



MASSWILDLIFE

**DIVISION OF FISHERIES & WILDLIFE**

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 MASS.GOV/MASSWILDLIFE

**Request for Certificate of Inclusion for Piping Plover Habitat Conservation Plan  
 MESA Review Checklist & Application Cover Page**

**Project Location:**

Address/Location	Ryder Way
City(ies)/Town(s)	Plymouth

**Applicant:**

Individual	Kerin McCall
Organization	Town of Plymouth - Department of Energy and Environment
Mailing address	26 Court Street, Plymouth, MA 02360
Phone & Email	(508)747-1620 x10201 kmccall@plymouth-ma.gov

**Property Owner(s) Information (if different from Applicant): \*Provide separate sheet if multiple landowners**

Individual(s)	
Organization(s)	
Mailing address	
Phone & Email	

**Representative (if any):**

Individual	
Organization	
Mailing address	
Phone & Email	

Has this project previously been issued a NHESP Tracking Number (either by previous NOI Submittal or MESA Information Request Form)? **Yes** If yes, Tracking no. 25-19283

Is coverage for Least Terns also being requested? (Y/N)	Yes			
List additional MESA-listed species in project area (if known):	n/a			

**REQUESTED COVERED ACTIVITIES FOR PIPING PLOVER**

Covered activity:	Use of roads and parking lots in the vicinity of unfledged chicks	Recreation and beach operations	Oversand vehicle use in vicinity of unfledged chicks	Total*
No. requested take exposures*	13-14	0	1	14
Max. % of total pairs at site to be exposed				28.6
Acreage affected				<2
Max. % of total nesting acreage affected for this species at site				2.17

\* The Total No. requested take exposures should be a maximum number of exposures for all Covered Activities combined in a given year (i.e., a not-to-exceed value). As beach operators may not be able to predict which Covered Activities will be implemented in a given year, a range of values or maximum value may be presented for each individual activity. For instance, requested exposures under each of the three activities might be 2 while the Total might be less than 6.

**REQUESTED COVERED ACTIVITIES FOR LEAST TERN OR OTHER AVIAN SPECIES (identify species):** LETE

<b>Covered activity:</b>	<b>Use of roads and parking lots in the vicinity of unfledged chicks</b>	<b>Recreation and beach operations</b>	<b>Oversand vehicle use in vicinity of unfledged chicks</b>	<b>Total*</b>
<i>No. requested take exposures*</i>	3 small colonies	0	20	20 +3 small colonies
<i>Max. % of total pairs at site to be exposed</i>				45
<i>Acreage affected</i>				<2
<i>Max. % of total nesting acreage affected for this species at site</i>				2.17

\* The Total *No. requested take exposures* should be a maximum number of exposures for all Covered Activities combined in a given year (i.e., a not-to-exceed value). As beach operators may not be able to predict which Covered Activities will be implemented in a given year, a range of values or maximum value may be presented for each individual activity. For instance, requested exposures under each of the three activities might be 2 while the Total might be less than 6.

**REQUESTED SPECIFIC METHODS ASSOCIATED WITH IMPLEMENTING COVERED ACTIVITIES (check all that apply)**

	<b>Piping Plover</b>	<b>Least Tern</b>	<b>Other (identify):</b>
<i>Reduced proactive symbolic fencing</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Reduced fencing around the nest</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Beach raking</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Physical deterrents (coverboards, flagging, etc.)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Chick herding</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Barriers</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Nest moving</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Other (briefly identify)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**PROPOSED PIPING PLOVER MITIGATION (Mitigation for other species should be proposed in the IAMP; see below.)**

<b>Type</b>	<b>Y/N</b>	<b>Total amount</b>	<b>Pairs to benefit (credits)</b>
<i>Pay fee for offsite mitigation*</i>	No	\$ n/a	n/a
<i>Applicant-implemented activities (in lieu of fee):</i>			
· <i>Selective predator management</i>	Yes	Submit details in IAMP (see below)	49
· <i>Increased education &amp; outreach</i>	No		MassWildlife will determine value (credits) for these activities
· <i>Increased law enforcement</i>	No		
· <i>Habitat management</i>	No		
· <i>Other</i>	No		

\* Mitigation ratios (mitigation credits:exposure) and fees (per pair, nest, brood, or territory) are: Use of Roads and Parking Lots (vehicular, 3:1 or \$6,150; non-vehicular, 2.5:1 or \$5,800); Recreation & Beach Operations, Oversand Vehicle Use (2.5:1 or \$5,800)

**OTHER REQUIRED ELEMENTS OF REQUEST FOR COI**

*(Please attach. See additional guidance available to applicants; contact coastal.waterbirds@mass.gov.)*

- Site map – showing parcel boundaries and provide proof of ownership
- Written assent of landowner(s) to request coverage, if applicant is not landowner
- Site-specific Impact Avoidance and Minimization Plan (IAMP) in format specified by MassWildlife in available guidance
- Mitigation plan, including budget
- MA Endangered Species Act filing fee  
(\$300 payable to “Comm of MA – NHESP”; <https://www.mass.gov/how-to/how-to-file-for-a-mesa-project-review>)
- Conservation and Management Permit fee  
(\$600 payable to “Comm of MA – NHESP”; <https://www.mass.gov/how-to/apply-for-a-conservation-management-permit>)
- Draft Escrow/Mitigation Fund Agreement, with applicant-specific edits in TrackChanges/redline (if mitigation fee will be paid)

Contact: Coastal.Waterbirds@mass.gov for template agreement.

**SUBMITTAL**

- Mail a hard copy of entire application (including signed cover sheet) with checks, to:  
**Environmental Review-HCP, MassWildlife-NHESP, 1 Rabbit Hill Rd., Westborough, MA 01581.**
- Also email entire application to: **Coastal.Waterbirds@mass.gov.**

**REQUIRED SIGNATURES**

***Provide separate sheet if multiple landowners***

I hereby certify under the penalties of perjury that the foregoing HCP/MESA filing and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.

Signature of Property Owner/Record Owner of Property

Date

*Kenn A McCall*

Signature of Applicant (if different from Owner)

Date 12/15/25



# **Massachusetts Habitat Conservation Plan for Piping Plover**

## **Request for Certificate of Inclusion for Plymouth Long Beach, 2026**

Prepared for submission to:

Massachusetts Division of Fisheries & Wildlife  
Natural Heritage and Endangered Species Program  
1 Rabbit Hill Road  
Westborough, MA 01581

Prepared by:

Town of Plymouth  
Department of Energy and Environment  
Natural Resources Division  
26 Court Street  
Plymouth, MA 02360

December 2025

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## INTRODUCTION

The Town of Plymouth is requesting a Certificate of Inclusion (COI) in the statewide Habitat Conservation Plan for Piping Plover (HCP) for Plymouth Long Beach for the period of 2026 through 2028. This request includes two covered activities that impact piping plovers – “Use of Roads and Parking Lots in the Vicinity of Unfledged Piping Plover Chicks” and “Oversand Vehicle (OSV) Use in Vicinity of Unfledged Piping Plover Chicks”—and two covered activities that impact least terns – “Use of Roads and Parking Lots in the Vicinity of Unfledged Least Tern Chicks” and “Oversand Vehicle (OSV) Use in Vicinity of Unfledged Least Tern Chicks”. The Town has implemented “Use of Roads and Parking Lots” for both piping plover and least tern chicks each season since 2016 (see Table I-1 below). The current COI and CMP (NHESP File No. 25-19283, CMP No. 023-409.DFW) expire on December 15, 2025.

The Town is requesting fourteen (14) take exposures for piping plovers for the two covered activities, which is 28.5% of the number of breeding pairs in the 2025 season (49 pairs). Because this number of take exposures exceeds the allowed level of 15% of the number of breeding pairs the previous season, the Town is further requesting that the Division of Fisheries and Wildlife (DFW) use their discretion described in Section 5.2.2.3 of the Habitat Conservation Plan for Piping Plover to increase the allowable take exposures to 75% at a up to 8 sites per year. The impact avoidance and minimization procedures described in this plan meet or exceed the minimum requirements of the HCP, and for the covered activity that has been implemented in past seasons, “Use of Roads and Parking Lots in the Vicinity of Unfledged Piping Plover Chicks”, actual time spent monitoring exceeds the minimum described in this plan, as demonstrated in the summary reports submitted annually. Self-funded onsite mitigation benefits all of the pairs at Long Beach, which far exceeds the required mitigation for the covered activities implemented. Although the Town funded only the first year of on-site mitigation during the current COI, a mitigation credit of 11 pairs will be carried into the first year of the new COI. Mitigation was funded through Habitat Conservation Plan – Piping Plover Conservation funding during the second and third year of the current COI, and those credits served as mitigation for other COI holders who funded off-site mitigation.

Only 7 of the 8 approved take exposures were used during the 2025 season, however, there were 9 pairs of plovers active along Ryder Way, including one pair that had two broods. The requested 14 take exposures will allow the Town to implement the HCP for all of the pairs present along Ryder Way in 2025, and for additional pairs if there is increased plover activity along or near Ryder Way, as well as for up to 1 pair in proximity to the OSV corridor.

To reduce the use of take exposures, the Town may conduct Enhanced Intensive Monitoring (EIM) when implementing “Use of Roads and Parking Lots in the Vicinity of Unfledged Piping Plover Chicks”. If EIM is implemented and certain criteria detailed in Section 8.2.1 are met, a take exposure may not need to be used provided the brood does not enter the road or a parking lot.

The Town is also requesting to expose up to three small colonies of least tern chicks to the covered activity “Use of Roads and Parking Lots in the Vicinity of Unfledged Least Tern Chicks” and up to 20 unfledged least terns to the covered activity “Oversand Vehicle (OSV) Use in the Vicinity of Unfledged Least Tern Chicks”.

The Town of Plymouth has received four COIs to date. The first included the covered activity “Use of Roads and Parking Lots” for both piping plover and least tern chicks. The COI issued on July 8, 2016 approved the covered activity for 2 take exposures for plovers and a small sub-colony for least terns.

The Town submitted a request for an amended COI in December 2016 that included adding limited night fishing access when only unfledged least tern chicks were present near the road as well as adding two additional activities: “Oversand Vehicle (OSV) Use” for piping plover and for least tern chicks. The request for additional activities was approved.

During the 2018 season, 3 pairs of piping plovers laid nests adjacent to Ryder Way. The Town submitted an emergency request to increase the allowed take exposures to three, which was granted via email on June 22, 2018.

Due to increasing activity along Ryder Way, the Town submitted a request in December 2018 to amend the COI to include up to 5 take exposures and an amended COI was issued on February 26, 2019.

When plover activity along Ryder Way significantly increased again in 2022, the Town submitted an emergency request to increase the allowed take exposures from 5 to 7 plover broods on June 3, 2022. An Amended COI was issued on July 13, 2022 that approved the increase in allowed take exposures to 7 broods of plover chicks.

A new request submitted in December 2022 proposed an increase to 8 takes exposures, which was approved by the COI issued on March 7, 2023. An amendment request submitted in December 2024 included additional barrier fencing and adjusted monitoring requirements to simplify chick monitoring. An amended COI was issued on February 20, 2025.

Table I-1 below shows the number of take exposures implemented in each year. The covered activity “Use of Roads and Parking Lots” has been implemented at Long Beach for both piping plover and least tern chicks since 2016. To date, the covered activity “Oversand Vehicle (OSV) Use” has not been implemented for either piping plover or least tern chicks.

**Table I-1. Authorized and Implemented Take Exposures for Covered Activities Implemented at Plymouth Long Beach, 2016-2025.**

Year	Piping Plover			Least Tern	
	Authorized Take Exposures	Implemented Take Exposures		Implemented Take Exposures	
		Roads & Parking	OSV Use	Roads & Parking (# Sub-colonies)	OSV Use
2016	2	1	0	1	0
2017	2	1	0	1	0
2018	3*	3	0	1	0
2019	5	4	0	2	0
2020	5	3	0	1	0
2021	5	3	0	1	0
2022	7*	5	0	1	0
2023	8	7	0	2	0
2024	8	6	0	2	0
2025	8	7	0	2	0

\*Denotes year when emergency request for increase in take exposures was authorized.

# IMPACT AVOIDANCE AND MITIGATION PLAN

## Section 1 - Site Description

Plymouth Long Beach is a barrier spit located in Plymouth, Massachusetts. It joins the mainland at Warrens Cove, and trends in a north-westerly direction for approximately 2.8 miles. Long Beach provides storm damage protection and flood control for Plymouth Harbor. Prominent features and landmarks are shown on the maps in Figures 1-1 and 1-2.

The Plymouth Long Beach Management Plan is implemented to protect breeding coastal waterbirds and their habitat as well as wetland resources while providing opportunities for recreational activities. Management zones as described in the Plymouth Long Beach Management Plan are shown in Figures 1-1 and 1-2.

### 1.1 Acreage

The Town of Plymouth owns approximately 92 acres of land on Plymouth Long Beach.

### 1.2 Infrastructure

Infrastructure at Long Beach includes a small restaurant, bath house and associated septic system in the main public parking lot at the entrance to the beach (see Figures 1-1 and 1-2). Ryder Way, a gravel access road, extends northward on the beach for approximately 2 miles from the main parking lot. Approximately 1.5 miles from the main parking lot, a Crossover allows vehicles to access the over sand vehicle (OSV) corridor, which is approximately 1 mile in length when fully open. There are 19 privately owned and 1 leased properties, including sixteen with cottages and associated infrastructure. There is a small storage shed on one of the Town-owned properties.

There are several shoreline management structures, including a seawall along the seaward edge of the main parking lot and several groins on the adjacent beach. The most significant structure is the stone dike constructed by the Army Corps of Engineers in the early 1900's. The stone dike ties into the seawall at Manter's Point at the northern end of the main public parking lot and extends to the point of the barrier spit. The scouring effect typically seen with hard coastal structures is evident on the southern portion of the beach, and there is no beach seaward of the dike at high tide for approximately 7,000ft beginning near Manter's Point.

The southernmost portion of the stone dike, 5,000ft in length, was rebuilt by the Army Corps of Engineers in 1971 and included the addition of scour aprons. A portion approximately 2,500ft in length located just north of the reconstructed portion has completely deteriorated. This section begins at a parking area known as the Day Parking Area and runs northward to the OSV Crossover. The Town completed a mixed sediment dune nourishment in this area in March 2023, which resulted in increased resilience to storm damage, reduced damage to the gravel road, and additional nesting habitat.

From the Crossover northward, the stone dike is covered by dunes over most of its length. This part of the beach receives some storm protection from Duxbury Beach, Gurnet and Saquish, and the dune system is well-developed in this area. However, the point has eroded significantly during severe

Figure 1-1. Plymouth Long Beach Landmarks and Management Zones



**Figure 1-2. Detail of the Northern (Left) and Southern (Right) Areas of Plymouth Long Beach with Landmarks and Management Zones**



2025 Nearmap Aerials Provided for Representational Purposes Only

storms in recent years. At the point, a jetty extends into the water on the northeast side. A smaller jetty with a navigational day marker extends into the water on the northwest side of the point.

### **1.3 Access Points**

The only vehicle and pedestrian access to Plymouth Long Beach is the beach entrance at the beginning of Ryder Way where the barrier spit connects to the mainland. Ryder Way provides year-round public access for recreational areas as well as access to the private properties. Recreational vehicles can access the beach front via the OSV corridor, which is installed seasonally, typically from Memorial Day weekend to Labor Day, in Zone 2 (see Figures 1-1 and 1-2), although the OSV corridor has been open for two additional weekends after Labor Day since 2022. The OSV corridor begins at the Crossover and extends approximately one mile north-westward to the “790 line” when fully accessible. Access to the OSV corridor may be partially or fully restricted due to tidal closures and restrictions for coastal waterbird nesting.

### **1.4 Types of Habitat and Key Features**

Wetland resource areas located on Long Beach, as shown in Figure 1-3, include Barrier Beach, Coastal Beach, Coastal Dune, Salt Marsh, and Tidal Flats. Other resource areas not shown on the map include Land Containing Shellfish, Rare Species Habitat, Land Subject To Flooding, and Land Under Water Bodies and Waterways.

Plymouth Long Beach is located entirely within Estimated Habitat of Rare Wildlife and Priority Habitat of Rare Species. Long Beach is a significant breeding area for several protected species, including piping plovers, least terns and common terns. Arctic and roseate terns, as well as black skimmers and laughing gulls, have also nested in past seasons. Piping plovers and least terns typically nest in the fairly open sandy or gravelly areas along most of the length of the beach. Common terns and the other larger tern species typically nest in a colony at the point.

Long Beach has extensive tidal flats, particularly on the northern half of the beach, which serve as foraging habitat for piping plovers as well as migratory species. Long Beach is an important staging area for migratory shorebirds, including the red knot, which is listed as threatened under the federal Endangered Species Act. Checklists reported to ebird.org over the last several years generally include sightings of 1 to 50 red knots observed, but there are occasional reports of as many as 92 (3/27/24), 128 (10/4/25) or 134 (10/26/25) red knots observed.

### **1.5 Map with Parcel Boundaries and Landmarks**

The map in Figure 1-4 shows the parcel boundaries, ownership and landmarks. A list of Town parcels with ownership references is located in Appendix A.

Figure 1-3. Plymouth Long Beach Wetland Resource Areas (MassGIS DEP Wetlands Jan 2009)

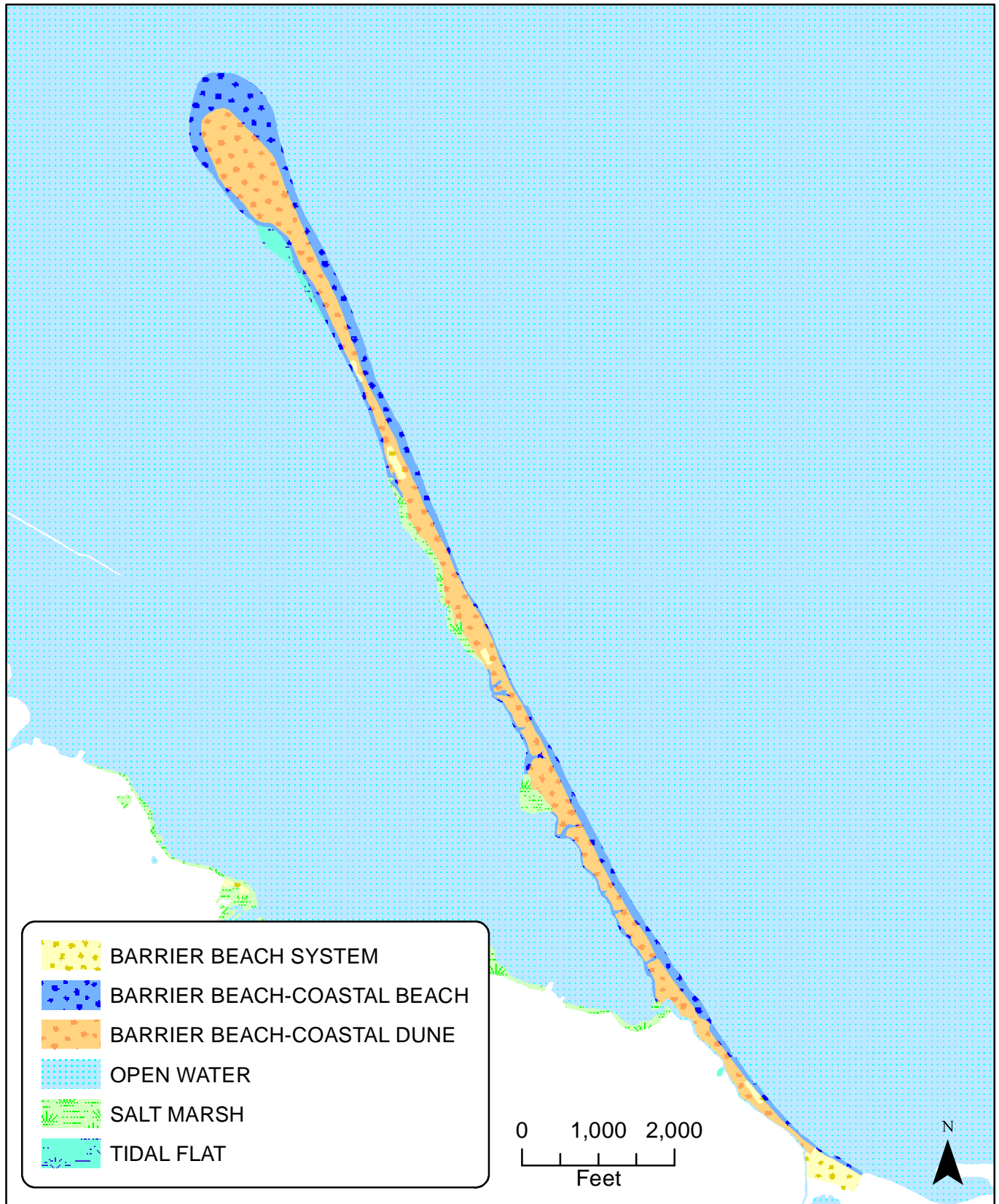


Figure 1-4. Plymouth Long Beach Ownership with Parcel Boundaries and Landmarks



## Section 2 – Ownership and Management

While about 90% of Plymouth Long Beach is owned by the Town of Plymouth, there are also 19 private properties and 1 property leased from the Town. A map of private and Town properties is shown in Figure 1-4. There are cottages on 16 of the private properties. While the activities covered in this COI request will focus on Town-owned properties (see Appendix A), the location of breeding activity can vary from year to year. If implementation of any of the covered activities may affect a private property, the Town will obtain written permission from the owner of each impacted property and provide copies to DFW prior to implementing the covered activity.

The Plymouth Department of Energy and Environment (DEE) is responsible for implementing the Plymouth Long Beach Management Plan and daily operations at Long Beach. The Recreation Division manages the main public parking lot and adjacent beach, including the lifeguards and collection of parking fees. Other Town departments regularly accessing Long Beach include Plymouth Police, whose officers patrol Long Beach as well as other Town beaches, and the Department of Public Works, whose staff maintains the road and parking lots and installs equipment such as ramps, lifeguard chairs and guard shacks that are removed seasonally.

## Section 3 – Responsible Staff

The Plymouth Department of Energy and Environment (DEE) is responsible for preparation, implementation, and updates of the IAMP. Key staff include David Gould, Kerin McCall, and Lindsey Moran.

David Gould is the Director of Energy and Environment. He has been overseeing implementation of the Plymouth Long Beach Management Plan since 2002. He served as the full-time Natural Resources Officer responsible for management of Long Beach from 2002 to 2004. Since 2005, he has supervised the Environmental Technician responsible for day-to-day management of Long Beach.

