect its nearby eggs and young.
- **Observe** birds at a distance.
- **Walk** around roosting and feeding birds. Try not to disturb them.



The Coastal Waterbird Program monitors and protects 75 sites in southeastern Massachusetts, Cape Cod, Martha's Vineyard, and Nantucket for nesting Piping Plovers, terns, and American Oystercatchers.

WISH LIST

- *Seasonal housing for interns! Especially in Chatham, Harwich, Brewster, South Barnstable, Mashpee; Martha's Vineyard and Nantucket*
- *Old or new Binoculars and Scopes*
- *Laptop computer*
- *Old or new Bird Field Guides*
- *GPS units*
- *Digital camera*

2004 FIELD SEASON SUMMARIES AND HIGHLIGHTS

By CWP Summer Field Staff

ISLANDS REGION

by Debra Swanson, Islands Coordinator CWP

In 2004, CWP Island program staff monitored 30 pairs of Piping Plovers, 95 pairs of Least Terns, 341 pairs of Common Terns, and 27 pairs of American Oystercatchers at about thirty sites on Martha's Vineyard and Nantucket. Because of a cold, rainy start to the hatching season, along with heavy nest and chick predation, reproductive success was low on the islands. Despite these factors, 37 Piping Plover chicks, a handful of Least and Common Tern chicks, and at least 11 American Oystercatcher chicks fledged.

Educational activities were developed with the goal of creating an islandwide positive conservation ethic toward coastal birds and their habitats. Activities included walks, a video and displays, presentations at private beach association meetings, development of a Beach Naturalist Program for children, and production of an Island CWP brochure.

On good beach days, over half of our staff time

could be spent talking with beach-goers about the birds, their unique behavior and habitat, and ways people can help. Through these informal discussions, hundreds of people each season are educated and become excited about our work.

One of the focuses of the program is developing a group of committed volunteers who are willing to help with the monitoring and protection work. Over the past year, the program had 17 volunteers who worked over one hundred hours. Most of them were year-round islanders, including one high school student.



*Nesting sign on the Vineyard
by Andrea Jones*

PLYMOUTH BEACH MEMOIRS

By Chris Dalton, 2004 Plymouth Beach Monitor

It was mid-May and my first day on Plymouth Beach. After walking three miles with a needlessly heavy sack on my back, and wet sand stuck to my clothes, I caught up with Joe Gren and his crew near the farthest tip of Plymouth Beach. I casually asked Joe if he was "the plover guy." Joe's response was, "Well I don't know who the plover guy is, but I am the Natural Resource Officer. How may I help you?" I had just received a valuable lesson in how things are done on Plymouth Beach. Professionalism is demanded for all of the staff on the beach. There are no plover guys: everyone working on the beach takes the responsibility of protecting threatened species very seriously.

A summer spent protecting coastal waterbirds is a series of small miracles and tiny disasters. This past summer, high tides in May swept several plover nests to sea. One nest was buried under three feet of accreted sand and seaweed. Later that day, we returned to find three chicks scrambling across the sand flats. The nest had hatched minutes before the waves arrived, and eventually fledged three healthy chicks. In the dunes, experimental electric fencing allowed some of the southernmost nesting Arctic Terns in the country to successfully fledge three chicks, while a lack of the same fencing devastated the Least Tern colony on-site. How-

ever, the disappearance of the once prominent Common Tern colony made for a quiet beach this summer.

When I left the beach in mid-August, I felt good about the work that was done, and the world had 23 more Piping Plovers. Eleven Arctic Terns joined the throngs of Common and Roseate terns roosting on bare sand flats along with thousands of migratory shorebirds on the beach at high tide. After three months, I knew that the beach was in better hands than it had ever been before. In the early 1990s, there was only one pair of Piping Plovers nesting on the beach, a time when defending nesting shorebirds would precipitate anger. Now, through the hard work of the town of Plymouth and Mass Audubon, there are more plovers than anyone can remember.

The town is making an impressive effort to protect coastal waterbirds on Plymouth Beach. This summer, together with Mass Audubon, the town staff enclosed every Piping Plover nest, erected electrical fencing, collected data on these species, and educated hundreds of people. The energy brought to the beach by the Natural Resource Officers and David Gould, the man charged with responsibility for the entire beach, is what sustains the series of tiny miracles that constitute a successful breeding season for plovers and terns. At last, thanks to the hard work of everyone on the beach, the Piping Plover and four species of terns have a safe home on Plymouth Beach, a protected resource that all can enjoy.

