

## MASSACHUSETTS PIPING PLOVER CENSUS FORM

Year: 2007

Observer(s): Nichole Rossi, Layla Farahbakhsh, and Mike Pforr (Duxbury Beach Harbormaster Dept.)

Site Name: Duxbury Beach

Agency: Mass Audubon CWP

Town: Duxbury

Address: 2000 Main Street, Marshfield, MA 02050

Ownership: Duxbury Reservation

⇒ **Please attach a map of this site that shows locations of all nests and pairs that did not nest.**

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<b>Census Results:</b>	<b>Index Count<sup>a</sup></b>	<b>Total Count<sup>b</sup></b>
No. of Pairs	10 (including pair from trio)	11 (including pair from trio)
Unpaired Adults	2 (including extra male from trio)	2 (including extra male from trio)

<p><b>Notes on pairs that did not nest (include dates present, activities)/Census remarks:</b>                  A trio of PIPL (two males one female) were seen together on 5/3/07 on the ocean side just north of the 3<sup>rd</sup> crossover. The two of the trio did set up territory on the ocean side and had a series of scrapes, but no nest was ever found. On 5/12/07 the trio was seen again flying and landing just south of the third crossover. From the time we first began monitoring (4/26/07) the portion of beach near the third crossover (bayside and ocean side included) there were always two pairs on the ocean side. Pair 03A which occupied the northern portion of the very short and thin beach and the trio (who never nested or I never found) who occupied the southern portion of the beach, closest to the third crossover. Pair 03A lost their first nest (found 5/11/07) attempt to a storm/moon tide on 5/16/07. The beach near the third crossover was completely destroyed after the May storm and birds were not seen there again until 6/11/07, however we are fairly certain it was pair 03 and not the trio (only two adults seen at the northern portion of the beach). The trio was visible the day of the census (6/8/07) nearly ¼ mile from the 3<sup>rd</sup> crossover on the gurnet (most southern point of beach). The trio was counted then and then not seen at the gurnet again. The trio was then seen on the bayside across from the third crossover feeding on 6/15/07. Earlier that same week a storm had hit the beach again and a couple of LETE that were occasionally seen on the beach side next to the third crossover were gone (the storm tide had reached and torn down some of the snow fencing). On 6/29/07 at the third crossover on the ocean side we found an adult female with a severe injury to her right wing (later euthanized) along with two other birds who were very likely to be the two spare males from the trio and that the injured female was their mate. 7/2/07 the two males were seen foraging on the ocean side at the third crossover. These males were known to travel back and forth between the ocean and bay (around the third crossover) and sometimes harassed pair 01B who had chicks on the bayside. The two males from the trio were not seen again after the female died.</p>
<p><b>List pairs not present during Index Count:</b>                  Census conducted 6/8/07. Pair 03A was not observed the day of the census, but they were included in the total count. They had been visible on the site from 4/26/07, and had a nest on 5/11/07, which failed on 5/16/07 due to a moon tide, the pair was last seen on 6/11/07. Pair 03A or evidence of the pair (i.e., scraping) was not observed during the census period.</p>

<sup>a</sup>The Index Count includes those pairs seen during the Index Count period (1-9 June) and also those that may have been missed during the Index Count, but that must have been present then (based on laying or hatching dates).

<sup>b</sup>To be included in the Total Count, a pair must have been present at the site for ≥ 2 weeks and exhibiting courtship or territorial behavior during that period, if not actual nesting.