Kerin McCall has been the Environmental Technician responsible for implementing the Plymouth Long Beach Management Plan since 2005. Prior to that, she was a seasonal Natural Resources Officer at Plymouth Long Beach during the 2003 and 2004 seasons and a Biological Science Technician in the Resource Management Department at Gulf Islands National Seashore from 1999 to 2002. She has been monitoring and managing nesting activity of plovers and terns since 1999. She began working with least terns in 1999 and with piping plovers in 2003. She has been responsible for preparing, implementing and updating the IAMP since 2016.

Lindsey Moran has been the Shorebird Program Manager since 2025. She worked as a seasonal Natural Resources Officer at Plymouth Long Beach from 2014 to 2022, which included HCP implementation beginning in 2016. She also served as an Animal Control Officer for the Town of Plymouth from 2022 to 2025. Prior to that she worked as a seasonal Shorebird Field Technician for The Trustees of Reservations from 2011 to 2013 at their Cape Pogue, Wasque, and Norton Point Reservations.

Ms. McCall has primary responsibility for preparing and updating the plan with assistance from Ms. Moran, and in consultation with Mr. Gould. Ms. McCall and Ms. Moran are responsible for implementation of the IAMP.

Ms. McCall's schedule varies from 2 to 5 field days per week spent onsite at Long Beach throughout the season, with other days in the office working on administrative tasks. She works a minimum of 40 hours per week that are split between morning shifts (7:00 am to 3:00pm) and evening shifts (12:00 pm to 8:00 pm). Additional hours are added as needed.

Ms. Moran typically spends 4 to 5 days per week onsite at Long Beach during the season. She also has a varied schedule that includes morning and evening shifts. Additional hours are added as needed.

## **Section 4 – Piping Plovers**

### **4.1 Distribution at the Site**

Plymouth Long Beach is located entirely within estimated and priority habitat of piping plovers. While the whole beach is potential habitat, historically, piping plover nesting activity has been located on the northern areas of the beach. The majority of piping plover nests are located on the beach and within the dune system in the areas north of the Crossover, however, breeding activity south of the Crossover has increased significantly in recent years. The locations of nests from 2021 to 2025 are shown in Figure 4-1.

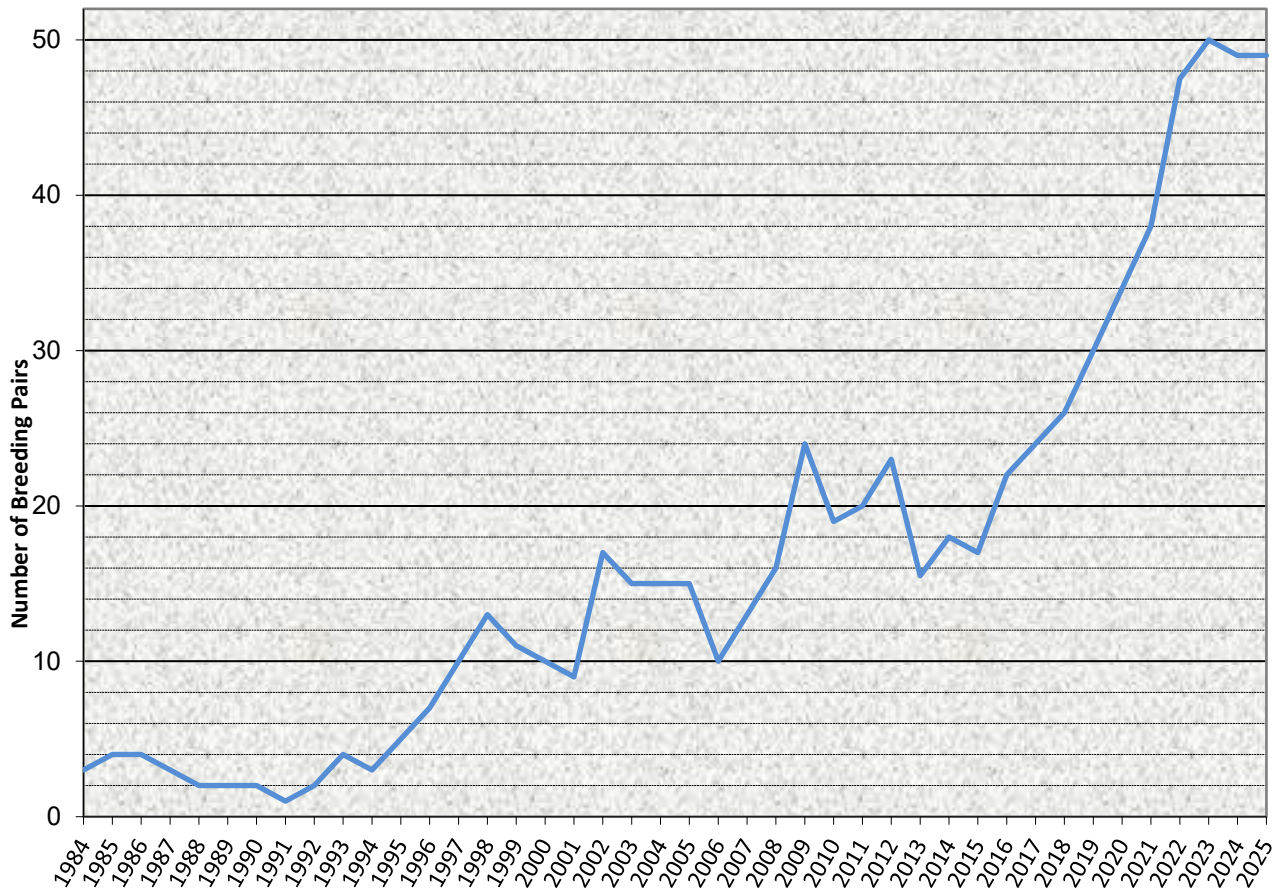
### **4.2 Population Size**

Between 1984 and 2025, the population of breeding piping plovers at Plymouth Long Beach ranged from a low of 1 pair (1991) to a high of 50 pairs (2023). The number of breeding pairs per season from 1984 through 2025 is shown in Figure 4-2. The average number of breeding pairs over the last 5 years between 2021 and 2025 was 46.7 pairs (range 38 to 50). In 2023, 50 pairs of piping plovers nested at Plymouth Long Beach, which is the highest number of pairs recorded since monitoring began in 1984. There have been 49 pairs in each of the last two seasons.

Figure 4-1. Plymouth Long Beach Piping Plover Nests, 2021-2025



**Figure 4-2. Breeding Pairs of Piping Plovers at Plymouth Long Beach, 1984-2025**

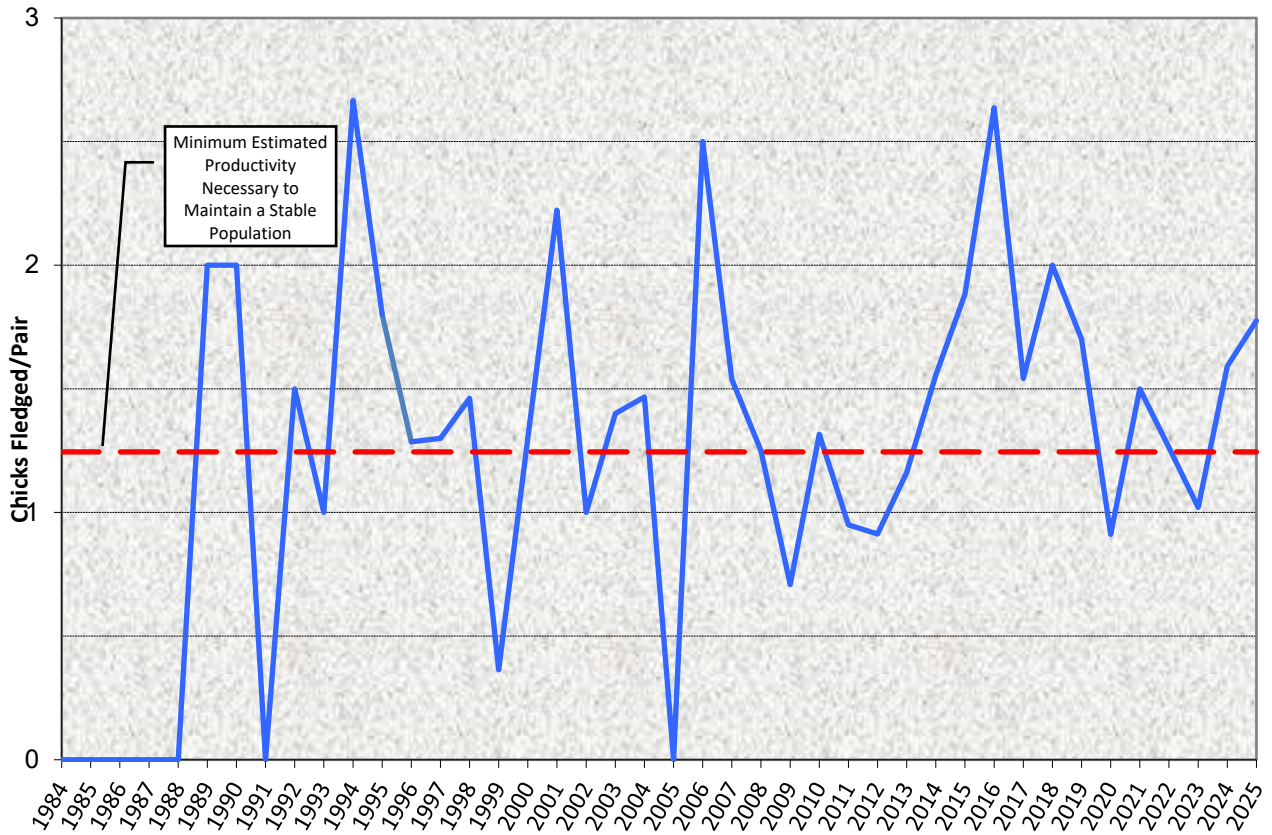


### 4.3 Reproductive Success

Reproductive success has fluctuated from season to season as result of several different factors. The Plymouth Long Beach Management Plan is effective at limiting impacts of recreational activities, however, the effects of tides, weather and predation vary from season to season. Over the last five years, productivity has ranged from 1.02 to 1.78 chicks fledged per pair. Annual productivity since 1984 is shown in Figure 4-3. Nest loss as a result of flooding from storm-driven high tides and chick loss as a result of weather conditions such as heavy rain and extreme heat or cold can significantly decrease productivity. These impacts vary unpredictably from season to season.

Predation can severely impact reproductive success. In fact, in 2005, nest predation by red fox was so severe that no eggs hatched, resulting in no plover or tern chicks fledging that year. Predator management has been shown to be an effective tool to increase productivity. Table 4-1 compares productivity between seasons with and without predator management. In years with predator management, there is an average of 0.45 more chicks fledged per pair than in years without predator management. Although there is variation in productivity between seasons, implementation of

**Figure 4-3. Productivity (Chicks Fledged Per Pair) of Piping Plovers at Plymouth Long Beach, 1984-2025**



predator management has on average increased the level of productivity at Plymouth Long Beach above the level of 1.25 chicks fledged per pair estimated to be necessary to sustain Massachusetts' population of piping plovers (Melvin and Gibbs 1996).

**Table 4-1. Comparison of piping plover productivity (chicks fledged per pair) at Plymouth Long Beach, Massachusetts, in years with and without mammalian predator removal, 1999-2022**

Year	Predator removal	Mean (range) chicks fledged per pair	Mean (range) pairs
1999-2005, 2012-2013	No	1.08 (0.0 - 1.5)	15 (10 - 23)
2006-2011, 2014-2025	Yes	1.53 (0.7 - 2.64) <sup>a</sup>	29 (10 - 50)

<sup>a</sup> Relatively low productivity in 2009 (0.71), 2011 (0.95) and 2023 (1.02), all of which were years when predators were removed, was due in part to nest and/or chick losses caused by flooding from storm-driven high tides. Lower productivity in 2020 (0.91) was due to poor fledging success (28%) despite good hatching success (71%).

#### 4.4 Threats at the Site

Threats to productivity for piping plovers and least terns include predation, overwash, impacts of severe weather such as sanding over, and habitat loss.

In recent years, the most significant predators have been Eastern coyote and common grackle, but other species have had varying impacts in past seasons, including American crow, great black-backed gull, herring gull, Virginia opossum, peregrine falcon, red fox, striped skunk, and raccoon.

Erosion in several areas of the beach, have resulted in reduced available nesting habitat for both piping plovers and least terns.

#### 4.5 Other Background Information

The Plymouth Long Beach Management Plan requires a vehicle-free buffer zone to be implemented following hatching of a piping plover nest (see Section 6 for more details about the management plan). Because there is only one Crossover at Plymouth Long Beach, the vehicle free buffer-zone results in vehicles being allowed to use the OSV corridor only up to the buffer-zone for the southernmost hatched nest. There are also other factors that may restrict use of the OSV corridor or parking areas that are described in Section 6.15. Depending on the location of plover nests, significant portions of the OSV corridor, or often the entire OSV corridor, may be closed to vehicles while unfledged chicks are present.

Beginning in 2009, and in all years since then except 2010, plovers have nested in an area adjacent to Ryder Way known as Lot O located between the Crossover and the Day Parking Area (see Figures 1-1, 1-2 and 8-1). Since 2017, plovers have expanded their use of habitat adjacent to Ryder Way as far south as the area to the south of the Fishermen's Turnaround. Without the HCP in place, when the nests along Ryder Way hatch, a vehicle-free buffer zone would be implemented for that portion of Ryder Way. Recreational vehicle access would be restricted to the areas southward of the unfledged chicks and in addition to the OSV corridor, closed areas could include, depending on the location of the brood, the Day Parking Area, Landing Parking Lot, Fishermen's Turnaround and significant portions of Ryder Way. Essential vehicles, including the owners, guests and renters for up to 20 properties, would need to be escorted by the Natural Resources staff through the vehicle-free buffer zones. Impacts to least terns that also nest along Ryder Way are discussed in Section 5.

For example, in 2025, the HCP was implemented for 7 piping plover broods. There were 3 plover pairs in Lot O, 2 pairs near the Day Parking Area, 1 pair near osprey pole 1, and 3 pairs south of the Fishermen's Turnaround. Without the HCP in place, recreational vehicle access would have been restricted to varying degrees for 83 days, including 67 days when only about 350 yards of Ryder Way would have been available. Essential vehicles would have been escorted through most of the length of the two-mile road. Increased plover activity in these areas will likely continue in future seasons, which will lead to significant restrictions for recreational vehicles along Ryder Way, even when recreational areas northward may otherwise be available.

## Section 5 – Least Terns and Other Rare Species

Other species protected under the Massachusetts Endangered Species Act at Plymouth Long Beach include the least tern, common tern, Arctic tern, and roseate tern, which is also federally listed. Because vehicle activity is limited to Zones 1 and 2 during the nesting season, the colony of common terns located at the point in Zone 3 (see Figures 1-1 and 1-2) is not likely to be affected by the activities covered in this plan. Arctic terns and roseate terns typically nest in association with common terns, and they also will not likely be affected. Least terns, however, nest in similar habitats as piping plovers, so the covered activities are more likely to affect them.

Least terns prefer a sandy or gravelly substrate and typically nest on the coastal beach and sometimes in dune blowouts and overwash areas. At Long Beach, least tern nests can typically be found from the Day Parking Area to the beach point, although, in 2025, 3 pairs of least terns nested in the area south of the Fishermen's Turnaround. Figure 5-1 shows the nesting areas used by least terns during the last five seasons.

Records dating back to 1977 show that the population of least terns at Plymouth Long Beach has varied widely with a low of 3 pairs in 1981 to a high of 512 pairs in 2008 (see Figure 5-2). Over the last five years, the number of breeding pairs of least terns has ranged from 36 to 196. Productivity has also varied widely as a result of factors such as predation and weather.

Least terns' preference for habitat similar to that of piping plovers may cause them to be impacted by activities covered by this plan. Least terns have been nesting in the area just south of the Crossover between Ryder Way and the stone dike, the "Lot O sub-colony", for many years. Until a blizzard impacted this area in 2013, a vegetative border between the nesting area and Ryder Way provided a geographical barrier that prevented tern chicks from entering the road. Least terns nested in the "Day Parking" sub-colony, located west and/or northwest of the Day Parking Area, in 2019, 2023 and 2024. During the 2025 season, the Day Parking and Lot O sub-colonies merged into one colony. In 2025, for the first time in decades, a few pairs of least terns nested in the area south of the Fishermen's Turnaround.

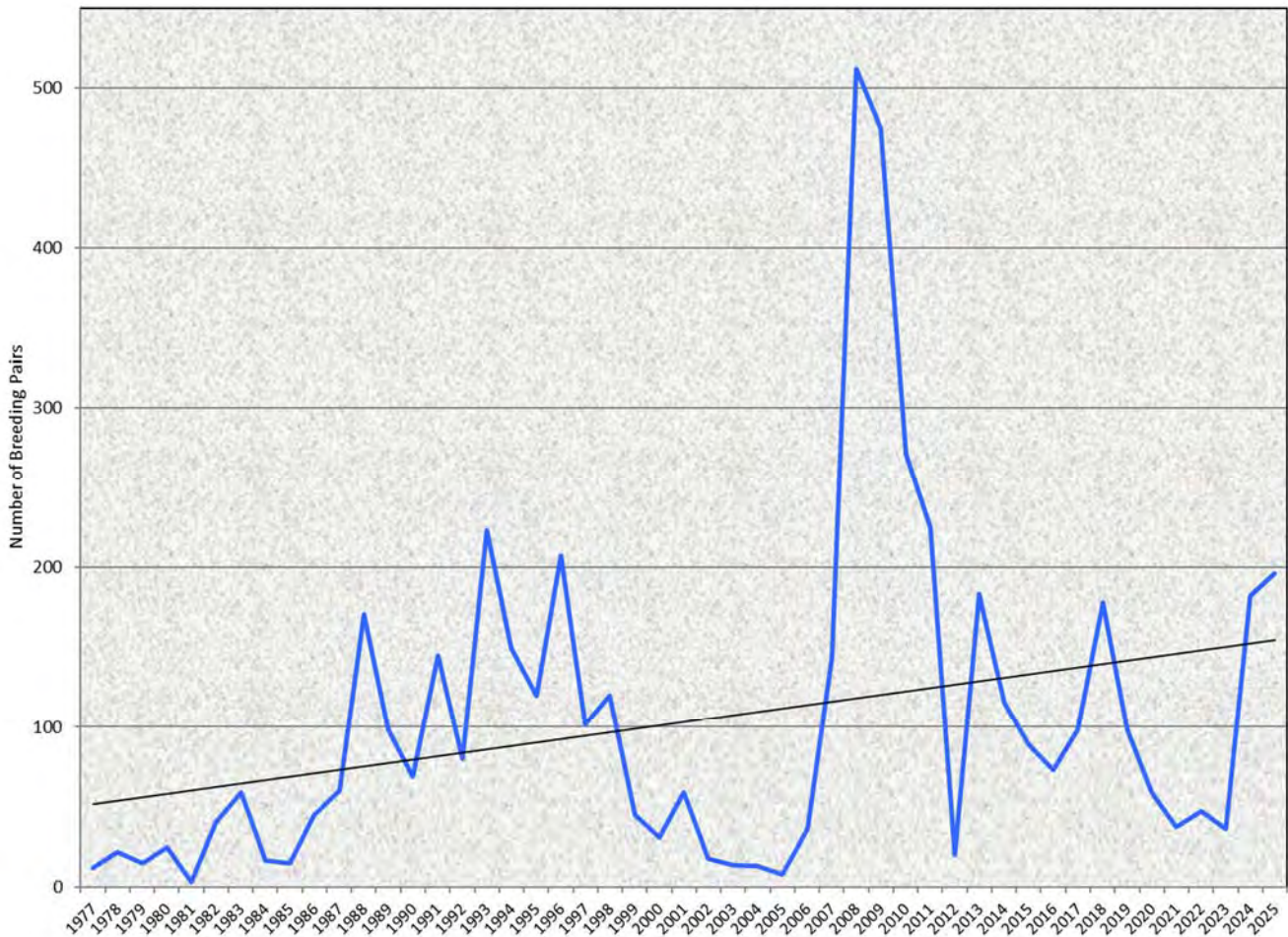
If a covered activity is not implemented when a piping plover or least tern nest in these areas hatch, the vehicle-free buffer zone is implemented. Essential vehicles, including the owners, guests and renters for up to 19 properties are escorted through the buffer zone by the Natural Resources staff. During essential vehicle escorts, a staff person walks in front of the vehicles. Vehicles driving by the nesting area have not been observed to affect least terns, however, pedestrian activity, including vehicle escorts, disturbs the adult least terns, causing them to flush from the colony, which can negatively affect hatching success and chick survival.

A large portion of the vegetative border along the roadway in Lot O was washed out during the February 2013 blizzard and subsequent nor'easter. More of the vegetative border was washed out during the blizzards and severe storms in January-March 2015. In 2013, with the approval of DFW, DEE began installing a silt fence barrier to prevent least tern chicks from entering the road. The tern chicks were able to access wet sand, open beach, the stone dike, and the boulders delineating the edge of the road. In addition, the Natural Resources staff placed at least one shade structure per nest to provide cover and shade for the unfledged tern chicks. Shade structures included sections of PVC pipe, tepee style wooden shelters, roseate tern nest boxes, wooden pallets, cinderblocks, and plywood propped up

Figure 5-1. Compilation of Nesting Areas Used By Least Terns at Plymouth Long Beach, 2021-2025



**Figure 5-2. Breeding Pairs of Least Terns at Plymouth Long Beach, 1977-2025**



on rocks or cinderblocks. The silt fence was checked several times per day, and Natural Resources staff recorded the number of chicks, their approximate age, and their location, periodically throughout the day. If any negative impacts from the fence had been observed, the fence would have been removed immediately, and essential vehicle escorts would have begun.

The silt fence barrier allowed the negative impacts of essential vehicle escorts for the terns to be avoided. Prior to the HCP, installation was delayed until the piping plover chicks either fledged or left the area. Implementation of the covered activity “Use of Roads and Parking Lots in the Vicinity of Unfledged Piping Plover Chicks” (see Section 8.2.1) allows installation of the barrier while unfledged piping plover chicks are present, which further reduces pedestrian impacts to the least tern colony.

A second covered activity proposed in this COI request, “Oversand Vehicle (OSV) Use in Vicinity of Unfledged Least Tern Chicks”, described in Section 8.2.4, would also impact least terns. This activity would allow escorted recreational vehicles to travel through areas where unfledged least tern chicks are present to access areas of the beach where no unfledged chicks are present. This activity may be implemented for least terns only or in conjunction with implementation for piping plovers. If

implemented concurrently with piping plovers, the zone through which vehicles would need to be escorted would incorporate required buffers for both least terns and plover chicks.

