

**BiodiversityWorks
2013 Beach-Nesting Bird
Monitoring & Protection Program**

A Report to: The Edey Foundation
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Least terns

Photo by: Jeff Bernier

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Summary

We are grateful to the Edey Foundation and Daniels Wildlife Trust for grants totaling \$14,023 to fund BiodiversityWorks' (BWorks) Beach-nesting Bird Monitoring and Protection Program in 2013. We used \$9,708 towards personnel costs, \$1,780 towards fencing and other field supplies, and \$1,260 towards mileage reimbursement for staff. \$1,275 went towards our indirect costs.

We began fieldwork on April 1st and completed field activities August 14th, 2013. Our first American oystercatcher nest was 3 eggs on April 18th at Little Beach. Our first piping plover nest was 1 egg on April 26th at Dogfish Bar. Our 1st Least tern nest was also at DFB around May 28th. BWorks staff and interns monitored and protected 28 pairs of piping plovers (PIPL), 12 pairs of American oystercatchers (AMOY), ~ 1000 pairs of least terns (LETE), and 2 pairs of common terns (COTE) at 18 sites around the Island (Table and Figure 1).

Our 28 pairs of PIPL, hatched ~78 chicks and fledged 32. Productivity was 1.14 chicks per pair (32/28 pairs) from 13 sites (Table 2). Island-wide, 55 pairs of PIPL fledged 66 chicks (1.2 chicks per pair). At Bworks sites, 11 North shore PIPL produced 25 chicks (2.3 chicks/pair), which was excellent compared to other sites that produced only 7 chicks total for 17 pairs. Targeted predator management at Dogfish Bar and Cedar Tree Neck, funded through a USFWS cooperative agreement, and volunteer chick-sitting improved hatching and fledging success at those sites. Low productivity at our South shore sites (7 chicks for 15 pairs) was due to skunk and crow egg predation, and crow and harrier predation on chicks. South shore PIPL monitored by other organizations (n = 11) faced similar predator problems and produced zero chicks. The loss of an adult male piping plover to a free-ranging house cat or feral cat at Cedar Tree Neck was particularly disturbing as the male PIPL was depredated the day before its nest hatched. The female hatched the chicks on her own, but was unable to defend them from crows. We tried to capture the cat for 3 nights, but were not successful.

Our 12 AMOY pairs hatched 24 chicks and fledged 15. Productivity was 1.25 chicks per pair (15/12 pairs) from 9 sites (Table 3), which is excellent. Island-wide, 45 pairs of AMOY nested and fledged 55 chicks (1.22 chicks per pair). Dog disturbance was a big problem at Black point pond, and caused a pair of AMOY to abandon their last egg as it was hatching. Our interns carried the hatching egg to the AMOY pair with their 2 chicks, but it did not survive the ordeal. We were not able to band any AMOY chicks in 2013 as no AMOY banders were able to make it to MV.

Least tern productivity from 5 colony sites ranged from none to excellent (Table 4). Little Beach/Eel Pond was one of the largest LETE colonies in the state, with ~ 500 pairs that produced more chicks than we could count. A small colony we fenced at Dogfish Bar was also successful.

Compared to many areas around the state, we had an excellent season. Data submitted for the annual meeting in August estimated 2013 PIPL productivity for Massachusetts at 0.71 – 1.00 chicks per pair for 669 pairs with fledge data and AMOY at 0.85 – 1.00 per pair for 202 pairs with fledge data. This is the highest productivity for AMOY the State has seen. Least tern productivity was good across the state for approximately 3,778 pairs.

Management Specifics

We used predator exclosures to protect 16 PIPL nests in 2013. Storm tides flooded 5 (31%) of these nests, one nest was abandoned and 10 (62%) hatched chicks (Table 2). At most Vineyard beaches, if we can't use an exclosure or low-predator fencing to protect a PIPL nest it has a very low chance of hatching. Only 3 of 14 (21%) unprotected PIPL nests hatched chicks.