WELLFLEET BAY WILDLIFE SANCTUARY

by Bob Prescott, Sanctuary Director

I guess the lesson we should take away from the 2004 nesting season is you shouldn't count your chicks before they fledge. The previous few years were extraordinarily successful for the Piping Plovers in Wellfleet and Truro. Last year (2004), however, was one of those years when nothing seemed to go right.

Our beaches generally have a low profile, which means that even under the best conditions the high tides of spring and summer come dangerously close to washing over the nesting beaches and wiping out our egg-laden plover nests. Usually we are lucky and the winds are calm or the plovers stay away from nesting sites.

Unfortunately, this year the tide came up, the winds blew onshore, and plover eggs washed out to sea. The plovers were persistent though, and they re-nested numerous times. One pair made four attempts and still was not successful. By the end of the nesting season, in early July, the elements had won. The final tally was 13 nests and 14 plovers fledged.



Martha Jason, long-time field assistant, at South Beach with Erin Connick, Chatham HS intern, by Ellen Jedrey

The Least Terns' productivity was even more abysmal—no success! And that too was not for lack of trying. We had least terns attempt to nest on Tern Island in Chatham, South Sunken Meadow in Eastham, and Corn Hill in Truro. Least Terns, even under the best of circumstances, are nervous, flighty, easily deterred nesters. At these three beaches, a few passes by a coyote, fox, or other four-legged predator caused the terns to take flight and move on to another location.

There was, however, one high point on the coastal waterbird front. Thanks to funding from the Simon Foundation and a Green Youth Grant, we were able to take coastal waterbirds into the classroom and into the field. Also, we hired two interns to help with monitoring plovers on South Beach, Chatham, one of the most important plover nesting beach in Massachusetts.

Like the Sox, we are always expecting a really great year; let's hope 2005 is a great one for coastal waterbirds on the Outer Cape.

Thank You

to the following foundations, organizations, and government agencies for their support!

Davis Conservation Foundation
 Duxbury Beach Reservation
 Goldenrod Foundation
 Island Foundation
 MA Department of Conservation and Recreation
 MassWildlife
 Oliver S. and Jennie R. Donaldson Charitable Trust, *in memory of Elizabeth Lawrence*
 Quebec-Labrador Foundation
 Quidnet Squam Association
 Recreational Equipment Incorporated
 Save Popponesset Bay
 The Edey Foundation
 The Nature Conservancy
 Three Bays Preservation, Inc.
 Town of Sandwich
 US Fish and Wildlife Service
 William E. Simon Foundation

And all the wonderful individual donors and volunteers!

2004 SOUTH SHORE SEASON

by Brant Jones, South Shore Monitor

With 68 eggs laid this summer, Duxbury Beach was a busy place! Even with coyotes, the 14 pairs of Piping Plovers were able to fledge 22 chicks, making the season a success. The season was helped along by the cool and wet weather in May and June, that for the most part, kept beach traffic to a minimum. The Duxbury Harbormasters and their plover monitoring staff did a great job of managing the vehicles and people during the warmer months of July and August.

Third Cliff in Scituate was another hot spot with 5 pairs of Piping Plovers and a large Least Tern colony. Unfortunately, some nocturnal predators did sneak onto the beach. Even so, there was some tern success and three plover chicks fledged. A group of 25 Least Terns at Fourth Cliff fledged ten chicks. In addition, Mass Audubon and the Third Cliff/Rivermoor Beach Association met in the fall to discuss ways of enhancing the habitat protection efforts in the North River estuary. Hopefully the work of these two groups will make the beach a safe place for shorebirds and humans alike.