## **Section 6 – Beach Operations and Management**

Plymouth Long Beach is managed in accordance with the 2008 Plymouth Long Beach Management Plan as conditioned by the Corrected Amended Final Order of Conditions issued by the Massachusetts Department of Environmental Protection (MA DEP) in 2014 and the Conditional No Take determination issued by DFW. The management plan was implemented to protect wetland resources and rare species and their habitats as well as to manage recreational activities. The management plan divides Long Beach into four management zones based on the resources located within each zone (Figures 1-1 and 1-2).

### **6.1 Hours Open to the Public**

Plymouth Long Beach is open to the public between 4:00am and 9:00pm year-round, with overnight access allowed for Plymouth fishermen with permits and permitted campers (Plymouth Bylaw §30-20). The management plan limits the hours of the OSV corridor to 9:00am to 7:00pm. The OSV corridor is only open to vehicles when there is sufficient staffing to meet the levels required by the management plan. Long Beach is typically staffed from Memorial Day weekend through Labor Day. Since 2022, the OSV corridor has also opened for two additional weekends after Labor Day.

### **6.2 Recreational Activities**

Recreational activities at Long Beach can include walking, jogging, sunbathing, swimming, picnicking, bird watching, recreational finfishing, recreational shellfishing, organized and non-organized sports, horse riding, biking, boating, camping and cookfires, kite and drone use, and others.

To reduce or prevent impacts to plovers and terns by beachgoers engaged in these activities, symbolic fencing and signage are installed to protect nesting habitat. Symbolic fencing is adjusted as needed so that a pedestrian-free buffer zone at least 50 meters in radius is implemented around each nest above the high tide line. The buffer zone may be increased to more than 50 meters if incubating plovers are disturbed. In limited cases, the symbolic fencing may be moved up to 12ft above the mean high tide line resulting in the buffer zone being reduced to less than 50 meters if the Environmental Technician determines that the incubating plovers and/or terns are not exhibiting signs of disturbance. The management plan requires that symbolic fencing be left in place from April 1 through September 30.

Permitted recreational activities vary between management zones and some are limited to certain times of year to protect the natural resources located in each zone. More information on rules and regulations is included in Section 6.4.

### **6.3 Parking and Roads**

Parking is allowed in designated areas only. A maximum of 225 vehicles is allowed north of Manter's Point at any one time. Parking on the beachfront is described below in Section 6.15. Parking north of Manter's Point is available at the Fishermen's Turnaround, the Day Parking Area, the Landing Parking

Lot, the small parking areas at the “Sparkplug” and the end of the road, and in roadside parking areas identified in the Parking Plan included in the management plan.

The Natural Resources staff members carry cell phones equipped with walkie-talkie to communicate with staff in other areas of the beach. The walkie-talkie feature is used to communicate information on parking availability and permitted vehicle limit between the Manter’s Point and Crossover guard shacks and other staff in key locations depending on the current restrictions.

#### **6.4 Beach Rules and Regulations**

In addition to the management plan, Plymouth Bylaws Chapter 30 – Beaches and Parks also regulates activities at Plymouth Long Beach. The sections of Chapter 30 that are applicable to Plymouth Long Beach address issues such as required permits, prohibited vehicles such as motorcycles and ATVs, domestic animals, closure of dunes and vegetated areas to vehicles and pedestrians, dumping and littering, restricted areas for vehicles, parking on private property, speed limit, four wheel drive vehicles only, camping, glass containers, use of grills, open fires, liability, stuck vehicles, riding on the outside of vehicles, authority to limit number of vehicles, keeping the right-of-way open, firearms, closing hours of the road and parking lot, and blocking traffic.

Some recreational activities have limitations on timing and location to further reduce impacts. Camping is allowed for up to six nights each season and only in designated areas away from active nesting areas. Cook fires are allowed only during specific time periods and with a valid camping permit. All other open fires are prohibited.

Kite boarding is not prohibited at Long Beach, but it is managed under the kite requirements of the Plymouth Long Beach Management Plan. Kites, and kite boarding, are not allowed within 200yd of an active nest or unfledged chicks, which precludes use of kites and kite boards over most of the beach for much of the season. Drones are managed with similar restrictions to kites.

Plymouth bylaw §30-2 prohibits horses on beaches from Memorial Day through Labor Day. Plymouth bylaws (§30-3 and §23-4) require that dogs be restrained by a leash not exceeding six feet in length year-round. The Dog Control Program implemented at Long Beach bans dogs from Town properties north of the Day Parking Area between April 1 and September 30. Leashed dogs are allowed up to the Day Parking Area, except for areas closed to protect nesting habitat or dunes and vegetated areas.

The Plymouth Long Beach Rules and Regulations pamphlet is included in Appendix B.

#### **6.5 Fencing and Signage**

Symbolic fencing is installed before April 1 and is adjusted as needed as the beach gains its summer profile. Delineated nesting areas are posted with 12”x12” yellow plastic “Area Closed” signs. Dune and/or vegetated areas are also posted with 12”x18” brown “Fragile Area” signs.

Signage indicating “Dogs Must Be Leashed At All Times”, “No Dogs Beyond This Point” and “No Dogs April 1 – September 30” are installed in key areas and throughout the beach according to the restrictions in each area.

## **6.6 Compliance and Law Enforcement**

The initial approach of the Natural Resources staff to enforcing rules and regulations is educational, but it is sometimes necessary to issue warnings and citations for severe violations, failure to comply, and repeated offenses. The Plymouth Long Beach Enforcement Regulations were adopted by the Board of Selectmen on June 8, 2004. A fine schedule for violations of the Plymouth Long Beach Management Plan was adopted at Town Meeting on October 26, 2004.

The Environmental Technician, Shorebird Program Manager and the Natural Resources Officers have the authority to issue citations for violations of the management plan and Chapter 30 bylaws. Depending on level of experience, Natural Resources Technicians and Assistants may also be given this authority. Animal Control Officers are available to assist with dog violations. The Harbormaster is available to provide enforcement assistance with boaters.

The Plymouth Long Beach Management Plan requires a dedicated patrol officer from 4:00pm to 12:00am on Friday, Saturday and Sunday nights. Officers patrol the parks and beaches periodically during the week.

## **6.7 Commercial/Vendor Activities**

Sandy's Restaurant is located on a leased area in the main public parking lot. Operations related to the restaurant are limited to the main lot.

## **6.8 Events**

In general, the level of recreational activity and restrictions for coastal waterbird nesting activity preclude public events from occurring at Long Beach. On a few occasions in the past when an event occurs at Long Beach, planning is coordinated with DEE. DEE has worked with the organizers to avoid impacts to nesting plovers and terns by putting restrictions on the event including location and time of year.

A fireworks display is typically part of the July 4<sup>th</sup> festivities in Plymouth. Although fireworks are not specifically addressed in the management plan, standard practices for July 4<sup>th</sup> have been in place since 1999 that protect plovers and terns from the impacts of fireworks and associated activities. The fireworks display is launched from a barge in Plymouth Harbor at least 3/4 mile from the beach. In order to prevent beachgoers from entering nesting areas or lighting illegal personal fireworks on the beach and other potentially disturbing activities, the OSV corridor and Ryder Way close to recreational vehicles by 7:00pm. In addition, all boaters must leave the beach by 7:00pm. An exception was made to the road closure in 2012 when a portion of Ryder Way was made available for vehicle parking to view fireworks, but this was not continued because of low use. The main public parking lot is available for fireworks spectators and is located approximately 1/3 mile from plover and least tern nesting areas. The 7:00pm closure does not apply to private property owners and their guests, as long as all vehicles are parked on private property. Staffing levels are increased for the holiday and staff members are assigned to patrol areas along the length of the beach to be vigilant for illegal fireworks and other potentially disturbing behavior.

## **6.9 Maintenance**

Annual or ongoing maintenance includes tasks such as removal of litter and storm debris, repairing or reinstalling fencing, sign installation or replacement, and road and parking lot repairs. Ryder Way is an improved and maintained gravel road. Compatible grain-size sediments may be brought in from off-site to repair the road and parking area as necessary.

The management plan requires that the Town submit a written proposal for any dune building or beach nourishment activities, including but not limited to installation of sand fencing or plantings, to DFW, MA DEP, the Plymouth Conservation Commission, and the MA Office of Coastal Zone Management, as well as receive a written opinion from DFW stating the proposed activities will not have any short- or long-term adverse effects on the habitats of state-listed rare wetland wildlife species. Projects such as habitat stabilization at the point consisting of sand fencing and beachgrass plantings and an ongoing invasive plant removal project have been approved through this process.

## **6.10 Seasonal Equipment Installation**

Equipment that is installed seasonally includes lifeguard chairs, ramps, including an ADA accessible ramp, a roll-out mat, guard shacks and the OSV corridor.

There are six integrated lifeguard stands and ramp platforms along the seawall in the main parking lot. The lifeguard chairs are placed in the stands and the ramps, including an ADA accessible ramp, are installed prior to Memorial Day weekend by the Parks Division. A roll-out mat is installed at the base of the ADA accessible ramp.

The Manter's Point and Crossover guard shacks are also installed seasonally by the Parks Division and/or Highway Division prior to Memorial Day weekend.

The OSV corridor is installed prior to Memorial Day weekend based on the mean high tide line as required in the management plan. Eight-foot wooden posts and signage are installed periodically along the length of the beach to delineate the travel and parking areas within the corridor. The location of the OSV corridor is reviewed at least two additional times during each season on the first mean high tide of the months of July and August. Notification of the date and time of corridor review meetings is sent to a distribution list that includes MA DEP and DFW. The OSV corridor is discussed in more detail in Section 6.15.

## **6.11 Beach Grooming**

Beach raking does not occur at Plymouth Long Beach.

## **6.12 Trash Management**

Trash barrels in the main public parking lot are emptied on a daily basis. There are no public trash disposal facilities north of Manter's Point. Trash is "pack in, pack out" on Long Beach.

The Natural Resources staff removes litter and marine debris regularly throughout the summer season. The Environmental Technician or Shorebird Program Manager coordinates removal in dune areas and rare-species habitat to minimize impacts.

### **6.13 Management of Wrack/Seaweed**

Wrack is not removed from Long Beach because of its habitat value, however limited removal from the Plymouth Beach area adjacent to the main public parking lot is allowed under the management plan for esthetic reasons, or if excessive amounts of seaweed are deposited in an area where health or safety is a concern as determined by public health officials, it may be necessary to remove the wrack.

### **6.14 Sand Redistribution and Grading**

Ryder Way and the main public parking lot are repaired with compatible material (from off-site) and graded using a grader and/or back-bladed with a front-end loader as needed prior to the summer season.

### **6.15 Recreational and Essential Vehicle Use**

#### **Recreational Vehicle Use**

##### *Protection of Nests*

All suitable habitat is identified by a qualified biologist and delineated with symbolic fencing and signage before April 1 (or May 15 for terns) of each year. Pedestrian and vehicular access is prohibited from these areas. Before the beachfront opens for vehicles, typically on Memorial Day weekend, an Over-Sand Vehicle (OSV) corridor is installed. The location of the OSV corridor must be reviewed and adjusted a minimum of two additional times, once in July and once in August. OSV use is limited to Zone 2 (see Figures 1-1 and 1-2). The corridor is installed beginning at the Crossover and may extend to the "790 line". Wooden posts and signage delineate the OSV corridor. The seaward edge of the corridor is installed at the mean high tide line. The corridor may be up to 42ft in width, including 12ft for travel in each direction and 18ft for parking, where sufficient width exists. The corridor may be narrowed for several reasons, including plover or tern nesting activity, protection of vegetation, and passage over private property. In limited cases, when the OSV corridor would infringe on the 50 meter-radius nest buffer zone, a 12ft wide OSV corridor may be installed provided that the Environmental Technician determines that the incubating plovers and/or terns are not exhibiting signs of disturbance. If the plovers and/or terns exhibit signs of disturbance, the OSV corridor is eliminated and the symbolic fencing is moved out to the mean high tide line. Symbolic fencing is installed at the landward edge of the OSV corridor.

The OSV Crossover is only open between 9:00am and 7:00pm and only when the minimum staffing level of three or four staff, depending on how much of the corridor is open, has been met as required in the management plan. One of the required staff members must be a supervisor, which includes the Environmental Technician, the Shorebird Program Manager or a Natural Resources Officer.

##### *Protection of Chicks*

To allow sufficient wrack to accumulate to provide an adequate food source for plover chicks, a pre-hatch restriction is implemented not less than five days prior to the anticipated hatching date. The OSV corridor is closed 100 yards north and south of the nest. If the nest is found with a complete clutch, precluding estimation of the hatching date, and availability of wrack has been substantially reduced or ruts have been created that could impede chick movements, then vehicle restrictions begin immediately. If wrack has not been substantially reduced and ruts will not impede chick movement,

restrictions will begin when the nest hatches. In addition, the three scenarios described in the state and federal guidelines for nests with unknown hatching dates are included in the management plan.

Nests located north of the Crossover, including those with unknown hatch dates, are monitored at least once per day, and the OSV corridor closes at 7:00pm and is not re-opened the next day until nests with unknown hatch dates have been checked and the southernmost brood of chicks has been located. Nests with unknown hatch dates and nests approaching a known anticipated hatch date located south of the Crossover are monitored at least twice per day in the morning and evening.

If hatching occurs earlier than expected, or chicks are discovered from an unreported nest, vehicle restrictions are implemented immediately.

When a nest hatches, a vehicle-free buffer zone is implemented. For piping plovers, the buffer zone is a minimum of 200 yards on either side of the nest during the first week. The buffer zone may be reduced to 100 yards after the first week until fledging. The location of the brood is monitored and the buffer zone is increased as needed based on the mobility of the chicks so the buffer zone between vehicles and unfledged chicks is at least 100 yards. For least terns, a 100 yard buffer zone is implemented. The location of each brood is monitored daily, and a Natural Resources staff person is stationed at the vehicle restriction while the OSV corridor is open to monitor proximity of the southernmost brood to the vehicle area and to prevent vehicles from driving into the buffer zone. Vehicle restrictions are lifted when plover chicks are 35 days of age or when observed in sustained flight for at least 15 meters, whichever occurs first.

Vehicle restrictions for least terns begin as soon as hatching begins (as early as June 12<sup>th</sup>). Restrictions may be later if, in the opinion of the Environmental Technician, tern chicks are not endangered by vehicles because of distance or intervening steep terrain, dense vegetation or other naturally occurring barriers. Restrictions on use of non-essential vehicles in areas where unfledged least tern chicks are present should continue until chicks have fledged. Least tern chicks are considered fledged when they are capable of flight.

### **Essential Vehicle Use**

As stated in the Plymouth Long Beach Management Plan, essential vehicles are limited to vehicles necessary for police, fire and EMS service, Natural Resources vehicles, and vehicles necessary to maintain and access private property. All other vehicles are considered non-essential and are prohibited from chick habitat areas. Essential vehicles should travel through chick habitat areas only during daylight hours, except emergencies, and should be guided by a qualified monitor who has first determined the location of all unfledged plover and tern chicks. The speed of vehicles will not exceed five miles per hour. Foot travel is preferred for monitoring and law enforcement because of the improved visibility it affords. A log of the date, time, vehicle number and operator and purpose of each trip through areas where unfledged chicks are present will be maintained by the Natural Resources Officer. Personnel monitoring plovers will maintain and regularly update the log of the numbers and locations of unfledged plover chicks on the beach. Essential vehicles will avoid driving on the wrack line and travel will be infrequent enough to avoid creating deep ruts that could impede chick movements. If essential vehicles are creating ruts that could impede chick movements, use of essential vehicles will be further reduced, and if necessary, restricted to emergency vehicles only.

## **Vehicle Permitting**

Plymouth Bylaw §30-1 states that only taxpayers and residents of Plymouth and their guests with proper beach stickers shall be allowed with vehicles north of Manter's Point. To apply for a beach sticker, residents provide their address, vehicle information, and supporting documents (car lease, proof of residency, documentation of senior or handicap, etc.). Once the payment is submitted, automated checks are performed including for outstanding taxes or parking tickets, vehicle garaging, plate verification, and the "do not sell" list of residents whose stickers have been revoked. The application process includes a check box indicating that they agree to read and comply with the Plymouth Long Beach Rules and Regulations, which are linked.

## **Section 7 – Bird Management and Monitoring**

### **7.1 Management History**

The first management plan for Long Beach was filed in 1992. Following an incident involving a dead plover chick in 1996, a new management plan that incorporated the state and federal guidelines to manage recreational activities in piping plover and tern habitat was submitted in 1998. The Order of Conditions (OOC) for this plan was appealed, resulting in a Settlement Agreement and Final Order of Conditions (FOC) issued in 2003. A beach management plan that combined the 1996 plan, Settlement Agreement and FOC was submitted in 2008. The OOC for the 2008 plan was also appealed and following an adjudicatory hearing, an FOC was issued in 2010. The decision resulting from an adjudicatory hearing through MA Department of Fish and Game upheld the OOC and "Conditional No Take" determination. Appeals to Superior and Appellate Court did not result in changes to the management plan. In 2014, an Amended FOC was issued that adjusted the timing of required OSV corridor reviews and updated the distribution list for notifications of OSV corridor review meetings. The Amended FOC is currently in effect.

Town staff has monitored plover and tern activity at Long Beach since about the mid-nineties. Prior to that, and until 2005, the Massachusetts Audubon Society's Coastal Waterbird Program also monitored nesting activity at Long Beach.

### **7.2 Entity Currently Conducting Plover and Tern Management and Monitoring**

The Town of Plymouth's Department of Energy and Environment (DEE) currently conducts plover and tern management and monitoring.

### **7.3 Management Techniques**

In addition to the vehicle management described in Section 6.15, DEE uses techniques such as fencing and signage, exclosures and electric fencing, and chick shelters to reduce impacts to nesting birds. Symbolic fencing and signage are installed as described in Section 6.5 to close nesting habitat to pedestrian and vehicle access.

When deemed necessary due to the level of predation occurring, predator-deterrent exclosures are installed at piping plover nests. Each nest is evaluated for several factors including topography,

substrate and density of vegetation around the nest, to ensure that installation of an enclosure is appropriate for that nest site.

Electric fencing has been used in some seasons to deter mammalian predators around tern colonies and plover nests.

Chick shelters are deployed to provide cover primarily for tern chicks, although plover chicks have been observed using them for shelter from adverse weather conditions as well.

#### **7.4 Bird Monitors – Number, Qualifications and Duties**

Bird monitoring is carried out by the Environmental Technician, Shorebird Program Manager, at least two Natural Resources Officers, four Natural Resources Technicians, and one or more Natural Resources Assistants that have been cross-trained to assist with monitoring activities.

Minimum qualifications as stated in the beach management plan for Natural Resources Officers include actively pursuing a Bachelor's Degree in natural resource management, environmental sciences or related field; one to three years of experience in natural resource management and progressive supervisory experience; or an equivalent combination of education and experience. Minimum qualifications for Natural Resources Technicians include a high school diploma and one to two years of experience in natural science application or participation. All Natural Resources Officers and Technicians receive training from the Environmental Technician and Shorebird Program Manager regarding plover and tern biology and behavior, monitoring procedures, and data collection. Natural Resources Assistants that show interest in bird monitoring are cross-trained to assist experienced monitors.

The Environmental Technician, Shorebird Program Manager and seasonal Natural Resources Officers carry out early season monitoring and train and supervise the seasonal Natural Resources Technician to carry out monitoring duties. The Natural Resources Technicians are primarily responsible for bird monitoring throughout the season. The Environmental Technician, Shorebird Program Manager and Natural Resources Officers supervise implementation of the beach management plan including supervising bird monitoring and assisting as needed throughout the season.

Natural Resources Technicians are responsible for monitoring activity of piping plovers, least terns and common terns, as well as other species that nest less regularly at Long Beach including laughing gulls, black skimmers, and roseate terns. If monitoring duties have been completed for the day, Natural Resources Technicians will monitor HCP-affected broods or carry out other management tasks.

#### **7.5 Seasonal Staff Coverage**

Typically, plover nesting activity is monitored by the Environmental Technician and/or Shorebird Program Manager approximately 3 times per week from early to mid-April and increases to 5-7 times per week in late April or early May when the seasonal Natural Resources Officers and Natural Resources Technicians begin working. The Natural Resources Assistants begin working as early as mid-May. The beach is staffed through at least Labor Day, and since 2022, for two additional weekends after Labor Day.

A typical schedule consists of 8-hour shifts and 40 hours per week, but part-time staff are also employed. Once Long Beach opens for the season on Memorial Day weekend, a Natural Resources

Officer and one or more Natural Resources Technicians are present during the hours when the Crossover would be open for vehicle access (9:00am to 7:00pm). There are two shifts per day with several overlapping hours: 7:00am to 3:00pm and 12:00pm to 8:00pm for Natural Resources Officers, and 8:00am to 4:00pm and 12:00pm to 8:00pm for Natural Resources Technicians. There are three shifts per day for Natural Resources Assistants: 12:00am to 8:00am, 8:00am to 4:00pm and 4:00pm to 8:00pm. Shifts may be added or adjusted to address management needs.

## **7.6 Training and Oversight of Monitors**

The Environmental Technician, Shorebird Program Manager, NROs and four seasonal Natural Resources Technicians (NR Technicians) are responsible for monitoring coastal waterbird nesting activity of piping plovers, least terns, common terns, laughing gulls, and in some years, black skimmers, Arctic terns and roseate terns.

The Environmental Technician, Shorebird Program Manager and seasonal Natural Resources Officers provide training and oversight of monitors. Training includes indoor training sessions with slide presentations and written materials as well as field training in all aspects of bird monitoring, including natural history, behaviors, locating nests and chicks and data collection and recording.

Typically, at least one or more of the seasonal Natural Resources Assistants (NR Assistants) are cross-trained to assist with bird monitoring. All staff members are trained to recognize piping plover adults and chicks, understand basic piping plover biology and recognize behaviors.

## **7.7 Data Collection and Recording Protocols**

By the time the OSV corridor opens for the season on Memorial Day weekend, piping plover nesting activity is monitored daily through the end of the nesting season, unless weather conditions would have an adverse effect on nests or chicks. Data is recorded using NestStory, and includes nest and brood locations, number of eggs, chicks and adults present, behavior, enclosure use, and any disturbance or predator activity in the area. NestStory is also used to track expected hatch and fledge dates and provides reminder alerts for bird monitors.

Least terns are monitored throughout the nesting season, but particularly during the census windows. Least tern nesting activity is monitored by counting nests. Least tern chicks are monitored from outside the colony, and location and approximate age are recorded. A census data sheet is used to record the number nests, unfledged chicks and fledglings observed. The highest count for each census window and estimated productivity is submitted to the DFW annually.

Common terns are censused during the A-count window, typically around June 15. A B-count is conducted if there is a significant increase in the number of pairs. In past seasons when Long Beach hosted a large common tern colony, nests in productivity plots were followed through hatching and chicks were banded and weighed regularly to assess productivity quantitatively. A census data sheet is used to record the number of nests.