We used low-predator fencing to protect nesting birds at Edgartown Great Pond (EGP), Little Beach and Dogfish Bar in 2013. At Dogfish Bar and Little Beach, nests hatched, and colonies of terns remained intact for much of the summer, which provided protection from avian predators for AMOY and PIPL chicks. At EGP the tern colony failed due to a severe thunderstorm causing the terns to abandon the site. The fencing however, did help a pair of PIPL and AMOY successfully hatch their eggs. This is the first time in at least 5 years that oystercatchers at EGP have hatched chicks. It took 16 person hours and 600 m of fencing to install these fencing projects. At 8 other sites, we used sections of low predator fencing to direct/drift skunks and cats away from nesting PIPL, AMOY, or LETE. The drift fence was successful at protecting nests at 6 of the 8 sites.

We were awarded USFWS for Piping Plover Restoration funding for targeted predator management at Dogfish Bar and Cedar Tree Neck. A total of 14 skunks and 9 American crows were captured and euthanized before their breeding season. A feral cat was trapped and taken to an off-island shelter. We also mobilized our plover-loving volunteers to sit and protect young plover chicks from crows. Our volunteers signed up for 2 – 3 hour blocks of time where they sat in beach chairs and observed the plover family through binoculars or a spotting scope. If crows came into the area, the volunteers walked along the shoreline and made noise to scare the crows away before they became interested in the plovers. All these efforts paid off the most at Dogfish Bar. In 2012, only 5 plover chicks fledged. In 2013, 12 chicks fledged as well as 2 AMOY chicks and many tern chicks.

Collaboration & Cooperation

We continued to coordinate an all-island beach-nesting bird cooperator's meeting, which met two times during the field season. Staff from the MV Land bank (MVLB), Mass Audubon at Felix Neck (MAS), Sheriff's Meadow Foundation (SMF), and TTOR (The Trustees of Reservations) attended. These meetings provided opportunities to meet and exchange cell numbers, to coordinate census for AMOY, PIPL, and LETE, and to discuss management issues at all sites.

We cooperated with MVLB at Edgartown Great Pond to place symbolic fencing where our sites meet, and we worked closely with SMF to monitor Cedar Tree Neck. We communicated often with TTOR staff to exchange information and help with the tern census and other related projects.

Outreach and Education

The USFWS for Piping Plover Restoration funding also allowed us to redesign a "Landowners Guide to Living with Endangered Species" booklet produced by Maine Audubon for PIPL and LETE. We made the booklet Vineyard specific and added information on AMOY. The booklet is currently at the printers and will be distributed in spring 2014 to all landowners who have homes near nesting-beaches.

We gave a public talk on beach-nesting birds at the Chilmark and Oak Bluffs libraries in June. Both were well attended. We continued our outreach and education efforts on the beach this summer as well as emailing landowner updates 2 -3 times per summer. Chick sitting has been a great tool in educating the public about piping plovers and how fragile they are in the first few days of life.

One of the most exciting moments of our season came as a result of educating landowners about beach nesting birds. A landowner who works with us to protect nesting plovers on his property heard the soft alarm calls of a plover while on a long day hike, on a remote North shore beach and reported them to us. We met with the beach owners and were thrilled to find a plover pair with four 5-day old chicks! It was exciting to see them using new habitat and a good reminder that a little education can go a long way.

Mentoring & Research

BiodiversityWorks employed 5 interns this field season with additional funding from the Betsy and Jesse Fink Foundation and Farm Neck Foundation. All were interested in wildlife biology or environmental science and wanted experience in the field. High School Interns worked 1 – 2 days per week and helped with all aspects of the beach-nesting bird program. A returning high school intern from 2012 worked up to 20hrs/week and monitored 2-3 sites on her own. One of our early career interns dedicated most of her work to the beach nesting bird program working up to 30-35hrs/week. She worked closely with Liz Baldwin, and independently, monitoring all of our nesting sites. Staff and interns worked together on the predator activity index surveys and installing low-predator fencing. The interns gave positive feedback on their summer experience. They gained valuable experience they believe will guide their careers and college studies.