This was my first season as a part of the CWP at Allens Pond and I must say I had a blast. Samantha Sifleet and I observed 18 pairs of Piping Plovers live their daily lives on Westport Town Beach and Dartmouth's Allens Pond Complex, Round Hill Beach, and Salters Point. Allens Pond Complex (Little Beach and Barney's Joy) had 12 nesting pairs. By the end of summer an impressive total of 23 fledglings were able to fly with their parents. The complex was also home to over 200 Least Terns and close to 50 fledglings. The Least Terns had to deal with much more predation and overwash but still had a successful season. Plover fledglings were less successful on the other monitored beaches. This may be due to the limited amount of human activity along Allens Pond as opposed to the heavy influx of beachgoers on the public town beaches.



Hatching Piping Plover nest by Ellen Jedrey

There was a sense of urgency to our data collection in order to study the effects from the 2003 oil spill. In May, three Piping Plovers were stained with oil. Oil was also found on the beaches, but as the season progressed there was less evidence.

One problem was the refusal of a few people to respect the boundaries we set up to help protect the birds. Many times our fencing was pulled out and thrown into the dunes. We created a visible barrier and posted signs so that people were aware that these threatened birds prefer the same desirable beach area as humans. Dogs should be walked on a leash so they do not harass birds.

During my daily walks along the beaches I met interested people who asked me questions; some have lived in the area for years and have kept track of the birds. Together, we watched plovers go about their routines. I enjoyed talking to children about the birds and helping them look through my binoculars. From early April, I and some of the daily beach walkers, watched the plovers' nests and the emergence of chicks. We were heartbroken for the chicks that did not survive and watched with mixed emotion as the rest flew away, happy they endured but sad to see them go.

(Continued from page 1) **Windfarm**

The picture emerging from our surveys is an illustration of both consistency and substantial fluctuation for both tern and winter waterfowl populations. Breeding season tern surveys, primarily from boats, have shown us a pattern of peak passage and feeding on Horseshoe Shoal during mid-May, declining steadily through June and July. Soundwide aerial surveys from this same period are less conclusive, but show a high abundance of terns fishing in late June over the waters near Monomoy Island in close proximity to the largest Common Tern colony in Massachusetts and when terns are most actively provisioning their nestlings with food. Premigration tern surveys, primarily by plane, show us a different picture in some respects. With most young fledged by late July, terns appear to range farther offshore in their quest for schools of fish. However, shallow, coastal areas near Monomoy remain the favorite haunts of locally breeding terns and regional migrants.



Roseate Tern in flight by Scott Hecker

While 2003 and 2004 breeding season surveys showed similar numbers of terns on Horseshoe Shoal and the broader Sound, 2004 staging-period surveys showed us how dynamic the distribution of non-nesting terns can be. In 2004 we saw less than one-tenth the terns seen in 2003 within our study area. A broader search revealed that, instead of clustering to the west of Monomoy (as in 2002 and 2003), terns concentrated in September along the eastern beaches of the Cape from Pleasant Bay to southeastern Monomoy. The reasons for this distribution are not immediately clear, but include changes in distributions of prey such as sand lances which, in turn, are influenced by ocean circulation, water temperature, and salinity.

Winter waterfowl numbers and distributions in 2003 to 2004 and again this winter are perhaps the most intriguing. Mixed scoter and Common Eider rafts easily exceeded 50,000 individuals, and their distribution illustrated their nomadic behavior in winter and their affinity for prime, seasonally shifting shellfish beds.

For more information on our studies, visit www.massaudubon.org/wind.

CWP Feature Species: Least Tern: A Species of Special Concern

by Ellen Jedrey



Least Tern on nest by Shawn Carey

The Least Tern is a small, energetic seabird that nests in colonies of tens to hundreds on the coastal beaches of Massachusetts. The smallest of the terns that breed in our area, “Leasties” can be distinguished from other terns by their slender yellow bill with a black tip (breeding plumage), yellow legs, and a high-pitched *kip-kip-kip* or *zweet!* call.

Least Terns usually lay two to three eggs per clutch, which blend in perfectly with the sand and cobble on which they nest. Piping Plovers are often found nesting in the midst of Least Tern colonies, taking advantage of the protective nature of the terns, which dive-bomb intruders while giving a piercing call. Least Terns incubate their eggs for

about 20 to 22 days, and chicks usually are able to fly at 19 to 20 days old, but continue to be fed by their parents for 2 to 3 more weeks.

threatened within Massachusetts.”