## 7.8 Data Reporting

Piping plover and tern nesting data is compiled and submitted to the DFW's Natural Heritage and Endangered Species Program through PIPODES (Piping Plover Online Data Entry System) and TERNODES (Tern Online Data Entry System), respectively.

## 7.9 Public Education and Outreach

DEE maintains the Long Beach Information webpage (<https://www.plymouth-ma.gov/493/Long-Beach-Information>) that provides information on rules and regulations, Long Beach 4x4 stickers, dog restrictions, and updates on vehicle access during the summer season.

DEE also sends "Report from the Beach" newsletters and News Flash updates to listserv subscribers. Beach reports and News Flashes are also posted in the vehicle access update section of the Long Beach Information webpage.

Licensed dog owners are sent reminder emails annually when seasonal dog restrictions begin on April 1. Long Beach dog information is also linked to the online dog licensing site.

## Section 8 – Covered Activities

### 8.1 Proposed Covered Activities and Number of Pairs/Broods/Nests/Territories to Be Exposed

The Town of Plymouth is requesting to implement two covered activities that impact piping plovers – "Use of Roads and Parking Lots in the Vicinity of Unfledged Piping Plover Chicks" and "Oversand Vehicle (OSV) Use in Vicinity of Unfledged Piping Plover Chicks"—and two covered activities that impact least terns – "Use of Roads and Parking Lots in the Vicinity of Unfledged Least Tern Chicks" and "Oversand Vehicle (OSV) Use in Vicinity of Unfledged Least Tern Chicks". Implementation of these activities, including impact minimization measures and monitoring, are described below in Section 8.2 for both piping plovers and least terns.

The Town is requesting fourteen (14) take exposures for piping plover for the two covered activities, which is 28.5% of the number of breeding pairs in the 2025 season. Because this number of take exposures exceeds the allowed level of 15% of the number of breeding pairs the previous season, the Town is further requesting that the DFW use their discretion described in Section 5.2.2.3 of the Habitat Conservation Plan for Piping Plover to increase the allowable take exposures to 75% at a up to 8 sites per year. An exception to the site-specific take exposure limit requires impact avoidance, minimization and/or mitigation that meets or exceeds the minimum standards. The onsite mitigation in previous years has consistently benefitted well over the required 3 pairs of piping plovers per take exposure for "Use of Roads and Parking Lots in the Vicinity of Unfledged Piping Plover Chicks". In fact, a mitigation credit of 11 will be carried forward from the 2025 season into the first year of the new COI, despite the Town only funding the onsite mitigation in the first year of the current COI. The Town has in practice regularly implemented avoidance and minimization measures (*e.g.*, chick monitoring) that exceed the minimum standards required by the HCP and the site-specific IAMP as demonstrated in reports submitted annually.

Although only 7 take exposures were used during the 2025 season, there were 9 pairs of plovers active along Ryder Way, including one pair that had two broods. Two broods were evaluated using EIM but were not exposed to take, and the other lost their first nest and did not re-nest. The requested 14 take exposures will allow the Town to implement the HCP for all of the pairs present along Ryder Way in 2025, and for additional pairs if there is increased plover activity along or near Ryder Way, as well as for up to 1 pair in proximity to the OSV corridor.

The covered activity “Use of Roads and Parking Lots in the Vicinity of Unfledged Piping Plover Chicks” may impact up to fourteen (14) broods of piping plover chicks. The covered activity “Oversand Vehicle (OSV) Use in Vicinity of Piping Plover Unfledged Chicks” may impact up to one (1) brood of piping plover chicks. If 14 broods are exposed to “Use of Roads and Parking Lots” in a season, then the other covered activity, “OSV Use” will not be implemented in the same season.

To reduce use of take exposures, the Town may conduct Enhanced Intensive Monitoring (EIM) for this covered activity implemented for piping plovers. If EIM is implemented and certain criteria, including data collection and reporting, are met, a take exposure may not need to be used provided the brood does not enter the road or a parking lot. EIM and its requirements are described in more detail in the Monitoring section in Section 8.2.1.

The Town is also requesting to expose up to three small colonies of least tern chicks to the covered activity “Use of Roads and Parking Lots in the Vicinity of Unfledged Least Tern Chicks”. Least terns have a long history of nesting in a sub-colony along Ryder Way on Lot O, however, in 2019, they used both the Lot O sub-colony and overwash area northwest of the Day Parking Area. Least terns returned to the Day Parking sub-colony in 2023 and have nested in that area each year since. In 2025, a few pairs of least terns nested in a new area on the harborside south of the Fishermen’s Turnaround. In addition to the three small sub-colonies, the Town is requesting to expose up to 20 unfledged least terns to the covered activity “Oversand Vehicle (OSV) Use in the Vicinity of Unfledged Least Tern Chicks”. If more than 20 unfledged least tern chicks are expected to be present in the affected area, implementation of OSV use will end when more than 20 unfledged chicks are present, or implementation may be delayed until some of the chicks have fledged and there are 20 or fewer unfledged chicks remaining in the area.

The area impacted by implementation of the covered activities will vary between seasons based on nest location and brood behavior and the location of the least tern sub-colonies, but implementation of these activities will not impact greater than two acres of habitat, inclusive of least terns.

## **8.2 Implementation of Impact Minimization Protocols**

Impact minimization measures will limit the amount of take by reducing exposure of unfledged chicks and adults to vehicles traveling on Ryder Way when the covered activity “Use of Roads and Parking Lots” is implemented (see Sections 8.2.1 and 8.2.2) or in the OSV corridor when implementing “OSV Use” (see Sections 8.2.3 and 8.2.4).

### **8.2.1 Use of Roads and Parking Lots in the Vicinity of Unfledged Piping Plover Chicks**

Ryder Way is an improved gravel road that provides access to recreational areas as well as access for 1 leased and 19 private properties, including 16 residences. There is roadside parking in some areas as

well as several small parking areas along Ryder Way. Except in 2010, at least one pair of plovers, and increasingly more pairs each year, have nested along Ryder Way since 2009. With the increasing plover population at Long Beach, habitat use has expanded southward along Ryder Way.

Prior to 2016 when the HCP was first implemented, recreational vehicle access would be limited to at least 200 yards southward during the first week after hatching and at least 100 yards southward thereafter until the chicks fledge. Depending on the location of the nest, vehicle restrictions could be significant. In 2025, Ryder Way would have been restricted to some extent for 83 days, including 67 days when recreational vehicle access would have been limited to about 350 yards of the road. Essential vehicles, including those of the owners, guests and renters of up to 20 private properties would have been escorted through these areas by the Natural Resources staff. Although property owners are told to limit travel to daylight hours, they would sometimes insist on traveling through the area at night when chicks are more difficult to observe, which increases the risk of a take occurring. By implementing this covered activity, the Town will provide access to Ryder Way and the parking areas for essential and recreational vehicles subject to the impact minimization measures described below.

### **Impact Minimization Measures**

#### **Barriers**

If unfledged plover chicks are present on Lot O, which is located between the OSV Crossover and the Day Parking Area, a barrier may be installed to reduce risk by preventing chicks from accessing Ryder Way. The potential location for the barrier, which could be up to approximately 1,200ft in length, depending on plover and tern activity, is shown in Figure 8-1. The barrier will consist of a silt fence installed along the edge of the road so that habitat areas including open beach, wet sand, the stone dike and the boulders and posts that delineate the roadway will be available for chicks. The length of barrier fence installed will vary depending on location and mobility of the chicks. The nesting habitat is very narrow in this area, particularly during high tide, and there is a chance that plover chicks may inadvertently wander into the road, even if there is no suitable habitat to access.

The southern end of the barrier fence will be left open to allow chicks to access foraging areas to the south. In some years, plover chicks have moved southward to access foraging habitat on the east and/or west side of the road. In some seasons, broods have moved between the Lot O sub-colony and the Day Parking Area to forage on primarily the east, but sometimes also the west, side of the road. Figure 8-1 shows the ranges of the broods in this area in 2025.

The northern end of the barrier fence may tie into the existing dunes and vegetation to prevent access to the road, but access to the beach will be unimpeded. A brood crossed to the west side of the road in this area in 2014. The brood was on the beach east of the stone dike when the tide was coming in. There was no beach at high tide in this area, and the plovers from an adjacent territory did not allow the brood to pass by, so the adults led the chicks up a sand path created by a private property owner over the stone dike, across the road, and into the private driveway directly across from the path. Approximately 30 minutes later, the brood crossed the road again to return to the area between the road and stone dike, presumably because there was no suitable habitat on the west side of the road.

Prior to the 2023 season, the nesting habitat on the southern portion of Lot O had narrowed significantly, and plovers had been nesting on the west side of the road for several seasons. After

**Figure 8-1. Location of Potential Barriers to Minimize Impacts of Use of Roads and Parking Lots in the Vicinity of Unfledged Piping Plover Chicks in Relation to Piping Plover Activity in 2025**



hatching, the chicks would cross the road to access beachside foraging habitat. In these cases, the barrier fence was installed after the chicks cross the road to the foraging areas, or, if the barrier fence had already been installed for least terns or another plover brood, a sufficient length of fence would be taken down to allow unimpeded access to the foraging habitat, and once the chicks had crossed, the barrier would be reinstalled. For example, in both 2021 and 2022, there was a nest on the west side of the road in this area. The 2022 nest was predated and the pair did not renest, but the 2021 nest did hatch. In this case, there were no least tern chicks present prior to the plover nest hatching, so the barrier fence was left open. The barrier was installed after the brood crossed the road to the east side foraging areas within a day of hatching.

A large-scale dune nourishment project that stretched from the Day Parking Area to the northern portion of Lot O was completed in March 2023. This project resulted in increased and improved nesting habitat on the east side of the road. Over the two seasons since the project was completed, there have been no plover nests on the west side of the road, but the DEE staff will remain vigilant for plover activity in that area.

A barrier has been installed along the edge of the roadway to the west and north of the Day Parking Area over the last three nesting seasons to benefit least terns nesting in the Day Parking sub-colony. Installation of this barrier has been partial or phased, depending on the location of least tern chicks and the presence or absence of unfledged piping plover chicks crossing the road to access foraging habitat on both the beach and harbor sides. This barrier will be installed in such a way that access between the foraging habitats areas will be unimpeded.

The barrier(s) will be inspected for gaps and damage at least twice per day and repaired as necessary. The barrier(s) will also be inspected for negative impacts to chicks. Should any negative impacts be observed for either plover or tern chicks, such as increased predation or hindering movement to foraging areas, the barrier will be removed. The potential barriers shown in Figure 8-1 are based on observations of nest locations and brood behavior from previous seasons. If these are substantially different in future seasons, the barrier may be installed in another location with written approval of DFW.

In the event that high tide may reach or approach within a few feet of the barrier, for example, during a storm, sections of the barrier will be opened, or the barrier will be removed, to prevent chicks from becoming trapped against the barrier.

### **Signage**

Signage alerting drivers to watch for crossing birds will be installed along Ryder Way or the Day Parking Area at least every 100 yards beginning at least 200 yards south of and 200 yards north of the location of unfledged piping plover chicks. In addition, signs requesting that drivers alert staff if they observe piping plovers in or near the road or parking area will be installed. Additional signs stating the speed limit of 10 miles per hour will be installed in proximity to the impacted brood.

### **Staff Training**

The Natural Resources staff will be trained to implement the impact minimization plan. The Environmental Technician and Shorebird Program Manager will oversee implementation with assistance from two to three seasonal Natural Resources Officers (NROs). In addition to the bird

monitoring training described in Section 7.6, each staff member will be trained to understand their respective roles and responsibilities in regard to the impact minimization plan. Periodic monitoring of the impacted brood will be conducted by the Environmental Technician, the Shorebird Program Manager, a Natural Resources Officer, Natural Resources Technician, or cross-trained Natural Resources Assistant. Natural Resources Assistants on patrol within the covered activity area will be alert to the presence of piping plovers. Staff members that observe piping plovers near the road or parking area, or a change in the location of the impacted brood will immediately report the information to the supervisor on duty. Cell phones with push-to-talk walkie-talkie capabilities are provided to all staff members to enable instant communication of beach management information. In the event of a change of location of the impacted brood, traffic management as described below or modification of the silt fence barrier within the potential area identified in Figure 8-1 will be implemented as necessary as determined by the Environmental Technician or Shorebird Program Manager.

### **Traffic Management**

Should chicks be observed in the road or within 50ft of a section of the road without a barrier, the road should temporarily close until the adults and chicks have crossed the road and moved at least 50ft from the road.

Should chicks be observed in the road where a barrier is in place, the Natural Resources staff may approach the chicks to herd them toward an area without a barrier so they may access suitable habitat.

Should chicks be observed within 50 yards of the Day Parking Area, the Natural Resources staff may approach the chicks to herd them away from the parking area.

Distances that trigger traffic management may be subject to change based on the physical features of the site and behavior and mobility of the brood.

Natural Resources staff members that observe or receive reports of piping plovers near the road or parking area, or a change in the location of the impacted brood will immediately report the information to the supervisor on duty. Cell phones with walkie-talkie capabilities are provided to all staff members to enable instant communication of beach management information.

Monitoring the brood is difficult after sunset. To minimize the risk of take after dark, recreational vehicle access will be restricted, however, essential vehicles may continue to travel through the area. DEE will continue to emphasize avoiding travel at night. The number of properties that essential vehicles may travel through an area with unfledged chicks present to reach will depend on the location of the affected brood. For example, in 2025, essential vehicles accessing 18 private properties, including 4 without a dwelling, may have traveled at night through an area where unfledged chicks were present. Some of these cottages are only occupied periodically throughout the summer, further reducing the chance that vehicles are traveling at night and therefore reducing the risk of take. The silt fence barrier described above also reduces the risk of take at night because it prevents chicks from accessing the road along its length in areas where it is installed. At night, the restriction for non-essential vehicles is established a minimum of 100 yards from the affected brood's observed range. Two or more Natural Resources staff members are present throughout the night to enforce the

restriction and ensure that only essential vehicles are allowed to travel at night through the area where the affected brood is present.

## Monitoring

### Minimum Required Monitoring

To reduce the risk that chicks may cross into traffic without adequate protective measures in place, the location of the brood must be monitored. Monitoring intensity should increase with proximity to Ryder Way or parking areas. Because of the narrow width of the beach along Ryder Way, chicks will likely always be within 100 yards from the road or parking lot and must be monitored more frequently than other broods located north of the Crossover.

Because chicks are mobile, monitoring frequency may change as the location of the brood changes. Each monitoring period will last until all of the chicks are located, or for up to twenty minutes, whichever occurs first. If the chicks consistently remain within 50-100 yards of the road or parking lot, they will be monitored at least twice per day, and at least five times per day during high traffic periods. If the chicks are observed less than 50 yards from the road or parking area, they will be monitored at least four times per day, and continuously during high traffic periods. High traffic periods will include at minimum the hours between 8:30am and 10:00am, 12:30pm and 2:00pm, and 6:00pm and 7:00pm on weekends, unless traffic is expected to be reduced (*e.g.*, adverse weather conditions or significant vehicle restrictions). Frequency of monitoring may be increased by the Environmental Technician, Shorebird Program Manager or Natural Resources Officer if deemed necessary. Monitoring frequency will increase to a level determined in consultation with DFW once chicks have been observed crossing a road or parking area. These monitoring periods will be carried out during daylight hours when travel through the area where unfledged chicks are present is available to recreational vehicles.

In the event of inclement weather where monitoring may adversely affect the chicks, monitoring frequency may be reduced and recreational vehicle access will be restricted.

Monitors will keep a log documenting frequency of monitoring, location of the brood, number of chicks, approximate distance from the road or parking lot, whether a barrier was in place, and if the brood crosses the road or enters the parking lot. Screenshots of the ArcGIS Survey123 surveys used to monitor this covered activity during the 2025 season are included in Appendix C.

### Enhanced Intensive Monitoring

The Town will implement Enhanced Intensive Monitoring (EIM) for some broods affected by the covered activity “Use of Roads and Parking Lots in the Vicinity of Unfledged Piping Plover Chicks”. For a brood for which EIM is properly implemented, including required monitoring levels, documentation and reporting measures, a take exposure will not accrue if the brood does not cross or enter established vehicle corridors or a parking lot, provided that no injury, mortality or severe disturbance occurs. This approach will not apply in cases where the road or parking lot bisects the brood’s range or where barriers or chick herding occurs. A take exposure will automatically accrue if a travel corridor bisects a brood’s range, chicks’ entry into the road or parking lot can be inferred, take occurs, or herding or barriers were used. DFW will make the final determination on accrual of take exposures. Mitigation is not warranted if a take exposure is not accrued.

The Town will notify DFW of the broods for which EIM will be implemented prior to implementation of the covered activity. The Environmental Technician will assess whether EIM will be implemented on a case-by-case basis. Criteria for determining whether EIM will be implemented for a particular brood include whether a road or parking lot bisects the brood's potential home range or adults' pre-hatching territories, if a barrier will be installed, and if it is likely that a take exposure can be avoided based on past experience at the site. Based on previous seasons, it is estimated that a take exposure would not accrue for up to 5 broods located between Manter's Point and the Day Parking Area (see Figure 1-1 and 1-2) if EIM is implemented.

A brood for which EIM is implemented will be monitored a minimum of 2 times per day, regardless of the distance of the affected broods from the road or parking lot. Chick observations will represent different times of day (daylight only) and tidal stage, with ample spacing in between. Frequency of monitoring should increase with proximity of chicks to the road or parking lot, as described above in "Minimum Required Monitoring". Chick observations will begin at hatching and continue through fledging or through the end of implementation of the covered activity. EIM implementation cannot begin part way through the hatchling period to avoid accruing a take exposure.

All brood data points, including, at a minimum, brood ID, location, date, and time for each observation, will be recorded and submitted electronically. Explanations for missing observations (*e.g.*, inclement weather) and maps showing complete brood ranges are required. Since the 2024 season, ArcGIS Survey123 has been used to record brood monitoring data. Screenshots of the Survey123 surveys used in 2025 are included in Appendix C.

The Natural Resources staff has exceeded the level of monitoring required to both implement the covered activity and implement EIM for all broods exposed to take since this covered activity was first implemented in 2016, therefore, additional staffing and budget will not be needed to implement EIM.

Whether or not a brood was exposed to take may not be certain until the end of the implementation of the covered activity. Therefore, start/stop notifications reported for each HCP brood will include those for which EIM will be implemented. EIM broods will be included as "potential take exposures" on weekly reporting forms and will be moved to the exposed category if exposure occurs. Resolution on exposure status will be provided in the annual summary report described in Section 8.3.1.

### **8.2.2 Use of Roads and Parking Lots in the Vicinity of Unfledged Least Tern Chicks**

Least terns have a history of nesting in the narrow area east of Ryder Way on Lot O (Lot O sub-colony), and have been nesting in the areas to the west and north of the Day Parking Area (Day Parking sub-colony) in recent years. These areas are shown in Figure 8-2 with a compilation of the areas used by nesting least terns over the last five years. During this time period, the level of use of this area by least terns has varied from season to season, and in 2025, use of these areas expanded to the point where the two nesting areas merged into one larger sub-colony. The combined number of nesting pairs in these two sub-colonies has ranged from 19 to 95 pairs since 2021. During the 2025 season, least terns began using a new area located south of the Fishermen's Turnaround. Three pairs nested in this sub-colony in the area shown in Figure 8-3.

Implementing this covered activity for least terns will provide similar benefits for recreational and essential vehicle access as for piping plovers. In addition, elimination of escorting of essential vehicles

**Figure 8-2. Location of Potential Barriers on Lot O and Day Parking Area in Relation to Nesting Areas Used by Least Terns at Plymouth Long Beach, 2021-2025**



Figure 8-3. Example Location of Potential Barrier Near the Fishermen's Turnaround in Relation to 2025 Least Tern Nesting Areas at Plymouth Long Beach



adjacent to the nesting areas benefits least terns by reducing disturbance to the sub-colony. During essential vehicle escorts, a Natural Resources staff member walks in front of the vehicles. Vehicles driving by the nesting area have not been observed to affect least terns, however, pedestrian activity, including vehicle escorts, disturbs the adult least terns, causing them to flush from the sub-colony, which can negatively affect hatching success and chick survival.

Prior to 2013, a vegetative border separated the Lot O colony from the road, and property owners and guests of 17 properties and fishermen traveled in this area without restrictions, both during the day and at night, as long as unfledged piping plover chicks were not present. Access to Ryder Way is limited to property owners, their guests, and Plymouth fishermen with permits between 9:00pm and 4:00am. In 2013, much of the vegetative border was washed out during a blizzard. The silt fence barrier has been installed in this location each year since 2013, and until the 2016 season, vehicle access for private properties and fishermen was unrestricted at night as long as unfledged plover chicks were not present. Least terns that nest along Ryder Way are subject to the light and movement associated with vehicles traveling adjacent to the colony during all phases of the nesting season, including nest site selection, courting, laying, hatching and fledging. DEE has not observed negative effects of night-time vehicle travel past the colony. Abandonment has not been observed. In seasons when there has been low productivity in this sub-colony, there was evidence of or direct observation of predation on eggs and/or chicks.

## **Impact Minimization Measures**

### **Barriers**

As described above for piping plover chicks, if unfledged least tern chicks are present on Lot O, a barrier will be installed to reduce risk by preventing chicks from accessing Ryder Way. Since 2013, with the approval of DFW, a silt fence barrier has been installed to prevent least tern chicks from entering the road. The potential location for this barrier is shown in relation to least tern nesting areas in Figure 8-2. The barrier will consist of silt fence installed along the edge of the road so chicks are able to access open beach, wet sand, the stone dike and the boulders and posts that delineate the roadway. The actual length of barrier fence installed will vary depending on the location and mobility of the chicks.

A barrier has been installed along the western edge of Ryder Way adjacent to the overwash areas to the west and northwest of the Day Parking Area since 2024 to benefit least terns nesting in the Day Parking sub-colony. To ensure that unfledged plover chicks that may cross the road to access foraging habitat on both the beach and harbor sides, this barrier may be installed in phases. Sections of the barrier that are not likely to impact plover chicks, such as the area along the western edge of the Day Parking Area, could be installed prior to least tern nests hatching, and installation in the area north of the Day Parking Area where plover chicks are likely to cross the road would be installed after the plover chicks fledge. This barrier will be installed in such a way that access between the foraging habitats areas on the east and west sides of the road will be unimpeded.

If unfledged least tern chicks are present south of Fishermen's Turnaround, a barrier will be installed to reduce risk by preventing chicks from accessing Ryder Way. In 2025, for the first time, a silt fence barrier was installed, with the approval of DFW, to prevent least tern chicks from entering the road in this area. The potential location for this barrier is shown in relation to least tern nesting areas in Figure

8-3. The actual length and location of barrier fence installed will vary depending on the location and mobility of the chicks.