Matching Funding

Our beach-nesting bird monitoring and protection program expenses in 2013 were ~ \$28,450. Funding came from several sources: The Edey Foundation, The Gus Daniels Wildlife Trust, The Betsy and Jesse Fink Foundation, The Farm Neck Foundation, private monitoring contracts, and donations. The USFWS PIPL Restoration Funding provided an additional \$12,416 that covered equipment, printing costs, salary, data analysis and reporting.

2014 Plans

We will be back in the field in April 2014. We do not have plans to expand our program to any other sites as we are busy with the sites we currently monitor. We will continue to collaborate and cooperate with those interested, and we will continue to organize meetings with all organizations protecting beach-nesting birds. Our intern mentoring program will also continue. We have applied for 2014 funding from USFWS PIPL Restoration that will continue predator management at Dogfish Bar, Cedar Tree Neck, and increase effort at Edgartown Great Pond through the purchase of a 4x4 golf cart or ATV that will allow us to trap more of the beach. We plan to pre-fence areas at Dogfish Bar, Edgartown Great Pond, and Little Beach to keep skunks from accessing nests of PIPL, AMOY, and terns. We will also continue to use low-predator drift fencing to protect all nesting birds where applicable.

Figure 1. Map showing 2013 BiodiversityWorks sites and sites monitored by other groups.