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Month	Average # of visits to site per week
April	5/wk
May	6/wk
June	6-7/wk
July	6-7/wk

Indicate type(s) of enclosure design(s) used:

Enclosure Design	A	B	C
Shape	Circular		
Diameter/Length of side	01B – 7 ft. 02B – unknown 04B – 7 ft., 5 ½ in. 05B – 7 ft., 2 ½ in. 06A – unknown 06B – 7 ft., 1 ½ in. 07A – unknown 07B – 7 ft. 08B – unknown		
Size of wire mesh	2 X 4 inches		
Total Height	48 in.		
Height above ground:	01B – 40 in. 02B – 40 in. 04B – 40 in. 05B – 43 in. 06A – unknown 06B – 44 ½ in. 07A – unknown 07B – 45 ½ in. 08B – 46 in.		
Depth buried:	01B – 8 in. 02B – 8 in. 04B – 8 in. 05B – 5 in. 06A – unknown 06B – 3 ½ in. 07A – unknown 07B – 2 ½ in. 08B – <2 in.		
Cover material	Black bird netting		
Cover spacing/Mesh size	¾ in. X ¾ in.		

Pair No.	Nest No.	No. eggs laid	No. eggs hatched <sup>c</sup>	No. chicks fledged <sup>d</sup>	Date clutch found	No. eggs when clutch found	Date clutch completed	Date nest hatched or failed <sup>c</sup>	Exclosure		
									Y/N	Design (A, B...)	Date installed
1	01A	4	0	0	5/5/07	1	5/9/07	5/16/07	N		
1	01B	4	3	2	5/22/07	1	5/29/07	6/23/07	Y	A	6/1/07
2/10	02A	4	0	0	5/7/07	3	5/9/07	5/21/07	N		
2/10	02B/10A	4	0	0	6/7/07	4	unknown	6/15/07	Y	A	6/10/07
3	03A	≥3	0	0	5/11/07	1	unknown	5/16/07	N		
4	04A	4	0	0	5/11/07	4	unknown	5/16/07	N		
4	04B	4	4	*3	6/7/07	4	unknown	6/25/07	Y	A	6/11/07
5	05A	≥3	0	0	5/11/07	2	unknown	5/16/07	N		
5	05B	4	4	2	5/28/07	4	5/28/07	6/21/07	Y	A	5/30/07
6	06A	3	0	0	5/28/07	3	unknown	6/13/07	Y	A	6/10/07
6	06B	3	3	1	6/23/07	1	6/26/07	7/20/07	Y	A	7/2/07
7	07A	4	0	0	5/28/07	3	5/30/07	6/13/07	Y	A	5/30/07
7	07B	3	3	2	6/22/07	1	6/25/07	7/20/07	Y	A	7/2/07
8	08A	3	0	0	5/28/07	2	unknown	6/4/07	N		
8	08B	3	0	0	6/18/07	3	unknown	6/20/07	Y	A	6/20/07
9	09A	3	0	0	5/31/07	3	unknown	5/31/07	N		
9	09B	3	0	0	6/8/07	3	unknown	6/17/07	N		
11	11A	4	4	4	*6/11/07	4 chicks (1-2 days old)	unknown	6/10 or 6/11/07	N		

<sup>c</sup>Indicate below the reasons for nest failure and egg/chick mortality (if known) and the evidence, or indicate "unknown." Attach additional sheets if necessary.

<sup>d</sup>Chicks are considered "fledged" if they are ≥ 25 days old or are observed in flight for ≥ 50 ft., whichever occurs first.