In unvegetated or sparsely vegetated areas, a minimum of one shade structure per nest will be added to the area adjacent to the barrier fence to ensure that least tern chicks have access to adequate shade and cover. Shade structures may consist of lengths of PVC pipe, tepee style wooden shelters, roseate tern nest boxes, wooden pallets, cinderblocks, plywood or boards propped up on cinderblocks or rocks, or other similar structures.

The barrier(s) will be inspected for gaps and damage at least twice per day and repaired as necessary. The barrier(s) will also be inspected for negative impacts to chicks. Should any negative impacts be observed for either plover or tern chicks, such as increased predation or hindering movement to habitat areas, the barrier will be removed.

This plan is based on observations of nesting areas from previous seasons. If least terns begin nesting along Ryder Way in areas other than adjacent to the potential barriers shown in Figures 8-1, 8-2 and 8-3, the barrier may be installed in another location with written approval of DFW.

In some locations, a barrier may not be installed depending on the needs of piping plover chicks to access important foraging areas, which may increase the risk of take for unfledged least tern chicks. To reduce this risk of take, monitoring will be increased as described below and traffic management will be implemented as necessary.

In the event that high tide may reach or approach within a few feet of the barrier, for example, during a storm, sections of the barrier will be opened, or the barrier will be removed, to prevent chicks from becoming trapped against the barrier during high tide.

### **Signage**

Signage alerting drivers to watch for chicks in the road will be installed along Ryder Way and/or the Day Parking Area at least every 100 yards beginning at least 100 yards south of and 100 yards north of the location of unfledged least tern chicks. In addition, signs requesting that drivers alert staff if they observe chicks in or near the road or parking area will be installed. Additional signs stating the speed limit of 10 miles per hour will be installed in proximity to the unfledged least tern chicks.

### **Staff Training**

Staff training will be similar to that described in Section 8.2.1. Each staff member will be trained to understand their respective roles and responsibilities in regard to the impact minimization plan. Periodic monitoring of the impacted chicks will be conducted by the Environmental Technician, Shorebird Program Manager, a Natural Resources Officer, Natural Resources Technician, or cross-trained Natural Resources Assistant. Natural Resources Assistants on patrol within the covered activity area will be alert to the presence of unfledged least tern chicks. Staff members that observe unfledged chicks near the road or parking area, or a change in the location of the impacted chicks will immediately report the information to the supervisor on duty. Cell phones with push-to-talk walkie-talkie capabilities are provided to all staff members to enable instant communication of beach management information. If necessary, traffic management as described below or modification of the silt fence barrier(s) within the potential areas identified in Figures 8-1, 8-2 and 8-3 will be implemented as necessary as determined by the Environmental Technician or Shorebird Program Manager.

## **Traffic Management**

Should unfledged least tern chicks be observed in the road or within <50 feet of a section of the road without a barrier, the road should temporarily close; however, the Environmental Technician, Shorebird Program Manager or Natural Resources Officer will have discretion to restart traffic under certain circumstances even if the chicks remain within 50 feet of the road (e.g., young chicks hiding in vegetation and not moving).

Should chicks be observed in the road where a barrier is in place, the Natural Resources staff may approach the chicks to herd them toward an area without a barrier so they may access suitable habitat.

Should chicks be observed within 50 yards of the Day Parking Area, the Natural Resources staff may approach the chicks to herd them away from the parking area.

Natural Resources staff members that observe or receive reports of unfledged least tern chicks near the road or parking area, or a change in the location of the impacted chicks, will immediately report the information to the supervisor on duty. Cell phones with walkie-talkie capabilities are provided to all staff members to enable instant communication of beach management information.

## **Monitoring**

While least tern chicks are considered precocial, they generally don't travel as great a distance from their nest area as plovers. Least tern chicks spend much of their time in vegetation or other cover and are fed by their parents, which can make them more difficult to count than piping plover chicks. Most of the counting and mapping of nest and chick locations will be conducted from a distance with binoculars and/or a spotting scope to minimize disturbance. In some cases, it may be necessary to enter nesting areas to confirm the presence of nests. Nest and chick locations will be sketched on maps similar to those in Appendix C, which were used during the 2025 season. The maps will include key landmarks to aid in recounting. Data collected will include the date, time monitoring began and ended, personnel, whether each nest/chick was confirmed or inferred to be present and the basis of inference. The approximate age of all chicks directly observed will be estimated using the Least Tern Aging Key also included in Appendix C.

In areas where a barrier is installed, a shorebird monitor will record the number of chicks, their approximate age and location at least once per day.

If a barrier is not installed to allow piping plover chicks to access foraging areas, monitoring will increase to reduce risks of chicks entering the roadway or parking area without adequate protective measures in place. Chick monitoring will increase to at least four times per day, and continuously during high traffic periods. Frequency of monitoring may be increased by the Environmental Technician, Shorebird Program Manager or Natural Resources Officer if deemed necessary. Monitoring frequency will increase to a level determined in consultation with DFW once chicks have been observed in the roadway or parking area.

In the event that inclement weather may adversely affect the chicks, monitoring frequency may be reduced and recreational vehicle access will be restricted.

During the period when use of the road and/or parking lot is occurring, the number of active nests will be recounted 2 times per week while the covered activity is implemented, and the number of

unfledged chicks will be counted daily to estimate the number of tern chicks exposed to this covered activity.

Monitoring chicks is difficult after sunset. To minimize the risk of take after dark, recreational vehicle access will be restricted, however, essential vehicles and a limited number of fishermen, subject to restrictions, may continue to travel through the area. If a barrier is in place, up to five (5) vehicles per night may travel through the area adjacent to unfledged least tern chicks to access fishing areas. Vehicle passengers must be actively fishing. The number of chicks within 100ft of and the approximate distance of the nearest chick to the terminus of the barrier will be recorded. In the event that inclement weather prevented monitoring of chicks earlier in the day, vehicle access for night fishing will be restricted. Fishermen may not travel through areas at night where unfledged piping plover chicks are present. Vehicle access for night fishing will be discontinued until the plover chicks have fledged.

Monitoring will be carried out by a qualified shorebird monitor as described in Section 8.4.

### **8.2.3 Oversand Vehicle (OSV) Use in Vicinity of Unfledged Piping Plover Chicks**

The OSV corridor at Plymouth Long Beach begins at the Crossover and may, depending on restrictions for shorebird nesting and tides, extend up to approximately one mile to the “790 line” (see Figures 1-1 and 1-2). The OSV corridor is adjacent to piping plover nesting habitat, and plovers may potentially nest along the whole length of the corridor. When pre-hatch restrictions and vehicle-free buffer zones are implemented, use of the OSV corridor past the nest is temporarily eliminated until the chicks have fledged. Nests located near the Crossover severely restrict or eliminate use of the OSV corridor. In some years, the timing and location of nests can result in unfledged chicks in the southern portion of the OSV corridor while chicks from nests in northern portions of the OSV corridor have already fledged. In this case, use of the OSV corridor may be restricted or eliminated because of one brood of unfledged chicks. Implementing the covered activity “Oversand Vehicle (OSV) Use in Vicinity of Unfledged Piping Plover Chicks” would allow non-essential OSVs to self-escort through an area where unfledged chicks are present to access areas that would otherwise be unavailable. Implementation of this covered activity is subject to the impact minimization measures described below. This activity would be limited to a single brood of unfledged plover chicks.

This covered activity was allowed under previous COIs but has not implemented to date due to timing and locations of plover nests and chicks along the OSV corridor.

#### **Impact Minimization Measures**

Impact minimization measures employed will include narrowing of the OSV corridor and eliminating parking, restricted travel hours, vehicle escorting, staff training, enforcement and communication, mandatory OSV operator education, and smoothing of tire ruts.

#### **Narrow Vehicle Corridor and No Parking**

Travel in the vicinity of unfledged chicks will be restricted to a single, clearly demarcated vehicle escort corridor. The seaward edge of the corridor will be located at the mean high tide line as required in the Plymouth Long Beach Management Plan. The narrowness and location of the corridor will reduce impacts to wrack. The location and length of the escort corridor will vary based on the location and movement of the affected plover brood. The width of the corridor will not exceed 15 feet, except for

occasional turnouts to accommodate two-way traffic. Additionally, vehicle traffic will be halted should plover chicks approach within 50 feet on either side of the escort corridor.

The escort corridor will be clearly marked at the beginning and end points. The width of the corridor will be delineated periodically with wooden posts and signage. The boundaries of the escort corridor will be determined daily and adjusted as needed prior to commencement of vehicle access.

Parking will not be allowed within 200 yards of unfledged plover chicks during the first week following hatching and will in no event be permitted within 100 yards of unfledged plover chicks. Based on chick mobility as determined by the Environmental Technician or Shorebird Program Manager, the area restricted for parking may be substantially farther than 100 yards to reduce the need for readjustment of vehicle parking during the course of a day. Areas where parking is allowed will be set up according to the requirements of the Plymouth Long Beach Management Plan with the travel corridor and parking areas identified by signage.

### **Restricted Travel Hours**

To limit disturbance of chicks and impacts on foraging, OSV travel in the vicinity of unfledged chicks will be restricted to no more than 3 hours per day in 3 travel periods during daylight hours. The three travel periods will include the following:

9:00am to 10:00am

1:00pm to 2:00pm

5:00pm to 6:00pm

Timing of travel periods may be flexible within one hour based on weather and chick locations.

Upon written notice to DFW, the timing of travel periods may be adjusted to accommodate tide-related closures, but in no event will travel periods exceed more than three hours per day.

In the event of inclement weather, or if inclement weather is forecast that will make locating chicks difficult or where monitoring may adversely affect the chicks, vehicle escorts may be delayed or cancelled. Exceptions to designated travel periods may be necessary for emergencies.

A maximum number of 75 vehicles may travel through the escort corridor per day, for a total maximum of 150 vehicle passes.

### **Vehicle Self-Escorting**

The Town will notify DFW at least 24 hours in advance of initiating the program. Vehicle escorts will not begin until a qualified monitor (see the Monitoring section below) has located the chicks. Chicks will be monitored continuously during the travel periods.

Vehicle escorting will begin at least 200 feet from the closest unfledged plover or least tern chick and will end at least 200 feet past either the last plover chick in a given brood or unfledged least tern chick, whichever is further.

### ***Basic Procedures for Self-Escorting***

1. Pre-determined area(s) of Ryder Way or an area of the OSV corridor where there are no plover or tern chicks present will be identified for staging of OSVs for both entering and exiting the escort corridor.

2. At least one half hour prior to the beginning of each travel period, the shorebird monitor will proceed along the escort corridor and surrounding area to determine the locations of the chicks in the affected brood. Once the shorebird monitor has determined the locations of the chicks, the monitor will notify the supervisor on duty. The escort corridor will be modified if necessary. In the event that all the chicks have not been located, the opening of the escort corridor will be delayed until such time that all chicks are accounted for, or it has been determined by the shorebird monitor that there are no chicks in the escort corridor.
3. At the beginning of each travel period, the shorebird monitor will confirm to the supervisor on duty that the brood is >50 feet from the escort corridor and it may open for travel. The supervisor on duty will notify the compliance monitor, Crossover attendant and all other staff stationed in vicinity of the escort corridor when self-escorted travel commences for each travel period.
4. Vehicles will self-escort for the duration of the 1-hour travel period. The end of the travel period may be adjusted accordingly in response to a delayed opening of the travel period but in no event will a travel period last more than 1 hour. The OSV operator will be required to display a self-escort permit prior to accessing the escort corridor. At either the Crossover or a staging area, depending on the location of the escort corridor, the Natural Resources staff will verify the OSV operator's identity (i.e., driver's license), and that the OSV operator has a self-escort permit and has attended the mandatory OSV operator education.
5. Prior to opening the escort corridor, the compliance monitor will contact the shorebird monitor to confirm that all chicks are still being monitored, all chicks are accounted for and the escort corridor can open. During each travel period, the shorebird monitor shall maintain a constant visual on all plover chicks using binoculars and/or a spotting scope in a manner that will minimize disturbance to chicks.
6. Once vehicles have passed through the escort corridor, which shall extend at least 200 feet past the closest chick, vehicles may use the sections of beach previously determined to be free of unfledged plover and tern chicks, in accordance with the Plymouth Long Beach Management Plan.
7. Each vehicle must have at least one passenger 16 years of age or older to walk approximately 10 feet in front of the vehicle in the escort corridor. The escort will look for chicks in the corridor and stop the vehicle if either a chick is observed or one of the monitors requires the vehicle to stop. All self-escorted vehicles must maintain a safe distance of at least 15 feet from the vehicle in front.
8. To avoid adverse effects to the habitat and allow unimpeded chick passage across the escort corridor when vehicles are not present, the tire ruts will be hand-raked at the end of the last travel period of the day. Mechanized raking will be utilized only with a trained observer walking in front of the vehicle to search for chicks.
9. If at any time during the escorting process, the shorebird monitor loses visual contact with one or more chicks, the vehicles will be allowed to continue on their way and the period between travel periods will be used to determine the presence of the chick(s) in the area or absence of chicks in the corridor. Shorebird monitors will document in the daily report the approximate time that visual contact with the chick(s) was lost and efforts made to relocate it.
10. The Environmental Technician, Shorebird Program Manager, Natural Resources Officers and shorebird monitors will each have the independent authority to temporarily close the escort

corridor at any time for any reason. For example, if at any time a shorebird monitor determines that chicks have approached within 50 feet of the escort corridor, the shorebird monitor will immediately notify the compliance monitor, supervisor on duty, and the Crossover attendant to temporarily halt traffic to allow the chicks to cross the corridor and/or move >50 from the corridor. The escort corridor will not reopen until the supervisor on duty determines that it is safe to do so. Monitors will document the approximate time the escort corridor was closed and the duration of the closure in the daily report.

### ***Caravans***

The Town reserves the right to substitute escorted caravans for self-escorting as described in the HCP. If escorted caravans are implemented, groups of up to 25 OSVs would stage along Ryder Way or an area of the OSV corridor where unfledged plover and tern chicks are not present. Once the caravan reaches the area where unfledged chicks are present and escorting is required, a qualified monitor will lead the caravan through the escort area either on foot or in an open top OSV. All other requirements, including but not limited to brood monitors and compliance monitors, would remain in place as described in the self-escorting protocols.

### ***Contingency Plans***

#### ***Personnel availability***

The shorebird monitor and compliance monitor are essential personnel prior to and during the self-escort travel periods. In the event that one of these employees is unavailable, the supervisor on duty or their designee shall assume this duty. In addition to these staff, all other staff required by the Plymouth Long Beach Management Plan must be present to allow access to the OSV corridor.

#### ***Inclement weather***

The supervisor on duty, or their designee, will monitor weather forecasts on a daily basis. In the event that a storm warning is predicted by the National Weather Service, or any other weather warning that could jeopardize public safety within a 24-hour period, the escort corridor shall be closed for the duration of the hazard or the start time of a travel period may be moved one hour later or earlier. The escort corridor may not reopen until the supervisor on duty, or their designee, has determined that it is safe to do so. It shall be presented in writing as part of the mandatory self-escort OSV operator training (see below) that all users shall use the beach at their own risk. Exit travel outside a travel period will not take place due to unpredicted weather. Self-escort permit holders shall be informed in writing that a "shelter in place" policy will go into effect until the inclement weather has passed, or a scheduled travel period has begun.

#### ***Medical or family emergencies***

Self-escort permit holders shall be advised verbally and in writing at the mandatory self-escort OSV operator training (see below), via affidavit, that egress from the beach outside of the self-escort windows shall be strictly prohibited. In the event of a life-threatening medical emergency, the Natural Resources staff should be notified (see Plymouth Long Beach Rules and Regulations for information to report an emergency). Essential vehicles will assist in escorting the vehicle off the beach. Due to the time sensitive nature of medical emergencies, the vehicle(s) may be escorted by a monitor scanning for chicks in the escort corridor, even if the chicks have not been located prior.

## **Violations and Enforcement**

Any violations of the aforementioned protocol will not be tolerated. A zero-tolerance policy will be fully enforced. Monitors and the supervisor on duty will be in constant contact to ensure enforcement. The Plymouth Long Beach Enforcement Regulations, Section 3.1 states that the Director of Energy and Environment, and/or his designee, “may, in their discretion, immediately suspend or revoke a Beach Sticker for violation(s) of the Beach Management Plan that threaten the health or safety of persons, property or wildlife.” The Environmental Technician, Shorebird Program Manager and Natural Resources Officers will be authorized to revoke Long Beach 4x4 Stickers and eject the violators from the beach immediately. Violators of the escort protocols shall be subject to Long Beach 4x4 Sticker revocation and shall have their rights to operate an OSV on Plymouth Long Beach suspended immediately for a period of one year from the date of the violation.

All Natural Resources staff, including those not acting as a shorebird or compliance monitor, will be vigilant for violations of self-escort procedures and communicate violations immediately to the supervisor on duty. If necessary, Plymouth Police Officers can be called for assistance.

## **Staff Training and Communication**

To carry out this covered activity, a qualified shorebird monitor (see Section 8.4) and a compliance monitor will be required during each travel period. These monitors will begin working at least two weeks before implementation of the covered activity begins to allow time for on-site training. To ensure coverage of each travel period, two shorebird monitors and two compliance monitors per day will be scheduled. The morning shift will be from 8:00am to 4:00pm and the afternoon shift will be from 12:00pm to 8:00pm. The timing of these shifts may be adjusted if the Environmental Technician determines that implementation would be more effective, however, the morning shift will begin no less than 1 hour prior to the first travel period and the shifts will overlap for at least one hour per day to facilitate communication between morning and afternoon monitors.

In addition to the shorebird monitors and compliance monitors, the staffing level required by the Plymouth Long Beach Management Plan must be met before vehicles may access the OSV corridor. This includes Natural Resources Assistants to staff the Manter’s Point and Crossover checkpoints and the vehicle restriction, and to patrol the beach and Ryder Way. A Natural Resources Technician is required to monitor shorebird activity not associated with the covered activity, and a supervisor is required.

All of the Natural Resources staff will be trained in all of the self-escort procedures and impact minimization measures so that they will be able to provide education and enforcement to all beach visitors and OSV operators. Natural Resources Assistants on patrol within the covered activity area will be alert for violations and the presence of piping plovers. Cell phones with push-to-talk walkie-talkie capabilities are provided to all staff members to enable instant communication of beach management information.

## **Mandatory Self-Escort OSV Operator Education**

To participate in the escort program, OSV users must complete a mandatory training prior to participating in the escort program. The training will cover restricted travel hours, escort procedures and emergency procedures. In addition, a written quiz approved by DFW will document familiarity

with the rules and procedures. After completing the training and passing the written quiz, a self-escort permit will be issued. The self-escort permit is only valid in conjunction with a valid Long Beach 4x4 Sticker. The self-escort permit and driver's license must be presented each time the OSV operator accesses the escort corridor. In addition, DEE will maintain a list of self-escort permit holders.

### **Smoothing of Tire Ruts**

Tire ruts in the escort corridor will be smoothed out at least once per day at the end of the travel period to minimize the risk of plover and least tern chicks sheltering in or becoming trapped in the tire ruts. Hand raking will be used to smooth tire ruts. Mechanized raking will be utilized only with a trained observer walking in front of the vehicle to search for chicks. Smoothing of tire ruts will continue until all plover chicks present near the escort corridor are more than 14 days old.

### **Monitoring**

A qualified monitor (see Section 8.4) will conduct continuous monitoring of chicks during travel periods when vehicles are present. Each monitor will be responsible for monitoring no more than one brood of plover chicks.

A compliance monitor will be stationed adjacent to the escort corridor to monitor OSV operator compliance and to ensure that vehicle travel can be stopped if chicks approach or enter the escort corridor.

Monitors will keep a log documenting frequency of monitoring, location of the brood, number of chicks, approximate distance from the escort corridor, if brood crosses the escort corridor, and the location and length of the escort corridor. An ArcGIS Survey123 survey similar to the ones found in Appendix C will be used to record chick monitoring sessions. Any closures of the escort corridor will be recorded, including approximate time the escort corridor closed and the duration of closure. If at any time during the escorting process, the shorebird monitor loses visual contact with one or more chicks, the approximate time and efforts made to relocate it will be documented.

Chick numbers, chick locations, and escort corridor locations and dimensions shall be provided to the supervisor on duty by the shorebird monitor daily, prior to commencing OSV escorts.

A log will be kept for tracking the number of OSVs accessing the escort corridor during each travel period and any violations of the self-escort procedures.

#### **8.2.4 Oversand Vehicle (OSV) Use in Vicinity of Unfledged Least Tern Chicks**

Least terns often nest in similar habitat to piping plovers, so use of the OSV travel corridor may also impact least terns. This covered activity was allowed under previous COIs, but because of the timing and location of unfledged least tern chicks along the OSV corridor, it has not been implemented. This activity will not expose more than 20 unfledged least tern chicks to OSV traffic. If more than 20 unfledged least tern chicks are expected to be present in the affected area, implementation of the covered activity will end when more than 20 unfledged chicks are present, or implementation may be delayed until some of the chicks have fledged and there are 20 or fewer unfledged chicks remaining in the area. Implementation of this covered activity is subject to the impact minimization measures described below.

## **Impact Minimization Measures**

Impact minimization measures employed will include narrowing the OSV corridor and eliminating parking, restricted travel hours, vehicle escorting, staff training, enforcement and communication, mandatory OSV operator education, and smoothing of tire ruts.

### **Narrow Vehicle Corridor and No Parking**

As described above for piping plovers, travel in the vicinity of unfledged least tern chicks will be restricted to a single, clearly demarcated vehicle escort corridor. The seaward edge of the corridor will be located at the mean high tide line as required in the Plymouth Long Beach Management Plan. The location and length of the escort corridor will vary based on the location of the affected least tern chicks. The width of the corridor will not exceed 15 feet, except for occasional turnouts to accommodate two-way traffic. Additionally, vehicle traffic will be halted should unfledged least tern chicks approach within 50 feet on either side of the escort corridor.

The escort corridor will be clearly marked at the beginning and end points. The width of the corridor will be delineated periodically with wooden posts and signage. The boundaries of the escort corridor will be determined daily and adjusted as needed prior to commencement of vehicle access.

Parking will not be allowed within 100 yards of unfledged least tern chicks. Based on chick mobility as determined by the Environmental Technician or Shorebird Program Manager, the area restricted for parking may be substantially farther than 100 yards to reduce the need for readjustment of vehicle parking during the course of a day. Areas where parking is allowed will be set up according to the requirements of the Plymouth Long Beach Management Plan with the travel corridor and parking areas identified by signage.