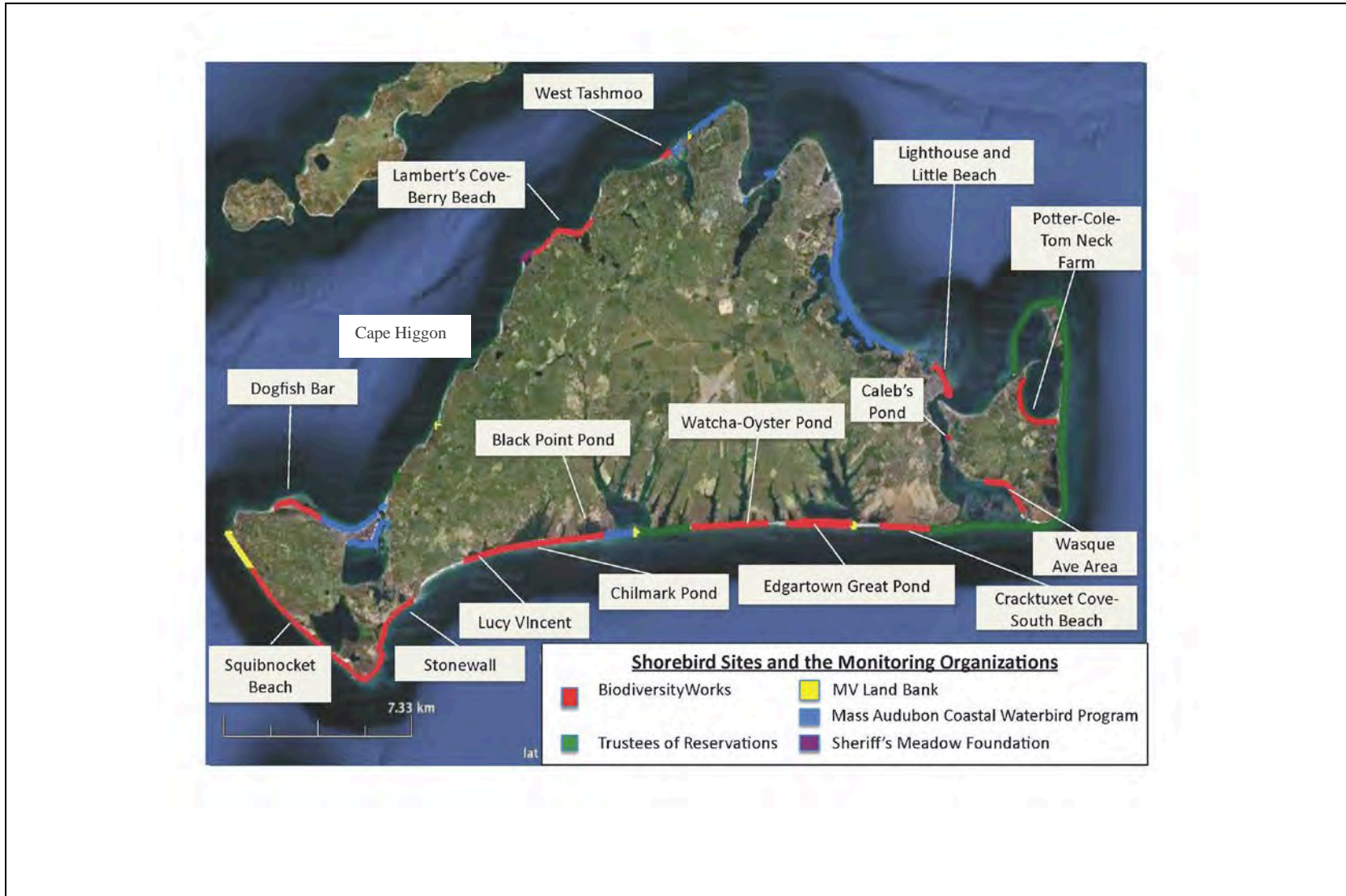


Table 1. Beach Nesting Bird Productivity at Bworks Sites in 2013. South Shore Sites, in yellow, had poor productivity compared to North and East shore sites in green. This was true for all MV sites (Bworks, TTOR, MAS & MVLB) as overwash events were frequent and abundant skunks and crows depredate many eggs and chicks on the South shore. Northern Harrier hawks are also problematic.

Site Name	Town	Piping Plover		Am. Oystercatcher		Terns	
		Pairs	Fledged	Pairs	Fledged	Pairs (A period)	Pairs (B period)
Cracktuxet	Edgartown	1	2	0	0	0	0
Edgartown Great Pond ¹	Edgartown	7	3	2	0	285	5
Oyster Pond	Edgartown	2	0	0	0	0	0
Watcha Pond	Edgartown	1	2	0	0	0	0
Chilmark Pond	Chilmark	1	0	1	2	0	6
Black Point Pond	Chilmark	1	0	1	1	0	0
Stonewall Beach	Chilmark	0	0	1	3	8	0
Squibnocket-Long Bch	Chilmark	2	0	1	0	0	0
Dogfish Bar ¹	Aquinnah	5	12	1	2	60	0
Cape Higgon	West Tisbury	1	2	0	0	0	0
Cedar Tree Neck ¹	West Tisbury	2	3	0	0	0	0
Paul's Point	West Tisbury	1	3	0	0	0	0
West Tashmoo	Tisbury	2	5	1	0	0	0
Little Beach	Edgartown	2	0	3	5	720 LETE, 2 COTE	228
Caleb's Pond	Chappy	0	0	1	2	0	0
TOTALS		28	32	12	15	1073 LETE, 2 COTE	239
Productivity			1.14/pair		1.25/pair	Excellent	None-poor

¹Sites with predator management in 2013

Table 2. Piping Plover Nesting Activity Summary at BiodiversityWorks sites in 2013. South Shore Sites, in yellow, hatched and fledged fewer chicks than North and East Shore sites shown in Green.

Site	Pairs	Nests	Incomplete Nests Depredated	Nests w/low predator fencing	Nests Not Fenced	Nests Exclosed	Exclosed Nests Aband-oned	Complete Nests Depredated	Nests Lost to Overwash	Nests Hatched	Chicks Hatched	Chicks Fledged
Cracktuxet	1	1	0	1	0	0	0	0	0	1	3	2
Edgartown Great Pd ¹	7	13	3	3	6	3	0	4	2	5	12-15	3
Oyster Pond	2	4	0	2	1	1	0	1	2	0	0	0
Watcha Pond	1	1	0	0	0	1	0	0	0	1	4	2
Chilmark Pd	1	1	0	0	1	0	0	1	0	0	0	0
Black Pt. Pd	1	2	1	2	0	0	0	1	0	0	0	0
Squibnket-Long Bch	2	5	0	0	1	4	0	0	3	2	7	0
Dogfish Bar ¹	5	9	3	2	3	4	0	1	0	5	18	12
Cape Higgon	1	1	0	0	1	0	0	0	0	1	4	2
Cedar Tree Neck* ¹	2	4	0	1	1	2	0	0	1	2	7	3
Paul's Point	1	1	0	1	0	0	0	0	0	1	4	3
West Tashmoo	2	3	0	2	0	1	1	0	0	2	8	5
Little Beach	2	2	0	2	0	0	0	0	0	2	6-8	0
Total	28	47	7	16	14	16	1	8	8	22	73-78	32