In 2004, Mass Audubon monitored over 1,000 pairs of Least Terns at more than 30 sites. This is

roughly 45 percent of the total population of 2,550 pairs in Massachusetts. Unfortunately, the majority of our Least Tern colonies experienced

Least Tern – Interesting Facts			
Adult Size	22-24 cm	Breeding Period	late May - early Sept.
Wingspan	48-55 cm	Clutch Size	2-3 eggs
Adult Weight	~ 40 – 45 gm	Incubation Time	20-22 days
Food	Fish, esp. sandlance, few aquatic invertebrates	Fledging Time	about 19-22 days
Displays/Calls	Male brings fish to mate, head bobbing	Age at 1st Breeding	2 years
Defense	Dive bombing and/or defecating on intruders, mobbing	Life Span	≥ 5 years, up to 21 years!

poor reproduction this year, with only four sites reporting good productivity, and the rest reporting poor to none. The majority of the problems stem from nest predation by small mammals (i.e., foxes, skunks, coyotes) and avian predators (i.e., gulls, crows), human disturbance, and loss of habitat.

In an experimental effort to deter nest predators, Coastal Waterbird Program staff erected electric fencing at our Sampsons Island Wildlife Sanctuary, and placed tern decoys inside to attract birds. Thirty three pairs of Least Terns nested within the fencing, and the colony experienced very high hatching success. This year, we plan to use fencing at three additional properties. However, bringing the Least Terns up to hatch is only half the battle; we need to be able to protect the vulnerable chicks from predation until they are about three weeks of age (when they can fly). This year, Mass Audubon will implement the use of tern “shelters,” small wooden boxes within which chicks can hide once they are mobile. We are hoping for a good breeding season in 2005!



Least Tern chicks by Shawn Carey

The Least Tern is listed as a species of special concern in the state, which means that they “...are native species which have...suffered a decline that could threaten the species if allowed to continue unchecked, or which occur in such small numbers or with such restricted distribution or specialized habitat requirements that they could easily become

eggs eaten by coyotes! Undaunted, we tried placing tern decoys inside the fencing, which persuaded the terns to attempt another nesting. The terns fell for our strategy: 33 pairs nested inside the fencing and hatching success was close to 100 percent.

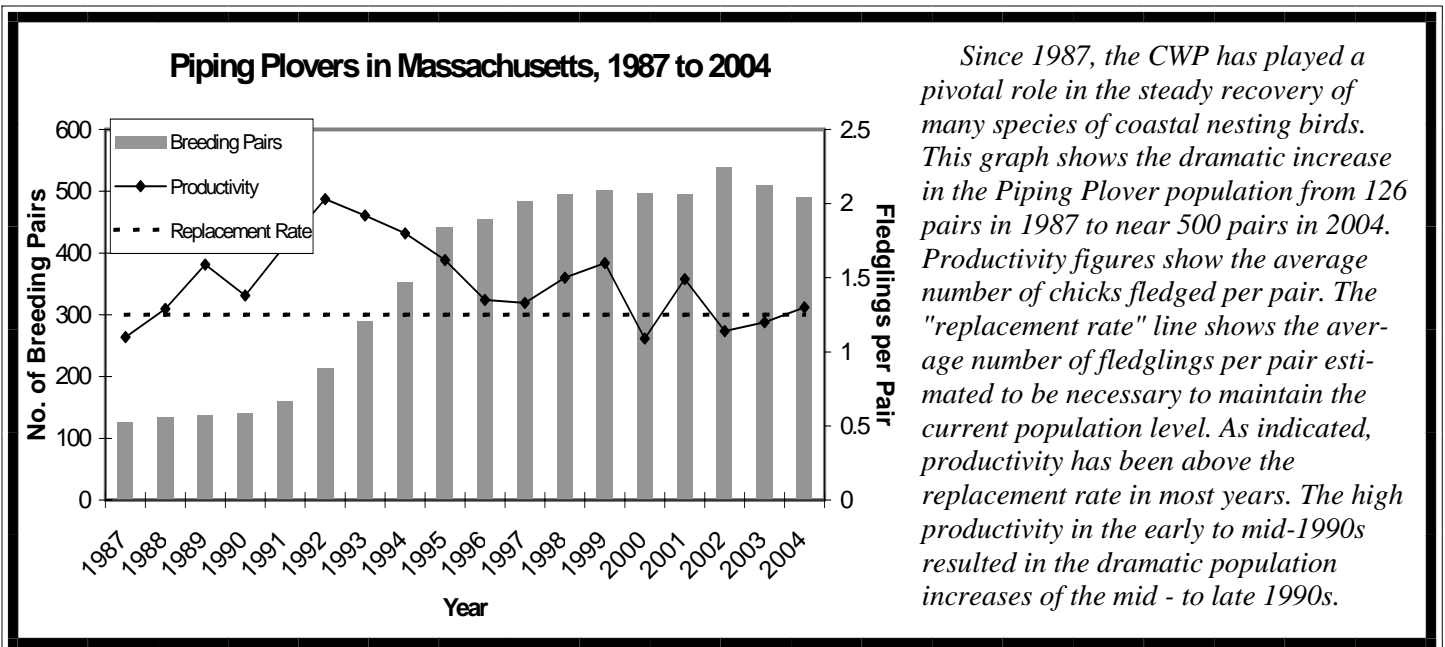
On South Beach in Chatham—one of the largest, most important plover nesting sites on the east coast housing 36 pairs—we experimented with short wire fencing placed in large circles around plover nests built in the grass, where our traditional enclosures can't be used. We were delighted when this approach worked very well, and South Beach produced 50 chicks, after many, many years of very little nesting success.