### **Restricted Travel Hours**

To limit disturbance, OSV travel in the vicinity of unfledged chicks will be restricted to no more than 3 hours per day in 3 travel periods during daylight hours. The three travel periods will include the following:

9:00am to 10:00am  
1:00pm to 2:00pm  
5:00pm to 6:00pm

Timing of travel periods may be flexible within one hour based on weather and chick locations.

Upon written notice to DFW, the timing of travel periods may be adjusted to accommodate tide-related closures, but in no event will travel periods exceed more than three hours per day.

In the event of inclement weather, or if inclement weather is forecast, that will make locating chicks difficult or where monitoring may adversely affect the chicks, vehicle escorts may be delayed or cancelled. Exceptions to designated travel periods may be necessary for emergencies.

A maximum number of 75 vehicles may travel through the escort corridor per day, for a total maximum of 150 vehicle passes.

## **Vehicle Self-Escorting**

The Town will notify DFW at least 24 hours in advance of initiating the program. Monitor(s) must attempt to verify the locations and count all chicks prior to each travel period and continue to monitor chick movements and locations periodically during the travel period. More information on monitoring for this covered activity is included in the Monitoring section below.

Vehicle escorting will begin at least 200 feet from the closest unfledged least tern chick and will end at least 200 feet past the unfledged least tern chick.

### ***Basic Procedures for Self-Escorting***

1. Pre-determined area(s) of Ryder Way or an area of the OSV corridor where there are no unfledged tern chicks present will be identified for staging of OSVs for both entering and exiting the escort corridor.
2. At least one half hour prior to the beginning of each travel period, the shorebird and/or compliance monitor will attempt to verify the locations and count all chicks by searching the beach adjacent to and within 200 yards of the escort corridor. The monitors conducting pre-travel monitoring will be responsible for searching no more than 500 yards of vehicle corridor and the habitat adjacent to the corridor. Areas with unfledged chicks <100 feet from the escort corridor and any unfledged chicks seaward of the escort corridor will be noted for extra attention during the travel period. Once the monitor(s) have determined the locations of the chicks, they will notify the supervisor on duty. The escort corridor will be modified if necessary.
3. Vehicles will self-escort for the duration of the 1-hour travel period. The end of the travel period may be adjusted accordingly in response to a delayed opening of the travel period but in no event will a travel period last more than 1 hour. The OSV operator will be required to display a self-escort permit prior to accessing the escort corridor. At either the Crossover or a staging area, depending on the location of the escort corridor, the Natural Resources staff will verify that the OSV operator has a self-escort permit and has attended the mandatory OSV operator education.
4. During the travel period, the monitor will patrol the escort corridor checking for compliance with escort procedures, while also scanning for unfledged least tern chicks. Vehicle traffic will be temporarily halted if unfledged chicks approach within 50 feet of the corridor, however, the supervisor on duty will have discretion to restart traffic under certain circumstances, even if chicks remain within 50 feet (e.g., young chicks hiding in vegetation and not moving).
5. Once they have passed through the escort corridor, which shall extend at least 200 feet past the closest unfledged chick, vehicles may use the sections of beach previously determined to be free of unfledged chicks, in accordance with the Plymouth Long Beach Management Plan.
6. Each passenger must have at least one passenger 16 years of age or older to walk approximately 10 feet in front of the vehicle in the escort corridor. The escort will look for chicks in the corridor and stop the vehicle if either a chick is observed or one of the monitors requires the vehicle to stop. All self-escorted vehicles must maintain a safe distance of at least 15 feet from the vehicle in front.
7. To avoid adverse effects to the habitat and allow unimpeded chick passage across the escort corridor when vehicles are not present, the tire ruts will be hand-raked at the end of the last

travel period of the day. Mechanized raking will be utilized only with a trained observer walking in front of the vehicle to search for chicks.

8. The Environmental Technician, Shorebird Program Manager, Natural Resources Officers and shorebird monitors will each have the independent authority to temporarily close the escort corridor at any time for any reason. For example, if at any time a shorebird monitor determines that chicks have approached within 50 feet of the escort corridor, the shorebird monitor will immediately notify the compliance monitor, supervisor on duty, and the Crossover attendant to temporarily halt traffic to allow the chicks to cross the corridor and/or move >50 ft from the corridor. The escort corridor will not reopen until the supervisor on duty determines that it is safe to do so. Monitors will document the approximate time the escort corridor was closed and the duration of the closure in the daily report.

### **Caravans**

The Town reserves the right to substitute escorted caravans for self-escorting as described in the HCP. If escorted caravans are implemented, groups of up to 25 OSVs would stage along Ryder Way or an area of the OSV corridor where unfledged tern chicks are not present. Once the caravan reaches the area where unfledged chicks are present and escorting is required, a qualified monitor will lead the caravan through the escort area either on foot or in an open top OSV. All other requirements, including but not limited to shorebird monitors and compliance monitors, would remain in place as described in the self-escorting protocols.

### **Contingency Plans**

Contingency plans as described above in Section 8.2.3 will be implemented for this covered activity for least terns as well.

### **Violations and Enforcement**

Enforcement and violations will be handled as described above in Section 8.2.3.

### **Staff Training and Communication**

Staff training and communication for this covered activity will be carried out as described above in Section 8.2.3.

### **Mandatory Self-Escort OSV Operator Education**

Mandatory self-escort OSV operator education will be conducted as described above in Section 8.2.3.

### **Smoothing of Tire Ruts**

Tire ruts in the escort corridor will be smoothed out at least once per day when young chicks (<10 days old) are present. Hand raking will be used to smooth tire ruts. Mechanized raking will be utilized only with a trained observer walking in front of the vehicle to search for chicks.

### **Monitoring**

While least tern chicks are considered precocial, they generally don't travel as great a distance from their nest area as plovers. Least tern chicks spend much of their time in vegetation or other cover and are fed by their parents, which can make them more difficult to count than piping plover chicks. Most of the counting and mapping of nest and chick locations will be conducted from a distance with

binoculars and/or a spotting scope to minimize disturbance. In some cases, it may be necessary to enter nesting areas to confirm the presence of nests. Nest and chick locations will be sketched on a maps similar to the maps in Appendix C that were used during the 2025 season. The maps will include key landmarks to aid in recounting. Data collected will include the date, time monitoring began and ended, personnel, whether each nest/chick was confirmed or inferred to be present and the basis of inference. The approximate age of all chicks directly observed will be estimated using the Least Tern Aging Key also included in Appendix C.

Prior to the beginning of each travel period, the shorebird and/or compliance monitor will attempt to verify the locations and count all chicks by searching the beach adjacent to and within 200 yards of the escort corridor. The monitors conducting pre-travel monitoring will be responsible for searching no more than 500 yards of vehicle corridor and the habitat adjacent to the corridor. Areas with unfledged chicks <100 feet from the escort corridor and any unfledged chicks seaward of the escort corridor will be noted for extra attention during the travel period. In the event that inclement weather may adversely affect the chicks, monitoring frequency may be reduced, and non-essential vehicle access will be restricted.

To estimate the number of chicks exposed to OSVs, at least two nest/chick counts will be conducted in the five days prior to the anticipated start of the escorting program, including one count within 24 hours of the start date. Estimates of active nests will be obtained for all sections of beach located within 200 yards of the anticipated escort corridor. During the period when this covered activity is occurring, the number of active nests will be tracked, with recounts 2 times per week during the escort period.

Monitoring will be carried out by a qualified shorebird monitor as described in Section 8.4.

Chick numbers, chick locations, and escort corridor locations/dimensions shall be provided to the supervisor on duty by the shorebird monitor daily, prior to commencing OSV escorts.

### **8.3 Monitoring Plan for Covered Activities**

#### **8.3.1 Compliance Monitoring**

Compliance monitoring will track the status of plan implementation and document that impact minimization and mitigation measures associated with covered activities are implemented and that all requirements of the Habitat Conservation Plan for Piping Plover (HCP) are being met.

The Town will maintain a log of initiation dates for covered activities, number of pairs, broods, nests and chicks exposed, and locations, as well as monitoring frequency of breeding pairs and habitat. Chick numbers, chick locations, and escort corridor locations and dimensions shall be provided to the supervisor on duty by the shorebird monitor daily, prior to commencing OSV escorts. Daily maps showing the locations of the affected plover and least tern chicks will be kept with the daily log. The Town will notify DFW at least 24 hours in advance of initiation of any covered activity and when the covered activity ceases. The Town will maintain logs documenting timing and frequency of activities such as installation of symbolic fencing, monitoring of plover and tern activity, beach patrols, enforcement of bylaws and rules and regulations, and timely implementation of temporary prohibitions on non-essential vehicle use. This will include detailed documentation of staff hours by day and time, for each employee, for all activities directly associated with covered activity

implementation. The datasheets and screenshots of Survey123 surveys used for compliance monitoring during the 2025 season are included as examples in Appendix C.

Every week, a brief summary report will be submitted to DFW. The report will include: (1) daily vehicle trip count for escorting and vehicles accessing Ryder Way at Manter's Point and the OSV corridor at the Crossover; (2) quantification of changes to the barrier system associated with road/parking lot use; (3) description of changes in location of the escort corridor (e.g. because of brood relocation); (4) for each affected brood, daily observations of plover chick numbers; (5) daily observations of least tern chick numbers, approximate age and location; (6) weekly tally and description of any rules violations and enforcement actions taken; (7) weekly tally and description of all observations of plover broods crossing or approaching <50 feet from Ryder Way (for road/parking lot use) and from the escort corridor; (8) weekly tally and description of all observations of least tern chicks in an area without a barrier crossing or approaching <50 feet from Ryder Way; (9) any other notes, observations, or recommendations. A weekly report worksheet used to track and collect data reported to DFW in the weekly report template during the 2025 season is included in Appendix C.

A summary report will be submitted to DFW on or before October 15 of each year. At minimum, the report will include dates of covered activities, estimated age of plover chicks in each brood or tern chicks in the affected sub-colony when covered activities were initiated, fledging success, number of chicks present on each date of implementation, estimated daily chick survival based on daily counts, number of vehicle passages for self-escorts, observations of behavioral responses and movement patterns of the adults and chicks exposed to covered activities, dates of fledging and supporting documentation, if applicable, and any documented "take" of chicks resulting from the covered activities program. The report will also contain recommendations for improving the efficiency and/or effectiveness of the escorting program in the future.

Any violations, incidents or accidents associated with the vehicle escort program and/or road and parking lot use in vicinity of unfledged chicks, including take of a chick(s) shall be immediately reported to DFW and U.S. Fish and Wildlife Service (USFWS) staff. In the event of an alleged incident related to the use of roads and parking lots, the Director of Energy and Environment, Environmental Technician, Shorebird Program Manager, or their designee, in coordination with a shorebird monitor shall cooperate with and assist Town, State and Federal officials with the investigation of the incident. Depending on the nature of the incident, the Town of Plymouth, DFW and USFWS reserve the right to suspend the covered activity for such time as they deem appropriate.

### **8.3.2 Effectiveness Monitoring**

Effectiveness monitoring assesses the biological success of the plan and includes monitoring of status and trends as well as the effects of management.

#### **Data Collection Protocols for Effectiveness Monitoring**

The Natural Resources staff monitors and collects data on nesting activity of piping plovers and terns as described in Section 7.7. For plovers this includes number of nesting pairs, fate of each nest attempt, and fledging and productivity data, and for least terns, number of nesting pairs, nest losses and qualitative productivity. The Town will continue to submit annual plover and tern census data through the online data entry systems PIPODES and TERNODES along with maps of nest locations. Submission of this data contributes to tracking of statewide census and productivity data.

Monitors collect and record data on disturbances and proximity to roads and parking lots, including crossings, during observation periods using ArcGIS Survey123 surveys, similar to the ones used in 2025 as shown in Appendix C, to document impacts of implementing the covered activities.

The Natural Resources staff monitors for presence of predators on Long Beach as well as evidence of nest and chick loss due to predation. Monitors record evidence of predator presence and predation. The staff also records any predator management activity they monitor or conduct, including trapping avian and/or mammalian predators and gull nest destruction. Monitoring predator activity and losses to predation aids in evaluating the effectiveness of selective predator management as mitigation for the covered activity.

### **Measurable Objectives of Monitoring**

Measurable objectives of monitoring include monitoring nesting activity of all plover pairs to determine breeding population and the productivity rate (chicks fledged/pair for both HCP and non-HCP broods; documentation of impacts of the covered activity including chicks crossing or approaching a road, parking lot or OSV corridor; and any mortality or other negative impact of implementing the covered activities.

## **8.4 Staffing for HCP Participation**

In order to properly implement the Plymouth Long Beach Management Plan, the Town employs a seasonal Natural Resources staff of 18, which includes 2 Natural Resources Officers, 4 Natural Resources Technicians, and 12 Natural Resources Assistants. The Natural Resources Officers, along with the Environmental Technician and Shorebird Program Manager, oversee implementation of the management plan, train and supervise staff, and assist with shorebird monitoring as needed. The Natural Resources Technicians focus on shorebird monitoring, and the Natural Resources Assistants carry out management tasks such as checking permits, logging vehicles, completing maintenance tasks and patrolling to enforce rules and regulations. There is some overlap in duties – when shorebird monitoring has been completed, the Natural Resources Technicians assist with other tasks, and Natural Resources Assistants who are cross-trained to do so assist with shorebird monitoring. Seasonal staff coverage is described in Section 7.5.

Under staffing levels required by the Plymouth Long Beach Management Plan, at least two qualified shorebird monitors (see below), and sometimes as many as six depending on the day of the week and time of day, are on duty. When the HCP is not implemented, three staff members, including a qualified shorebird monitor, are dedicated to escorting essential vehicles through the area where unfledged chicks are present in the vicinity of the road. Routine management and monitoring are conducted by the second shorebird monitor. Implementing the covered activity for use of roads and parking lots allows these staff members to perform other duties, including those associated with the covered activity. These existing staff members can provide monitoring for routine management and monitoring, as well traffic management and monitoring for implementation of the covered activity for 1-4 broods, depending on if the Crossover is open.

Because the HCP covered activities are implemented for multiple broods, additional shorebird monitors are needed to provide monitoring coverage. For example, in 2025, the HCP was implemented for 7 plover broods and EIM was conducted for an additional 2 broods. As many as 6

broods were monitored at one time. The equivalent of 5.2 full time additional staff were hired to provide additional shorebird monitoring and conduct traffic management and other HCP tasks. A total of 10 HCP staff and an additional NRO are included in the budget described in Section 9 to fully implement the covered activities for 14 broods. This level of staffing will allow monitoring to exceed the minimum required level for implementation, as well as the level required for implementing EIM (see Section 8.2.1). Typically, staff hired for HCP implementation work for about 7-8 weeks, although some stay on longer depending on the overall length of implementation as well as end of season beach staffing needs. This allows two weeks of training as well as 5-6 weeks of implementation. Shorebird monitors should start working at least 2 weeks before the covered activity "Use of Roads and Parking Lots in the Vicinity of Unfledged Piping Plover Chicks" is anticipated to begin to allow time for on-site training.

Shorebird monitors shall have the following minimum qualifications:

- A high school diploma or equivalent.
- Ability to gain a working knowledge of State and Federal Guidelines for the protection of piping plovers, least terns and common terns on multi-use recreational beaches.
- Good observational skills.
- Ability to perform physical labor associated with the installation of posts, signage, symbolic fencing, and protective enclosures in habitat areas.
- Ability to walk up to 5 miles per day within habitat area for survey and protection activities.
- Knowledge and experience, or willingness to obtain, with four-wheel drive vehicles.
- Ability to work independently with little direct supervisory oversight.
- Strong people skills, team oriented, and ability to work in a collaborative, problem-solving approach.
- A valid Massachusetts driver's license.

## Part 9 - Budget

### 9.1 Approved Annual Budget

Implementation of the Plymouth Long Beach Management Plan is funded through a revolving fund. Beach operations for the 2026 season will be funded through the fiscal year 2026 and 2027 budgets. The budget for FY26 shown in Table 9-1 was authorized at the 2025 Spring Town Meeting, and the FY27 budget shown in Table 9-2 will be voted on at the 2026 Spring Town Meeting.

**Table 9-1. Fiscal Year 2026 Plymouth Long Beach Revolving Fund Budget (Approved at 2025 Spring Town Meeting)**

<b>Descriptions</b>	<b>Budget Detail</b>	<b>Budget Totals</b>
FY26 Requested Budget		<b>\$ 592,958.00</b>
Breakdown:		
<b>Full Time Salaries</b>		<b>\$ 106,395.00</b>
Environmental Tech (47%)	\$ 45,020.00	
Assistant Beach Manager (100%)	\$ 59,503.00	
DEE Administrative Asst Reclass (3%)	\$ 1,872.00	
<b>Benefits</b>		<b>\$ 29,173.00</b>
<b>Overtime</b>		<b>\$ 35,000.00</b>
<b>Seasonal Salaries</b>		<b>\$ 362,690.00</b>
Natural Resources Assistant	\$ 149,860.00	
Natural Resources Officers	\$ 34,410.00	
Natural Resources Technicians	\$ 58,680.00	
HCP Implementation Staff	\$ 58,240.00	
Estimated Unemployment Cost	\$ 61,500.00	
<b>Equipment/Materials</b>		<b>\$ 44,700.00</b>
Education Materials	\$ 800.00	
Uniforms	\$ 1,200.00	
Equipment (Binocular, Mifi, etc.)	\$ 1,200.00	
Fencing/Posts	\$ 4,000.00	
Supplies (Signage, Tools, etc.)	\$ 5,000.00	
Fill	\$ 15,000.00	
HCP Implementation Costs	\$ 17,500.00	
<b>Plymouth Beach Seawall Design/Permit Grant Match</b>		<b>\$ 7,200.00</b>
<b>Contingencies</b>		<b>\$ 15,000.00</b>

**Table 9-2. Fiscal Year 2027 Plymouth Long Beach Revolving Fund Budget (Pending Vote at 2026 Spring Town Meeting)**

<b>Descriptions</b>	<b>Budget Detail</b>	<b>Budget Totals</b>
FY27 Requested Budget		<b>\$ 790,495.00</b>
Breakdown:		
<b>Full Time Salaries</b>		<b>\$ 128,227.00</b>
Environmental Tech (47%)	\$ 48,309.00	
Shorebird Program Manager (100%)	\$ 77,310.00	
DEE Administrative Asst Reclass (4%)	\$ 2,608.00	
<b>Benefits</b>		<b>\$ 28,501.00</b>
<b>Overtime</b>		<b>\$ 25,000.00</b>
<b>Seasonal Salaries</b>		<b>\$ 438,567.00</b>
Natural Resources Assistant	\$ 156,400.00	
Natural Resources Officers	\$ 41,160.00	
Natural Resources Technicians	\$ 58,240.00	
Plymouth Beach Recreation Staff	\$ 56,967.00	
HCP Implementation Staff	\$ 49,600.00	
Estimated Unemployment Cost	\$ 76,200.00	
<b>Equipment/Materials</b>		<b>\$ 84,200.00</b>
Education Materials	\$ 800.00	
Uniforms	\$ 1,400.00	
Equipment (Binocular, Mifi, etc.)	\$ 1,500.00	
Fencing/Posts	\$ 4,500.00	
Supplies (Signage, Tools, etc.)	\$ 8,000.00	
Plymouth Beach Lot Repairs	\$ 20,000.00	
Ryder Way/Day Parking Repairs	\$ 30,000.00	
HCP Implementation Costs	\$ 18,000.00	
<b>Coastal Resiliency Grant Match</b>		<b>\$ 66,000.00</b>
<b>Contingencies</b>		<b>\$ 20,000.00</b>

## 9.2 Budget Breakdown for Participation in the HCP

Approximate additional costs above normal operating costs for implementing the use of roads and parking lots in the vicinity of unfledged chicks for 14 take exposures include the following:

Shorebird Monitors	\$49,600
Silt fence for barrier	\$1,000
Signage	\$200
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Subtotal	\$50,800
Contingency (5%)	\$2,540
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Total	\$53,340

This budget includes funds for up to 30 rolls of 100ft silt fence and 20 sign blanks that the DPW sign shop will use to make additional signs that may be needed if the covered activity is implemented for the maximum number of take exposures. Materials purchased for implementation during previous seasons will be reused when possible. The normal operating budget for implementing the Long Beach Management Plan includes funds for seasonal staff consisting of 2 Natural Resources Officers, 4 Natural Resources Technicians and 12 Natural Resources Assistants.

The core Natural Resources staff can implement this covered activity for 1-4 take exposures, depending on if the Crossover is open. The funds shown above are needed to hire 10 seasonal staff members for 8 weeks to implement this covered activity for the additional 11 take exposures. Alternately, the funds could be used to hire fewer staff for a longer period if the implementation periods for each take exposure are staggered.

As described above in Section 8.2.1, with the budgeted staffing level, monitoring has exceeded the requirements of implementing both the covered activity and EIM, so additional staff is not needed.

The FY26 budget shown in Table 9-1 and the FY27 budget shown in Table 9-2 are sufficient to fully fund use of roads and parking lots for up to 14 take exposures.

The estimated costs to fully implement OSV use in the vicinity of 1 brood of unfledged plover chicks include the following:

Shorebird & Compliance Monitors	\$30,080
Signage	\$200
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Subtotal	\$30,280
Contingency (5%)	\$1,514
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Total	\$31,794

Fully implementing this activity would require 6 full-time seasonal staff to fulfill the roles of shorebird and compliance monitors as well as funding for signage to delineate the escort corridor. This covered activity will only be implemented if road and parking lot use is implemented for 13 or fewer take exposures, and there is sufficient funding left to implement OSV use. If funds are limited, the Town may implement this covered activity only on weekends, so costs would be lower. The anticipated costs for partial implementation would be as follows:

Shorebird & Compliance Monitors	\$8,096
Signage	\$200
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Subtotal	\$8,296
Contingency (5%)	\$415
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Total	\$8,711

Implementation on weekends only would require 4 additional part-time seasonal staff (or equivalent) as well as signage.

The estimated cost for mitigation for the 2026 season is \$14,455. This work will be funded through the HCP Implementation Costs line items shown in Table 9-1 and Table 9-2. See the Mitigation Plan for more information on mitigation for these covered activities.

## MITIGATION PLAN

### Section 1 – Proposed Mitigation Activities

To fulfill the mitigation requirements of the proposed activities, the Town of Plymouth proposes to conduct on-site selective predator management with the goal of effectively reducing avian and mammalian predation for nesting piping plovers, least terns, and other coastal waterbirds nesting at Plymouth Long Beach.

To achieve this goal, the Town will contract with the U.S. Department of Agriculture's Wildlife Services (USDA WS) to conduct avian predator management. To conduct mammalian predator management, the Town will contract with EcoGeek Inc., whose staff includes licensed Problem Animal Control (PAC) agents that are certified for coyotes and experienced working in and around nesting areas of protected coastal waterbirds.

