



Duxbury Beach Reservation, Inc.
Piping Plover Barrier Use Protocol
Created 3/20/20

Purpose: This protocol describes when and how barriers may be erected on Duxbury Beach.

There are several areas of Duxbury Beach that do not provide Piping Plover habitat on the bayside. This primarily consists of saltmarsh but also includes the Powder Point Bridge with associated revetment and footings. In two sections these non-habitat areas border paved parking lots. This includes the length of the paved parking lot at Duxbury Beach Park and the main pedestrian path across from the Powder Point Bridge. In cases where a brood is using the area oceanside and/or exhibits behavior indicating an attempt to access the parking lots in these areas, a combination of herding and barriers (see *Barrier Use Protocol*) will be utilized to discourage crossings in these areas. This will not prevent the brood from crossing to the bayside in other sections of the beach and will not prevent movement north and south along the oceanside beach.

Barrier Locations

- **Duxbury Beach Park Paved Parking Lot (map 1):** Should a pair nest on the oceanside of the paved parking lot at Duxbury Beach Park or a brood move into this area, staff will erect a barrier along the length of the west side of the oceanside dune prior to hatching to prevent entry into the parking lot. This should include all pedestrian pathways north of the wooden boardwalk in front of Blakeman's, which includes three at the paved parking lot and one at the Northern Lot.
- **Resident Parking Lot Main Pedestrian Path (map 2):** Should a brood begin to approach the pedestrian path across from the Powder Point Bridge, staff should immediately begin preparing a barrier that can be erected across the width of the pathway on the east end.
- **Pedestrian Pathways North of Crossover 1 (map 1-2):** In special cases, barriers may be utilized for short durations (20:00-08:00) to discourage crossing activity overnight in specific parts of the beach where recreational vehicle use of the back road occurs. These will be employed if a brood north begins crossing the road while nighttime driving is permitted.

Barrier Description

- Possible barrier types include silt fence, landscape fabric, <1/2" hardwire cloth, plastic jersey barrier, wooden planks
- Flimsy barriers (silt fence, landscape fabric or chicken wire) may be attached to existing or new sand fencing with zip ties or staples or wooden posts spaced approximately every 2-3 meters.
- In cases where the barrier also serves to prevent pedestrian access, barriers should include the use of sand fencing to provide height and stability.
 - Barrier should include "area closed" signage at the pathway entrance at the parking lot. If the pathway is closed it is encompassed by the closed area fencing (fencing around nests and nesting habitat) on the oceanside which would include additional signage.
- In cases where pedestrian access is permitted or emergency vehicles may need easy access, barriers should consist of low (8-12" high) hardware cloth, silt fencing, or landscape fabric attached to wooden posts.
 - Barrier should include signs indicating the barrier and to use caution facing both directions from the barrier. If applicable, include signs indicating the nearest handicap accessible pathway.
 - Fluorescent flagging should be tied along the length of the barrier to increase visibility for pedestrians.
- Pedestrian pathway barriers for nighttime use will consist of wooden planks nestled into the sand or cobble to make deploying and removing quick.

Barrier Placement and Monitoring

- Barriers should be placed so as not to restrict access to bayside foraging habitat (may minimize restriction to habitat during nighttime hours only).
- Barriers should be erected by a minimum of two staff to ensure timely placement and that the barrier is taut and properly set up.
- Barrier set-up:
 - The barrier should be buried >3 inches beneath the sand or cobble to ensure the chicks cannot pass underneath.
 - Sand fencing or wooden stakes should be adequately deep so as not to fall over in normal wind conditions or be easily moved by a pedestrian.
 - Barrier should be taut to ensure chicks cannot pass over the top of the barrier.
- Barriers should be assessed during each shift daily, morning, afternoon, and evening, to check for entrapment hazards or issues with the barrier that may allow chick passage. Repairs should be made immediately.
- The Reservation will test the usefulness and safety of a crossing barrier at pedestrian paths during the daytime to assess adult and chick behavior and ensure that barriers do not increase risk to adults by causing them to land and stay in the road for long periods of time while encouraging chicks to cross.

- Barriers used to minimization impact of nighttime driving should be placed (or completed) at 20:00 and removed at 08:00. This will be performed by Duxbury Beach Operations staff.



Map 1. Potential barrier locations at Duxbury Beach Park if nesting occurs north of Blakeman's building.



Figure 2. Potential barrier locations in case of two scenarios. The barrier opposite the Powder Point Bridge would be installed if a brood attempts to use that pathway to access the paved parking lot. Barriers at pedestrian pathways will be installed at sunset and removed before the beach opens if Crossover 1 is open to nighttime OSV use and broods exhibit a tendency to cross the road/parking lot to the bayside in this area.



Figure 3. Barriers at pedestrian pathways will be installed at sunset and removed before the beach opens if Crossover 1 is open to nighttime OSV use and broods exhibit a tendency to cross the road in this area.