In the summer of 2005, with a grant from the US Fish and Wildlife Service, we will install additional electric fencing on Sampsons Island, install new electric fencing at Allens Pond, and experiment with designs for fencing around American Oystercatcher nests on Martha's Vineyard. We will continue to measure the success of this new way to protect birds, and their eggs and chicks, by outsmarting predators!

At the end of each field season, the partners involved in coastal waterbird protection in Massachusetts and New England gather to share stories and exchange ideas. By working in partnership with other conservation organizations, and state and federal agencies, we strive collectively to keep the populations on the increase, and find ways to meet the new threats these wonderful birds still face to their fragile hold on survival.

I hope you enjoy the season's summaries in this newsletter. They have been written by our seasonal interns who spent last summer walking miles of beaches, talking to hundreds of beachgoers about the program, installing thousands of feet of fencing, and gathering valuable information on the nesting shorebirds they watched over so carefully. The CWP could simply not function as it does without our wonderful summer interns...young people who often choose a career in the environmental field because of their experiences as a coastal waterbird monitor.

Please consider supporting our Intern Fund. Each additional person we can put on the beach during the field season means more protection for these endangered shorebirds. Thank you!



Since 1987, the CWP has played a pivotal role in the steady recovery of many species of coastal nesting birds. This graph shows the dramatic increase in the Piping Plover population from 126 pairs in 1987 to near 500 pairs in 2004. Productivity figures show the average number of chicks fledged per pair. The "replacement rate" line shows the average number of fledglings per pair estimated to be necessary to maintain the current population level. As indicated, productivity has been above the replacement rate in most years. The high productivity in the early to mid-1990s resulted in the dramatic population increases of the mid- to late 1990s.

**ATTENTION: VISITORS TO
SAMPSONS ISLAND and ALLENS POND WILDLIFE SANCTUARIES!**

During the 2005 breeding season, the Coastal Waterbird Program plans to install a predator control fence around tern colonies on two of our properties: Sampsons Island and Little Beach at Allens Pond. This fence will carry an electric current that is designed to shock, but not injure, predators. Any electrified portions of fencing will be clearly marked and will be located well inside the twine and stake fencing that we have always placed around the tern colonies.

We ask that visitors exercise caution and always remain outside the twine and electric fencing.

BRUNCH WITH THE BIRDS

When: May 8, June 15, Aug. 17,
and Sept. 25; 8 a.m.

Where: Plymouth Beach

Fee: \$20 nonmembers,
\$15 members



Piping Plover chick by Shawn Carey

We'll be taking a morning's trip out to Goldenrod Cottage on Plymouth Beach for a homemade brunch, and then heading out onto the beach in search of nesting terns and plovers, and other birds of the seashore. You bring the binoculars and we'll provide the breakfast and birds. Meet at Mass Audubon's South Shore Regional Office in Marshfield.

Call 781-837-9400 to register.

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