The predators that will be prioritized for management are Eastern coyote, American crow, and common grackle. These species have been observed preying on plover and tern nests and/or chicks consistently over most seasons. Other predator species that may be targeted for management if present and problematic include, but are not limited to, common raven, herring gull, great black-backed gull, red fox, raccoon, striped skunk, mink, Norway rat, and Virginia opossum.

Wildlife conflict resolutions will be sought using an integrated approach. The determination of methods employed will depend on considerations of selectivity, humaneness, human safety, effectiveness, practicability, and cost. Management strategies will be directed toward specific depredating individual animals or local populations by selecting the time, location, technique, and specific application of management methods collaboratively between the Town of Plymouth's Department of Energy and Environment (DEE) staff and the contracted wildlife damage experts.

The basic operational methods that may be used for managing avian and mammalian predation will include and be limited to: 1) shooting with weapons and infrared equipment, 2) shooting with shotguns and non-toxic shot, 3) placement and monitoring of live traps followed by euthanasia of target species, 4) using the avicide DRC-1339 in and around areas where depredation has occurred by avian predators, 5) live capture and relocation of depredating raptors, 6) destruction of the nests of predatory gulls, and 7) installation of predator-detering devices, such as electric fencing, and if deemed necessary and appropriate, nest enclosures.

To facilitate timely implementation of appropriate management methods, DEE staff will monitor predator activity and depredations and report to the contractors. Cameras will be installed in key areas to monitor mammalian predator activity.

During night removal visits, 2-5 coyote certified PAC agents will typically arrive around dusk and work until midnight to comply with state regulations. Selective, humane methods will be used, with shooting as the preferred removal technique due to its precision and compliance with humane standards.

USDA-WS will provide grackle trap(s) that DEE staff will monitor and maintain. If needed, DEE staff will deploy and maintain box traps for small mammalian predators.

USDA-WS will set up mock enclosure-trap camera arrays in proximity to nesting areas that will be baited with chicken eggs. The cameras will be used to confirm uptake by target species. If sufficient uptake is observed, USDA-WS will apply a round of DRC-1339 treated eggs. DEE staff will provide daily monitoring of both pre-bait and toxicant eggs and report predator activity and uptake to USDA-WS.

Trapping and relocation of depredating raptors would be conducted by USDA-WS if it is determined to be necessary in consultation with DFW.

DEE staff will survey for nesting activity of large gulls at least weekly and destroy the nests as they are found. The nest will be broken apart, and eggs, if present, will be buried.

DEE staff may install up to two electric fencing arrays to deter mammalian predators. Electric fencing will be installed and adjusted as needed, based on the historical level of predation in certain areas of the beach, level of predation occurring in a given season, and residency and access routes of a specific predator. DEE staff will maintain the electric fencing throughout the season, checking for sand accretion and/or erosion that may allow predator access, and adjusting the perimeter as necessary, to maximize effectiveness.

Because of the increased risk of nest abandonment and adult mortality, predator-deterrent plover nest enclosures are typically used sparingly, however, they can be an important non-lethal method of deterring both avian and mammalian predators. Enclosures may be installed at some nests if deemed necessary and appropriate by the Town's Environmental Technician based on predator activity and nest-specific site characteristics.

Depending on the circumstances at any given time, the use of a particular method may have advantages and disadvantages. Therefore, these methods will be used in various combinations and degrees of intensity depending on local conditions and history of specific damage situations or other circumstances.

All activities will be conducted under applicable permits issued by state and/or federal agencies. The Town holds a U.S. Fish and Wildlife Service (USFWS) Migratory Bird Depredation Permit (Permit Number MB18536C) for the removal of black-crowned night-herons, trapping and relocation of depredating raptors and egg and nest treatment of the herring and great black-backed gull nests. USDA-WS is a sub-permittee of the Town's permit. DEE has requested renewal of this permit for the 2026 season and will continue to request renewal annually.

Based on consultation with USDA-WS and past experience at this site, the budget commitment for 2026 implementation will be \$14,455. After the work plan and budget are approved, selective predator management will be implemented in advance of carrying out the covered activities during that beach season.

## **Section 2 – Benefits for Piping Plovers and Least Terns**

Predator management has been demonstrated to increase productivity at Plymouth Long Beach (see Section 4.3 and Table 4-1). Use of roads and parking lots in the vicinity of unfledged piping plover chicks requires mitigation to benefit 3 breeding pairs for every brood exposed to take. Oversand Vehicle (OSV) Use in Vicinity of Unfledged Piping Plover Chicks requires mitigation to benefit 2.5 breeding pairs for every brood exposed to take. A minimum of 1.5 breeding pairs of least terns must benefit from mitigation activities for every nest exposed to take. As set forth in the HCP, the Town will provide a selective predator management work plan to DFW on an annual basis in order to ensure that mitigation requirements are met.

Selective predator management is expected to benefit approximately 49 pairs of piping plover based on the number of breeding pairs in 2025. An estimated 196 pairs of least terns will benefit based on breeding pairs in 2025. The number of breeding pairs of plovers and terns at Plymouth Long Beach varies each season. The estimated level of benefit from selective predator management is based on the number of breeding pairs present during the previous season, but the actual number of pairs that benefit cannot be determined until after the breeding season. Any deficits in the required predator management will be offset by additional predator management during the following season. A surplus of required predator management may be carried forward into future seasons until one year after the expiration of the COI. A credit of 11 pairs of plovers and 136 pairs of least terns will be carried forward into the first year of the new COI.

## **Section 3 – Mitigation Monitoring Plan**

To assess effectiveness of the mitigation plan, the Town will monitor and report the following to DFW annually: the actual number of plover broods and least tern nests and chicks exposed to covered activities, actual number of breeding pairs of piping plovers and least terns benefitting from selective predator management, piping plover and least tern productivity for the site, causes of nest and/or chick loss, and any mitigation credits or deficits that will be carried over into the following season.

## **Section 4 – Itemization of Costs of Implementation**

The predator management program will be fully funded by the Town of Plymouth for the 2026 season. The estimated total for program activities this season, including administrative costs, is \$14,455.

Funding for the avian portion of the program conducted by USDA-WS, including administrative costs, is up to \$4,455. USDA-WS will conduct applications of DRC-1339 as needed for corvid control throughout the season and facilitate grackle trapping. A general breakdown of these costs is included below. Pooled job costs include administrative costs for USDA-WS at the regional and headquarters level for services such as National Environmental Policy Act compliance and public relations. Indirect costs include administrative costs for the program such as contracting.

Estimated avian predator management implementation costs are shown below:

Personnel Compensation	\$2,109.11
Vehicles	\$501.48
Other Services	\$276.91
Supplies and Materials	\$95.50
Equipment	\$520.74
Subtotal (Direct Costs)	\$3,503.74
Pooled Job Costs	\$385.41
Indirect Costs	\$565.85
<b>Total Estimated Costs</b>	<b>\$4,455.00</b>

The budget for the mammalian portion of the program is up to \$10,000. At this level of funding, EcoGeek, Inc. will provide cameras to monitor predator activity and up to 5 night visits.

Destruction of the nests of predatory gulls will be conducted by DEE staff with guidance from USDA-WS. This work is expected to take 2-3 man-hours every 2 weeks for 6-8 weeks until predatory gulls no longer attempt to nest. This work will be conducted by existing DEE staff, so there will be no additional costs for this work.

## Literature Cited

Melvin, S.M. and J. P. Gibbs. 1996. Viability analysis for the Atlantic Coast population of Piping Plovers. Pages 175-186 In U.S. Fish and Wildlife Service. Piping Plover Atlantic Coast Population Revised Recovery Plan. U.S. Fish and Wildlife Service, Hadley, MA.

## Appendices

A – Town Parcels and Ownership Information

B – Plymouth Long Beach Rules and Regulations pamphlet

C – 2025 Habitat Conservation Plan Monitoring Data Collection

**Appendix A – Town Parcels and Ownership Information**



## Town-Owned Properties on Plymouth Long Beach

See also attached additional parcel information.

Assessor's Parcel ID	Address	Year	Legal Reference
<b>Registered Land</b>			
037A-000-000A-000	Ryder Way	1950	Certificate of Title #2910
037A-000-000B-002	Ryder Way	1950	Certificate of Title #2910
037A-000-000C-000	Ryder Way	1950	Certificate of Title #2910
037A-000-000D-000	Ryder Way	1950	Certificate of Title #2910
037A-000-000E-000	Ryder Way	1950	Certificate of Title #2910
037A-000-000F-000	Ryder Way	1950	Certificate of Title #2910
037A-000-000G-000	Ryder Way	1950	Certificate of Title #2910
037A-000-000J-001	Ryder Way	2013	Certificate of Title #118818
037A-000-000K-000	Ryder Way	1950	Certificate of Title #2910
037A-000-000L-000	Ryder Way	1950	Certificate of Title #2910
037A-000-000O-002	354 Ryder Way	1950	Certificate of Title #2910
037A-000-000O-007	Ryder Way	1950	Certificate of Title #2910
037A-000-000P-000	260 Ryder Way	1950	Certificate of Title #2910
037A-000-000R-000	Ryder Way	1950	Certificate of Title #2910
039-000-010A-001	Warren Ave	1961	Certificate of Title #30786
039-000-010A-002	Warren Ave	1961	Certificate of Title #30967
039-000-010A-003	Warren Ave	1961	Certificate of Title #30785
039-000-010A-004	Warren Ave	1961	Certificate of Title #31062
039-000-010A-005	Warren Ave	1961	Certificate of Title #30655
039-000-010B-000	Plymouth Beach	1962	Certificate of Title #33027
<b>Recorded Land</b>			
037A-000-155-000	312 Ryder Way	2011	Book 40161, page 107
037A-000-156-000	312 Ryder Way	2011	Book 40161, page 107
037A-000-157-000	314 Ryder Way	2013	Book 43742, page 154
037A-000-158A-000	314 Ryder Way	2013	Book 43742, page 154
037A-000-158B-000	316 Ryder Way	2009	Book 37811, page 228
037A-000-159-000	316 Ryder Way	2009	Book 37811, page 228
037A-000-212-000	Ryder Way	2007	Book 35306, page 255
037A-000-213-000	Ryder Way	2007	Book 35306, page 255
037A-000-214-000	Ryder Way	2007	Book 35306, page 255
037A-000-273A-000	Ryder Way	1971	Book 3726, pages 211 & 212
037A-000-278-000	Ryder Way	1984	Book 5784, page 40
037A-000-341B-000	Ryder Way	1997	Book 15146, page 169
037A-000-342-000	Ryder Way	1997	Book 15146, page 169
037A-000-343-000	Ryder Way	1997	Book 15146, page 169
037A-000-344A-000	Ryder Way	1997	Book 15146, page 169
037A-000-353-000	Ryder Way	2013	Plan Book 57, page 971
037A-000-354-000	Ryder Way	2019	Plan Book 63, Page 500
039-000-003-000	130 Warren Ave	1932	Book 646, page 80

## **Additional Information for Town-Owned Properties on Plymouth Long Beach**

### **Registered Land**

The parcels of land identified on the preceding page are both recorded and registered land. The above-referenced registered land parcels owned by the Town of Plymouth are described on the following Certificates of Title, and shown as the lots on the Land Court Plans referenced below:

Certificate of Title No. 2910 – Lots A, C, D, E, F, G, K, L and P shown on Land Court Plan No. 4891C filed with Certificate of Title No. 541; Lot B-2 on Land Court Plan No 4891D filed with Certificate of Title No. 558; and [Assessor's lots 37A-O-2 and 37A-O-7 (formerly portions of Lot O shown on Land Court Plan No. 4891C) together make up] Lot 9 shown on Land Court Plan No. 4891J.

Certificate of Title No. 30786 – Lot 1 shown on Land Court Plan No. 3383C filed with Certificate of Title No. 28127.

Certificate of Title No. 30967 – Lot 2 shown on Land Court Plan No. 3383C filed with Certificate of Title No. 28127.

Certificate of Title No. 30785 – Lot 3 shown on Land Court Plan No. 3383C filed with Certificate of Title No. 28127.

Certificate of Title No. 31062 – Lot 4 shown on Land Court Plan No. 3383C filed with Certificate of Title No. 28127.

Certificate of Title No. 30655 – Lot 5 shown on Land Court Plan No. 3383C filed with Certificate of Title No. 28127.

Certificate of Title No. 33027– Lot A shown as Land Court Plan No. 3383B filed with Certificate of Title No. 3885.

Certificate of Title No. 118818 – Lot 1 shown on Land Court Plan No. 4891F filed with Certificate of Title No. 541.

### **Recorded Land with Plan Book Reference**

Assessor's Lot 37A-353: Lot 353 shown on Plan 13-116 recorded with the Plymouth Registry of Deeds in Plan Book 57, Page 971 consists of the following:

A portion of Lot H that was originally included on Certificate of Title No. 2910 shown on Land Court Plan No. 4819C was withdrawn from registration by Order of the Land Court filed with Plymouth Land Court as Document No. 701131 and recorded with the Plymouth Registry of Deeds in Book 42344, Page 328.

A portion of Lot 4 shown on Land Court Plan No. 4891H that was included in Certificate of Title No. 116776 was withdrawn from registration by Order of the Land Court filed with Plymouth Land

Court as Document No. 701129 and recorded with the Plymouth Registry of Deeds in Book 42344, Page 326.

A portion of Lot 5 (a sub-division of Lot I originally included on Certificate of Title No. 2910) shown on Land Court Plan No. 4891H that was withdrawn from registration by Order of the Land Court filed with Plymouth Land Court as Document No. 701130 and recorded with the Plymouth Registry of Deeds in Book 42344, Page 327.

Lots 291, 292 and 293 shown on the plan entitled "Plan of Plymouth Beach, copied from survey of C.H. Holmes, 1889" recorded in Plan Book 1, Page 106 and also shown on Plan 13-116 recorded in Plan Book 57, Page 971. Deed recorded with the Plymouth Registry of Deeds in Book 9819, Page 172.

A portion of Lot 310 shown on the plan entitled "Plan of Plymouth Beach, copied from survey of C.H. Holmes, 1889" recorded in Plan Book 1, Page 106 and also shown on Plan 13-116 recorded in Plan Book 57, Page 971. Deed recorded with the Plymouth Registry of Deeds in Book 40943, Page 147.

Portions of Lots 311, 312 and 313 shown on the plan entitled "Plan of Plymouth Beach, copied from survey of C.H. Holmes, 1889" recorded in Plan Book 1, Page 106 and also shown on Plan 13-116 recorded in Plan Book 57, Page 971. Deed recorded with the Plymouth Registry of Deeds in Book 35913, Page 261.

Lots 318 and 319 shown on the plan entitled "Plan of Plymouth Beach, copied from survey of C.H. Holmes, 1889" recorded in Plan Book 1, Page 106 and also shown on Plan 13-116 recorded in Plan Book 57, Page 971. Deed recorded with the Plymouth Registry of Deeds in Book 9795, Page 70.

Assessor's Lot 37A-354: Lot 354 shown on Plan 19-171 recorded with the Plymouth Registry of Deeds in Plan Book 63 page 500 consists of the following:

Portions of Lots M and N that were originally included on Certificate of Title No. 2910 shown on Land Court Plan No. 4891C were withdrawn from registration by Order of the Land Court filed with Plymouth Land Court as Document No. 743454 and recorded with Plymouth Registry of Deeds in Book 46772, Page 309.

Parcels C and D shown on Plan 19-171, granted to the Town of Plymouth with deed recorded with the Plymouth Registry of Deeds in Book 51066, Page 338.



## **Appendix B – Plymouth Long Beach Rules and Regulations Pamphlet**



Plymouth Long Beach is a barrier beach approximately three miles in length. It's a dynamic, ever-changing environment that offers storm damage protection and flood control for our harbor, important wildlife habitat, and a multitude of recreational opportunities.

The health and continued existence of the dune system depend on the ability of the beach to stabilize and rebuild dunes after natural erosion events. Beachgrass and other dune plants have fibrous root systems that physically stabilize and help build dunes. These roots are easily damaged by foot and vehicle traffic. Please help protect the dunes by not walking or driving on or over the dunes or fragile vegetated areas.

Seasonally, Plymouth Long Beach is home to a wide variety of shorebirds and other wildlife. Local, state, and federal laws protect the wildlife, its natural habitat, and other wetland resource areas. All other areas are available to the public. However, in some areas, both wildlife and recreational use of Plymouth Long Beach must coexist.

The Plymouth Long Beach Management Plan was developed to balance recreational uses with wildlife habitat needs. The Plan divides the beach into four management zones. Please refer to the map and written description for the activities that are allowed in each zone. Areas that are protected for wildlife, its habitat or for protection of fragile areas are delineated by wire cable, symbolic fencing (indicated by string, stakes, and flagging), and/or signs, and are closed to all recreational activities.

In part, the success or failure of Plymouth Long Beach may in fact depend on our actions, so please respect and adopt the information contained within this pamphlet.

## TOWN OF PLYMOUTH



Department of  
Energy and Environment  
26 Court Street, Plymouth, MA 02360  
(508)747-1620 x10127  
[www.plymouth-ma.gov](http://www.plymouth-ma.gov)

Questions concerning Plymouth Long Beach may be referred to the above office or the offices listed below:

Board of Selectmen	747-1620	x10106
Recreation Division	747-1620	x10137
Conservation Commission	747-1620	x10139
Parks Division	830-4162	x12116

### EMERGENCY PROCEDURES

In the event of an emergency please contact on-site personnel (Plymouth Police, lifeguards, Natural Resources Officers and staff, parking attendants), and contact the appropriate office below.

Police Dept	911
	Non-emergency (508)830-4218
Fire Dept	911
	Non-emergency (508)830-4213
Harbor Master	(508)830-4182, Police Dept, and channel 16 VHF radio

# PLYMOUTH LONG BEACH

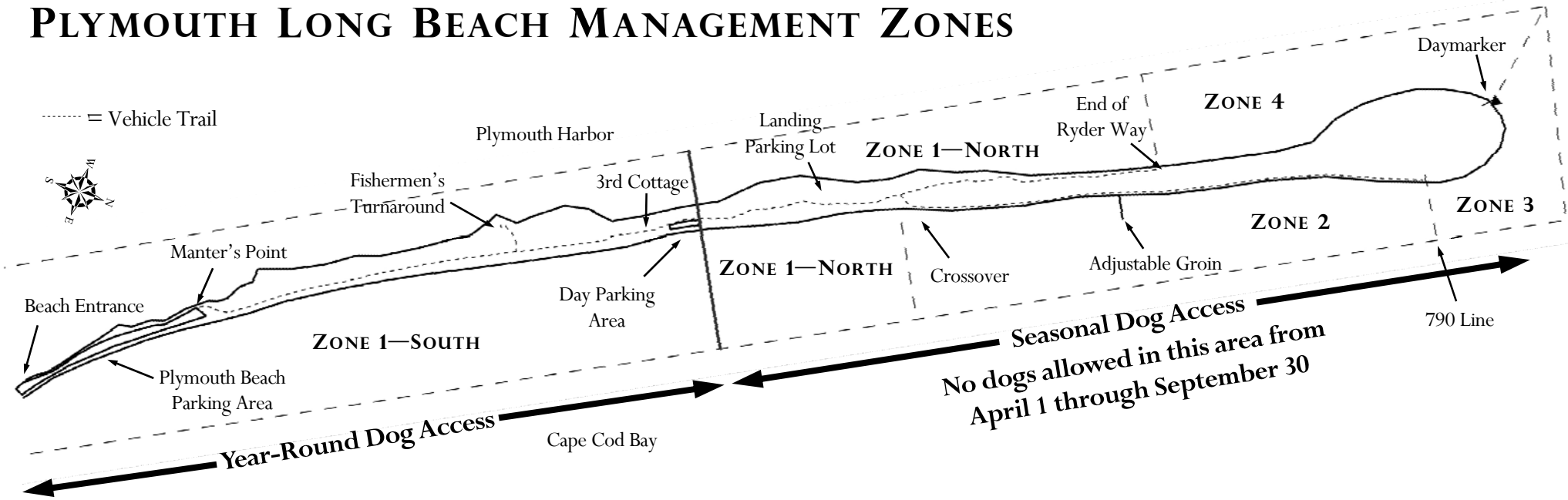
## RULES & REGULATIONS



TOWN OF PLYMOUTH  
Department of  
Energy and Environment

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# PLYMOUTH LONG BEACH MANAGEMENT ZONES



## ZONE 1

**Location:** Southern zone, includes Plymouth Beach Parking Area, Manter's Point northerly to the 4-wheel drive Crossover access point (beachside) and from the Eel River northerly to the end of Ryder Way (harborside).

**Permitted Activities:** All activities allowed as stated under general rules and regulations and Town Bylaws. Parking is permitted only within designated areas. No overnight camping. For purposes of dog management, Zone 1 is divided into two sub-zones. Leashed dogs under control of their owners are allowed year round in Zone 1-South which extends from the Main Parking Area to the Day Parking Area. In Zone 1-North, dogs are banned seasonally from April 1 to September 30.

## ZONE 2

**Location:** Northeastern zone, includes the Crossover northerly to a line approximately 790 feet south of the stone jetty at the northeast end of Long Beach.

**Permitted Activities:** All activities allowed as stated under general rules and regulations and Town Bylaws. A maximum limit of 225 vehicles may be allowed north of Manter's Point at any one-time period, when tidal conditions and shorebird nesting allow. No kite flying or overnight camping within 200 yards of any active Piping Plover or Least Tern nest. Vehicles must travel within the ORV corridor delineated by posts and signs. Travel over the tidal flats is not permitted. Parking is permitted only within designated areas. Keep the travel corridor open at all times for emergency access. Overnight camping allowed by permit only (see camping information inside). Leashed dogs under control of their owners are allowed only from October 1 to March 31.

## ZONE 3

**Location:** Northern zone, includes a line approximately 790 feet south of the stone jetty at the north east end of Long Beach continuing northwest to the navigational Daymarker located at the point.

**Permitted Activities:** All activities allowed as stated un-

der general rules and regulations and Town Bylaws. Closed seasonally (April 1 to Sept 30) to all vehicle traffic. No kite flying during this time period. Pedestrian and boat traffic are allowed into this vehicle-restricted area. No overnight camping allowed. Absolutely no activities are allowed within bird nesting sites. Leashed dogs under control of their owners are allowed only from October 1 to March 31.

## ZONE 4

**Location:** Northwestern zone, includes the navigational Daymarker located at the point south to the northern end of Ryder Way.

**Permitted Activities:** All activities allowed as stated under general rules and regulations and Town Bylaws. Closed to all vehicles year-round. Open to pedestrian and boat traffic. No kite flying during the period of April 1 to Sept 15. No overnight camping allowed. Leashed dogs under control of their owners are allowed only from October 1 to March 31.

# PLYMOUTH LONG BEACH RULES & REGULATIONS

## GENERAL INFORMATION

The Crossover gate is open 9am to 7pm seasonally. Ryder Way closes to vehicles at 9pm, except for authorized vehicles.