<u>Nest No.</u>	<u>Cause of egg mortality/Evidence</u>	<u>Nest No.</u>	<u>Cause of chick mortality/Evidence</u>
01A	Missing eggs, unknown cause but likely predation, suspect crow. Moon tide and storm overwash occurred on 5/15/-5/17, but nest was on the bay side and was likely protected from the overwash because of its location in the dunes. Empty nest cup found with no remains. Nest not exclosed due to problems last year with crow predation (controlled burn plot). Nest located 30-40 ft. away from nest 02A (predated by crows days later). ESOs walked to nest 2x/day, against recommendations from CWP, instead of checking nest via binoculars from road or beach.	01B	Lost one chick on 7/3/07 on bayside to unknown causes, no evidence as to what happened to chick. Brood occasionally harassed by two males from "trio"
01B	Lost one egg (6/7) from within enclosure to unknown causes. Exclosure about 8 inches in ground, still intact. No tracks (substrate peat-like) or shell/yolk remains found inside or outside enclosure. Predator did not return for the other three eggs. Small voles seen in area, possible small rodent predation? No evidence.	04B	Lost two chicks 7/19 at 24 days old, unknown cause. Parents last seen 7/24. *1 chick disappeared on 7/27, although it was 32 days old at that point and is therefore considered fledged, we know the 2 remaining chicks were severely underdeveloped and could <u>NOT</u> fly. Possible explanations for the chicks lost could be predation, but no evidence exists. Nest located on Gurnet, area with minimal human disturbance, and possibly low food availability. Minimal exposed flats during low tide, brood spent a majority of the time feeding in storm wrack lines. LETE colony ~50 birds, surrounded the nest; once hatched the brood stayed to the north of the colony, no LETE harassment observed. The adults regularly ran the chicks up and down the southern portion of Duxbury Beach (from the gurnet to the 3 <sup>rd</sup> crossover, approximately 1/4 mile), sometimes twice a day. The brood crossed to the bayside at the 3 <sup>rd</sup> crossover on more than one occasion and were known to cross twice in one day at same location. It was difficult to find chicks, even at 5 days of age they traveled far (>25-40 feet) from the adults. On 7/16 one chick was found at the southern tip of Gurnet while the parents and other three chicks were at the 3 <sup>rd</sup> crossover. We observed and gradually pushed (through monitoring) the family together at which point they headed back toward the gurnet. The last chick seen by MAS staff on 8/6 at 42 days of age was thought to be abandoned and unable to fly; it also had continued to traverse the 1/4 mile between the Gurnet and 3 <sup>rd</sup> crossover. The chick was still fluffy with brown plumage and could do little more than skip/flutter its wings. This chick was considered fledged, and in our absence Duxbury personnel claimed he flew over 50 ft on 8/7. Duxbury personnel had difficulties monitoring this brood and rarely found the chicks without the aid of CWP staff. In addition, the condition of the chick when last viewed by CWP was not indicative of the ability to fly. The area where Duxbury staff found the bird is was not one regularly used by the 4B chick. It is likely they confused 4B with another fledgling (probably 1B).
02A	Located on bayside near 3 <sup>rd</sup> crossover in burn plot. Not exclosed based on crow predation at exclosures last year. Two eggs lost 5/21, no evidence left behind. 5/23 another egg missing and one egg found 4-5 feet from nest with crow-like punctures. One big hole found in egg partially exposing the fetus; we have photographs of this egg. Nest walked to everyday by ESOs, similar to 01A.		
02B	Tidal overwash around 6/15. Storm with 10-12 mph NE winds, new moon tide, and rain. Exclosure found covered in seaweed, no nest cup or eggs found. We believe this pair moved over a 1/4 mi south to Gurnet on ocean side based on dates and neck band descriptions of pair.		
03A	Tidal overwash on 5/16, very thin stretch of beach (ocean side, 3 <sup>rd</sup> crossover) area completely washed. Storm w/new moon tide, NE wind & rain. No nest cup/eggs found.		
04A	Tidal overwash, 5/16 storm and moon tide NE winds and rain. Nest on ocean side of The Gurnet, relatively high portion of beach; Empty nest cup and new storm tide line.		