¹Sites with predator management

*Cedar Tree Neck nests were jointly monitored with Sheriff's Meadow Foundation

Table 2 cont. Predators of Piping plover nests and chicks at BiodiversityWorks sites in 2013.

Site	Nests Lost to Predators	Skunk	Crow	Unknown	Chicks Lost	Crow	Cat	Tern Aggression	Harrier Hawk	Unknown
Cracktuxet	0	0	0	0	1					X
Edgartown Great Pond	6	1	1	4	9 to 12	X			X	X
Oyster Pond	1	0	1	0	0					
Watcha Pond	0	0	0	0	2	X				X
Chilmark Pond	1	0	0	1	0					X
Black Point Pond	2	1	1	0	0					
Squibnocket-Long Bch	0	0	0	0	7	X				
Dogfish Bar	4	2	1	1	6	X				X
Cape Higgon	0	0	0	0	2					X
Cedar Tree Neck	1	1	0	0	4	X	X killed adult PIPL			
Paul's Point	0	0	0	0	1					X
West Tashmoo	0	0	0	0	3					X
Little Beach	0	0	0	0	6 to 8			X		X
Total	15	5	4	6	26					

*Predators of chicks are difficult to determine without witnessing predation. We use PIPL parental behavior towards gulls and/or crows, as well as tracks in areas where chicks were being tended as indicators of predator species.

Table 3. American Oystercatcher Nesting Activity at BiodiversityWorks Sites in 2013.

Site	Town	Pairs	Nests	Nests Hatched	Chicks Hatched	Chicks Fledged	Cause of Egg loss	Cause of Chick loss
Black Point Pd	Chilmark	1	2	1	3	1	Skunk	Disturbance/Crow
Caleb's Pond	Chappy	1	1	1	3	2	NA	UNK
Chilmark Pond	Chilmark	1	1	1	3	2	NA	UNK
Dogfish Bar	Aquinnah	1	1	1	3	2	NA	UNK
Edgtwn Grt Pd	Edgrtwn	2	2	1	3	0	Skunk	Harrier/Crow
LittleBeach/ Eel Pd	Edgrtwn	3	4	2	6	5	Not Viable	UNK
Squibnocket	Chilmark	1	0	0	0	0	NA	NA
Stonewall	Chilmark	1	1	1	3	3	NA	NA
West Tashmoo	Tisbury	1	1	0	0	0	Overwashed	NA
Total		12	13	8	24	15	Skunk (1), Not viable (1) overwash (1)	

Table 4. Least Tern Nesting Activity Summary for A and B Census periods at BiodiversityWorks sites in 2013.

Sites	Nesting Pairs (A/B)	Productivity	Cause of egg loss	Cause of Chick loss
Chilmark Pond	0/6	None	Skunk	NA
Dogfish Bar	61/0	Fair	Skunk	Unk
Edgtwn Grt Pd	285 / 5	Poor	Weather	Unk
LittleBeach/ Eel Pd	720 / 229	Excellent	Gull	NA
Stonewall Pd	8/0	Poor	Unk	Unk
Total	1073/239	None - Excellent		

Table 5. Common Tern Nesting Activity Summary at BiodiversityWorks sites in 2013.

Sites	Nesting Pairs (A/B)	Productivity	Cause of egg loss	Cause of Chick loss
LittleBeach/ Eel Pd	2 / 0	Good	NA	NA