<u>Nest No.</u>	<u>Cause of egg mortality/Evidence</u>	<u>Nest No.</u>	<u>Cause of chick mortality/Evidence</u>
05A	Tidal overwash, storm and new moon tide evening of 5/16. Strong storm most of that week, 10-20 NE mph winds. Storm wrack line was above the nest, no nest cup visible, reported by ESO.	05B	Two chicks lost on 6/26 to unknown causes. No evidence exists, but according to ESO crows and gulls frequent bayside and have been known to harass the birds. Brood hatched on ocean-side, all four chicks moved to bayside two days after hatching. All four chicks last seen on bayside 6/25.
06A	Tidal overwash night of 6/13, during a new moon. Storm with >12 mph NE winds, rained for 3 days. Exclosure was nearly torn down by storm debris and covered with seaweed. No nest cup or eggs found.	06B	One chick lost on 7/24 and another on 7/26 to unknown causes. Chicks hatched on oceanside, then crossed with parents to bayside. According to ESOs, crows and gulls frequent bayside and have been known to harass the birds. Chick last seen at 35 days of age on 8/26, and therefore is considered fledged but could not fly (we attempted to make the chick fly without success).
07A	Tidal overwash the night of 6/13, during a new moon. Storm with >12 mph NE winds, and rain for 3 days. Exclosure was nearly torn down by storm debris and covered with seaweed. No nest cup or eggs found.	07B	Lost one chick on 7/26 at 6 days of age. The other two chicks flew over 50 feet on 8/19 at 29 days of age.
08A	Missing eggs, unknown cause. The nest was exposed on the top of a low dune in a small patch of sand with sparse vegetation. This nest was the furthest south and the furthest away from the other nests in between the 1 <sup>st</sup> and 2 <sup>nd</sup> crossovers. Crows were more frequent on bayside (opposite 1 <sup>st</sup> and 2 <sup>nd</sup> crossovers) but occasionally observed in the low dunes. No nest bowl or eggs found, no tracks.	11A	* Pair 11A had a nest that was never found, 4 chicks were observed on 6/11 (approx. 1-2 days of age).
08B	Nest found with 3 eggs 6/18; on 6/20 1 egg was missing, and subsequently nest was exclosed that day. No direct evidence of egg predation found; this nest was about 40 feet from failed first nest attempt. Nest was outside of the perpendicular symbolic put up for chicks between the 1 <sup>st</sup> and 2 <sup>nd</sup> crossovers. Symbolic was adjusted to include the nest but there was not much of a buffer between the nest and symbolic ~40 feet. This area is the most heavily utilized portion of beach on Duxbury; it's also the area where people use vehicles most. Nest found abandoned on 7/5. Possible explanations: The exclosure (erected by the ESO) was not steady or correctly installed because it was buried < 2 in. in the ground. There were also short periods of high winds and light rain between 7/3-7/5, which could have exacerbated the effects of the poorly erected exclosure. In addition, the nest was in close proximity to high human traffic (especially during July 4).		

<u>Nest No.</u>	<u>Cause of egg mortality/Evidence</u>	<u>Nest No.</u>	<u>Cause of chick mortality/Evidence</u>
09A	<p>Nest found abandoned on 5/31 at the northern-most section of Duxbury (pedestrian beach). No driving allowed on this section of beach, but it's the most accessible with two big parking lots, one of which is privately owned and charges by the day with no permit requirement. This site was <u>not</u> monitored by the ESOs. CWP staff erected symbolic fencing on 5/31 to protect the nest. The site was first monitored on 4/23; a pair was observed feeding. The pair was observed on 5/3, Scrapes were not located. In addition, there was not much suitable habitat. The birds had built their nest in a small patch of sand directly underneath snow fencing at the base of shallow dunes. The area was checked regularly, but the pair was never observed again after abandonment. We suspect the nest was on or just before Memorial Day, the birds may have abandoned due to human disturbance (good weather on holiday weekend). We monitored the nest until 6/2, at which point the eggs were nearly buried in the sand and were then collected. Eggs were collected by CWP staff and given to the ESO at their request.</p>		
09B	<p>Nest lost to unknown causes on 6/17, the same week we had a series of storms and a moon tide that took 3 other nests on Duxbury. This nest was on a very thin stretch of beach where several LETEs were nesting (who did not survive the storm). The nest was hidden very well under the exposed root system of the dunes and it's possible the nest survived the storm. The next day the ESO found an empty nest cup with crow tracks around it, no shell or egg fragments. There were several faint tracks when CWP arrived later that morning. Pair watched extensively over the next couple days, in the event that the nest hatched, but no chicks were ever seen.</p>		