Lifeguards are not available beyond the Plymouth Beach area. There are no bathroom facilities on Long Beach except the bath house at Plymouth Beach.

Vehicle access to Long Beach may be restricted during times of above average and extreme high tides and shorebird closures or when vehicle limits have been reached as well as any unforeseen emergency. An average high tide is 9.5 feet. In general, tides 10.5 feet in height or more can be considered extreme. Please refer to a tide calendar to identify extreme high tides. Daily vehicle limits are updated on the Department of Marine & Environmental Affairs page (DMEA) at [www.plymouth-ma.gov](http://www.plymouth-ma.gov).

## DRIVING AND SAFETY TIPS

Check to make sure your vehicle is in 4-wheel drive before entering soft sand. If you have trouble operating your 4x4 in the soft sand, try reducing tire air pressure, which can usually be lowered to 15-25 psi safely. This allows the tires to “float” on the sand as opposed to plowing through it. Your ground clearance may be lower as a result of “airing down”. Fill tires to normal tire pressure shortly after leaving the beach.

Please drive as far to the right as possible in those areas where on-coming vehicles can pass beside you. In those areas where only one vehicle can pass, those vehicles leaving the beach have the right of way.

When driving on the beach north of the Crossover stay in the well-defined travel corridor at all times.

When driving in the soft sand, keep vehicle speed to 10 mph or less and use a lower gear. Driving fast only increases chances of getting stuck or losing control of your vehicle. In soft sand, keep your front tires as straight as possible to reduce the “plowing effect”.

Recommended equipment: a good jack, 18”x18”x3/4”

If a Sticker-holder, or their guest, violates the Beach Management Plan more than two times in a calendar year, the DMEA Director, or his designee, shall revoke the sticker for the remainder of the calendar year.

The DMEA Director, and/or his designee, may, in their discretion, immediately suspend or revoke a Beach Sticker for violation(s) of the Management Plan that threaten the health or safety of persons, property, or wildlife.

1. All vehicles using Plymouth Long Beach must display the proper sticker. No admittance to the beach areas will be allowed without it.
2. Many species of plants and wildlife are found in dune areas where vegetation plays a vital role in stabilizing the dunes from natural erosion. Therefore, all people, as well as their animals and vehicles, including bicycles, must stay out of every dune, vegetated and fenced-off area.
3. Driving of all 4-wheel drive vehicles must be confined to the designated travel corridor. Driving is not permitted on dunes or tidal flats per the MA Department of Environmental Protection.
4. All vehicles must drive with respect for the safety of others. The 10 mph speed limit is strictly enforced.
5. Respect for personal property is required on Plymouth Long Beach. Do not park on private property (both the beach and harbor sides).
6. Extend the right of way on the outer beach at all times. Vehicles leaving the beach have the right of way where 2-way traffic is impossible. Stay in the travel corridor while allowing vehicles to pass.
7. Rubbish barrels are provided in the main parking area for the proper disposal of all litter. Burying of rubbish is prohibited.
8. Keep noise from radios and amplifiers to a minimum.
9. The removal of sand, rocks, vegetation and fence-

Manter’s Point shall be four-wheel-drive vehicles.

10. Overnight camping is prohibited without a permit issued by the DMEA, based on policies approved by the Board of Selectmen, and shall be restricted to Plymouth residents and taxpayers and their guests.
11. Glass containers of any kind are prohibited.
12. Cooking fires contained in grills are permitted, based on policies approved by the Board of Selectmen. Coal hibachis and/or grills are prohibited.
13. No open fires will be allowed without permits from both DMEA and Plymouth Fire Department.
14. All persons using public beaches do so at their own risk.
15. The operator of a stuck vehicle is responsible for filling in ruts and holes caused by said vehicle and for removing all related debris.
16. Riding on fenders, tailgate, roof or any other unenclosed exterior portion of any vehicle is prohibited.
17. Limitations may be placed by the DMEA Director, the Police Chief or the Environmental Technician and their designees on the number of vehicles allowed on any beach at any one time or on the location of allowed parking.
18. Parked vehicles shall keep the pedestrian and vehicular rights-of-way open at all times.
19. No hunting or firearms are allowed within any beach except for properly licensed hunters during the migratory waterfowl open hunting season.
20. Town beaches are open from dawn to dusk. Except for private property owners on Plymouth Beach, their guests, or fishermen who are residents or taxpayers of Plymouth or overnight campers with the required permit, Plymouth Beach and its parking lot shall be closed to all vehicles between the hours of 9:00pm and 4:00 am.
21. No person shall block any road or any pedestrian or vehicular trail by means of sporting equip-

piece of plywood (to place under jack), shovel, tow strap or chain, and any other item that will assist in freeing a stuck vehicle.

## **DOGS**

A partial seasonal dog ban is in effect. Dogs are banned from Town properties located north of the Day Parking Area (Zones 1—North, 2,3 and 4) from April 1 through September 30. Leashed dogs under control of their owners are allowed in Zone 1—South year round on the beach, road, and harborside.

## **KITES**

Kites, including for kiteboarding, are not allowed within 200 yards of active Piping Plover or Least Tern nests, so only limited areas may be open for kite flying during certain periods of the summer. The Natural Resources staff can direct you to areas where kites may be flown.

## **DRONES**

Drones and other Unmanned Aircraft Systems (UAS) are subject to the kite regulations above, and are subject to the same fines. In accordance with Academy of Model Aeronautics safety practices, drones should not be flown within 25 feet of people, vehicles, buildings, animals, or infrastructure, and should be kept within eyesight distance at all times. Please contact the DMEA office to ensure compliance with the Endangered Species Act.

## **CAMPING**

Camping is allowed during a 6 night period each season. Camping dates are affected by shorebird nesting activity and are not determined until early to mid-July. Permits are issued for a 2 night period and are awarded by lottery. For more information on camping and how and when to apply, go to the DMEA page at [www.plymouth-ma.gov](http://www.plymouth-ma.gov).

## **MANAGEMENT PLAN REGULATIONS**

Plymouth Long Beach Management Plan Violations:

Fine Schedule: First violation: Warning  
Second violation: \$50  
Third violation: \$100

ing, as well as damage to any Long Beach property, is prohibited.

10. Over the Crossover, vehicles may park only on Town property in areas designated by green flagging tape on the symbolic twine fencing. Red flagging marks areas where parking is not allowed.
11. Parking along Ryder Way is permitted only in areas designated by parking signs.

## **BYLAWS FOR LONG BEACH**

From Chapter 30: Beaches & Parks:

1. Only taxpayers and residents of Plymouth and their guests with proper beach stickers shall be allowed with vehicles on Plymouth Beach north of Manter's Point.
2. No motorcycles, minibikes, minicars, or all-terrain vehicles shall be allowed. No horses shall be allowed between Memorial Day and Labor Day.
3. All domestic animals shall be under control at all times. Dogs are to be leashed and their waste removed in accordance with Ch. 23, Sect. 4 & 14.
4. Walking or driving is restricted to designated trails and roads only. No person shall walk, drive any vehicle or ride a horse on the sand dunes or grassy areas or over any other type of vegetation.
5. Dumping (the deposit or leaving of household or commercial trash) is prohibited. Littering (the leaving of all other trash except in designated Town receptacles) is also prohibited.
6. No vehicle shall be allowed to pass on the east side of Plymouth Beach south of the Crossover between Memorial Day and Labor Day, except in the case of an emergency or the established rights of Plymouth fishermen.
7. No vehicles, other than those owned by the property owner, shall be parked on private property on any Plymouth Beach or parked without the written consent of that property owner.
8. No vehicle shall exceed a speed of 10 miles per hour while driving on any portion of the beach.
9. All vehicles driven on Plymouth Beach north of

ment/games, four-wheel-drive vehicles, campers or other vehicles, or tents which would impede the normal flow of beach traffic.

22. Violations shall be subject to the following penalties: first offense \$25, second offense \$50, third & subsequent \$100. Violations of 30-4 or 30-8: first offense \$100, second & subsequent within 12 month period \$100 and sticker suspended for one year. Violations of 30-5: Littering \$50, Dumping first offense \$100, subsequent offenses \$500

## **OTHER PERTINENT BYLAWS**

- No dogs shall be permitted in any street or public place unless it is accompanied by an owner, keeper or other responsible person and effectively restrained by a chain or leash not exceeding six feet in length, 24 hours per day. Penalties: first offense - \$25, second offense - \$50, succeeding - \$75. (Ch.23, Sect.4 – Leash Required)
- It shall be the duty of each person who owns, possesses or controls a dog to remove and dispose of any feces left by his/her dog on any sidewalk, street, park or other public area. Penalty: \$50 for each occurrence (Ch.23, Sect.14 – Canine Waste Removal)
- No person shall drink any alcoholic beverages while in or upon any public way or any way to which the public has a right of access. Penalty: \$50 each offense. (Ch.18, Sect.1 – Alcoholic Beverages)
- Any person who causes unnecessary noise by singing, yelling, playing of musical instruments, playing of radios, etc. that is plainly audible at a distance of 150 ft is in violation of this Bylaw. Penalty: \$50. (Ch.120, Sect.1&2 – Noise)
- The established rights of fishermen protect their gear from destruction, injury and theft, including gear washed up on any public or private beach or shore after a storm. Please respect fishermen's rights by not removing any lobster pots, line or buoys at any time. (MGL, Ch.130, Sect.31&32).

## Appendix C – 2025 Habitat Conservation Plan Monitoring Datasheets

- Daily Piping Plover Chick Monitoring – Survey123 Screenshots
- Least Tern Chick Monitoring Datasheet & Chick Aging Key
- Least Tern Twice Weekly Nest Count
- Barrier Fence Installation Log
- Barrier Fence Inspections Logs
- Night Fishing Access Log
- Weekly Summary Report Worksheet for Piping Plovers
- Weekly Summary Report Worksheet for Least Terns



## Daily Plover Chick Monitoring for Covered Activities

Daily nest checks were recorded using NestStory as shown in Appendix A. Additional monitoring required to implement covered activities, including brood locations and crossing incidents, were recorded using ArcGIS Survey123. The survey used to collect brood location data is shown in a, b, c, and d below. Road approaches and crossings were recorded in a separate survey shown in e, f, g, and h.

### 2025 PLB – HCP Brood Monitoring Survey

a)

2025 PLB - HCP Brood Monitoring Survey

Observer Name \*

Date \*

Start Time \*  
Survey until you find all of the chicks, or for up to 20 minutes, whichever occurs first.

Brood ID \*

- 1A (Lot O - South of Rosebush)
- 14A (South of Fishermen's Turnaround)
- 14B (South of Fishermen's Turnaround)
- 21A (Osprey Pole 1)
- 20B (Mistress by the Sea)
- 24A (Lot O - Osprey Pole 2)
- 25A (Northwest of Day Parking)
- 38A (Fishermen's Turnaround)
- 40A (North of Bramhall's)
- 44A (Lot O - South End)

Number of Chicks Observed \*

b)

2025 PLB - HCP Brood Monitoring Survey

Number of Chicks Observed \*

Adult Plovers Observed \*

Brood Location - MOVE THE MARKER ON THE MAP TO RECORD THE BROOD LOCATION, NOT YOUR LOCATION! \*

Behaviors Observed \*

c)

2025 PLB - HCP Brood Monitoring Survey

Did Chicks Enter the Road or Approach within 50ft? \*

Were the Chicks Observed in Flight? \*

Report Chick Losses

Comments \*

d)

Brood Location - MOVE THE MARKER ON THE MAP TO RECORD THE BROOD LOCATION, NOT YOUR LOCATION! \*

41°57'51.671"N 70°38'29.893"W

## 2025 HCP Brood Road Approach/Crossing Survey

e)

ArcGIS Survey123  
HCP Brood Road Approach/Crossing 2025

Observer Name \*

Date \*

Thursday, September 25, 2025

Start Time of Road Approach/Crossing \*  
Time chicks approached within 50ft or crossed the road.

Time

End Time of Road Approach/Crossing \*  
Time chicks exited the road or moved at least 50ft from the road.

Time

Brood ID \*

- 1A (Lot O - South of Rosebush)
- 14A (South of Fishermen's Turnaround)
- 14B (South of Fishermen's Turnaround)
- 20B (Mistress by the Sea)
- 21A (Osprey Pole 1)
- 24A (Lot O - Osprey Pole 2)
- 25A (Northwest of Day Parking)
- 38A (Fishermen's Turnaround)
- 40A (North of Bramhall's)

f)

ArcGIS Survey123  
HCP Brood Road Approach/Crossing 2025

Details of Road Incident (Road Approach/Crossing) \*

Chick(s) approached within 50ft of road but did not cross

Chick(s) crossed road from east to west

Chick(s) crossed road from west to east

Chick(s) entered road from east but returned to east side without crossing

Chick(s) entered road from west but returned to west side without crossing

Number of Chicks that Approached or Crossed the Road

1 2 3 4

Was Herding Implemented? (Allowed Only Near Parking Lots) \*

Yes

No

Number of Northbound Vehicles Stopped \*

Number of Southbound Vehicles Stopped \*

Additional Staff Needed to Manage Road Approach/Crossing \*

g)

ArcGIS Survey123  
HCP Brood Road Approach/Crossing 2025

Number of Southbound Vehicles Stopped \*

Additional Staff Needed to Manage Road Approach/Crossing \*

Road Approach/Crossing Comments

Road Approach/Crossing Location \*  
Location the chick(s) crossed the road or location of closest approach to the road.

Photos  
Upload photos of anything noteworthy - dead chick found, predator activity, etc.

h)

ArcGIS Survey123

Road Approach/Crossing Location

Location the chick(s) crossed the road or location of closest approach to the road.

Search location or map coordinate

41°57'45.892"N 70°38'23.367"W

**2025 Lot O Least Tern Sub-colony  
Chick Monitoring Datasheet**

Date	Time Begin	Time End	Page 1 of 2
Observer		Weather	
Chick ID	Age	Chick ID	Age
1		9	
2		10	
3		11	
4		12	
5		13	
6		14	
7		15	
8		16	

**Circled A = Adult sitting (suspect nest)**

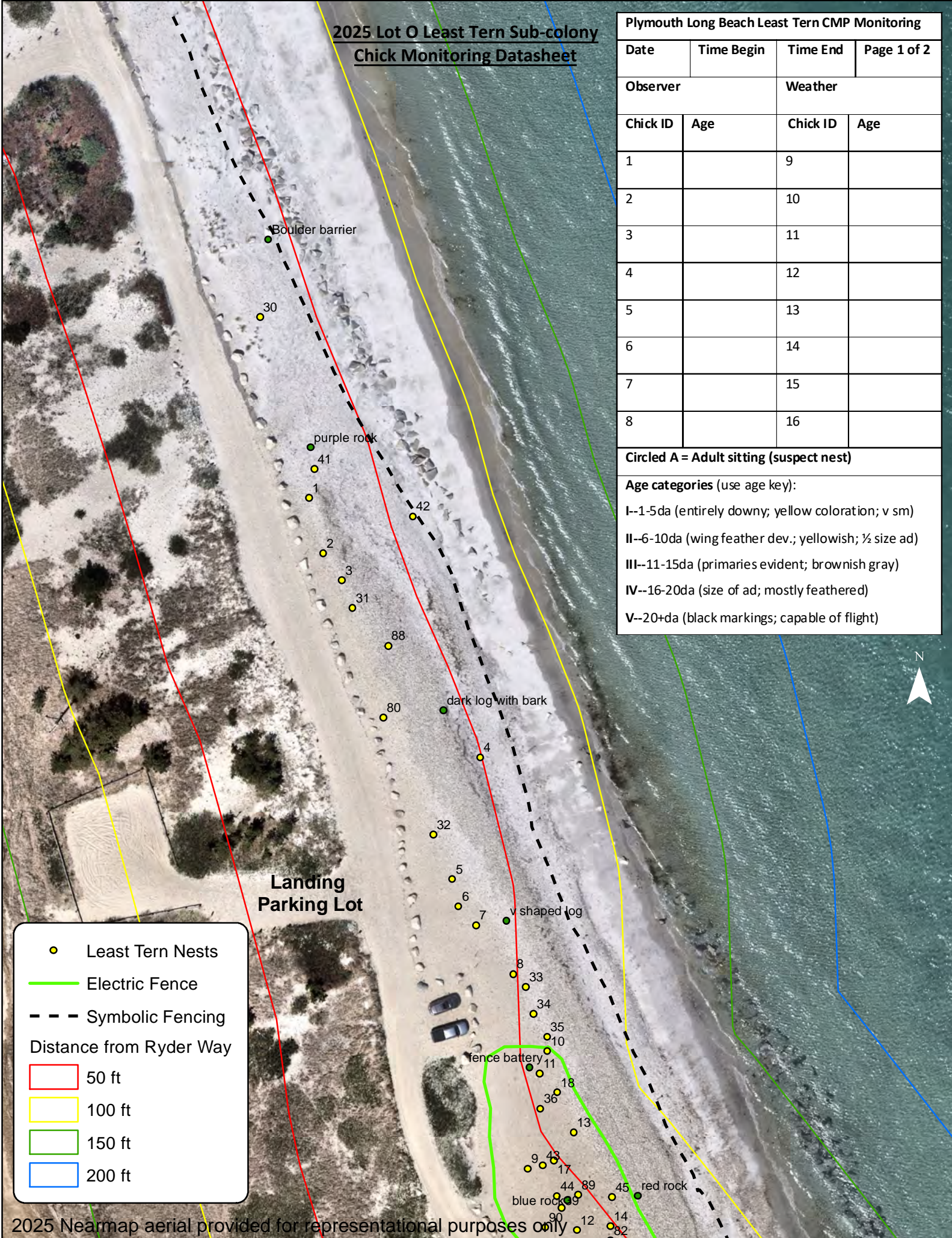
**Age categories (use age key):**  
 I--1-5da (entirely downy; yellow coloration; v sm)  
 II--6-10da (wing feather dev.; yellowish; ½ size ad)  
 III--11-15da (primaries evident; brownish gray)  
 IV--16-20da (size of ad; mostly feathered)  
 V--20+da (black markings; capable of flight)



- Least Tern Nests
- Electric Fence
- Symbolic Fencing

Distance from Ryder Way

- 50 ft
- 100 ft
- 150 ft
- 200 ft



## 2025 Lot O Least Tern Sub-colony Chick Monitoring Datasheet

Date	Time Begin	Time End	Page 2 of 2
Observer		Weather	
Chick ID	Age	Chick ID	Age
1		9	
2		10	
3		11	
4		12	
5		13	
6		14	
7		15	
8		16	

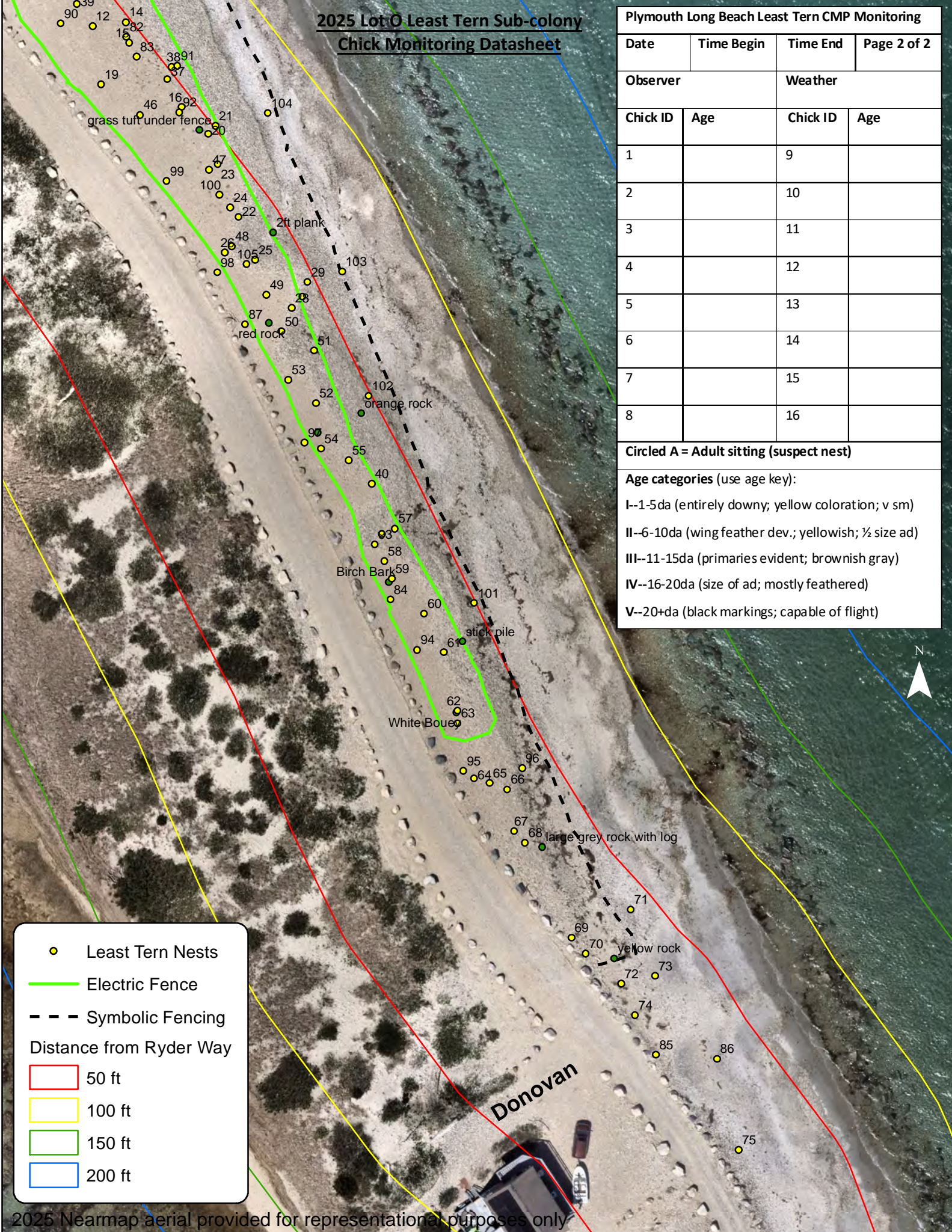
**Circled A = Adult sitting (suspect nest)**

**Age categories (use age key):**  
 I--1-5da (entirely downy; yellow coloration; v sm)  
 II--6-10da (wing feather dev.; yellowish; ½ size ad)  
 III--11-15da (primaries evident; brownish gray)  
 IV--16-20da (size of ad; mostly feathered)  
 V--20+da (black markings; capable of flight)

- Least Tern Nests
- Electric Fence
- - - Symbolic Fencing

Distance from Ryder Way

- 50 ft
- 100 ft
- 150 ft
- 200 ft



**2025 Day Parking/Southern Lot O Least Tern**

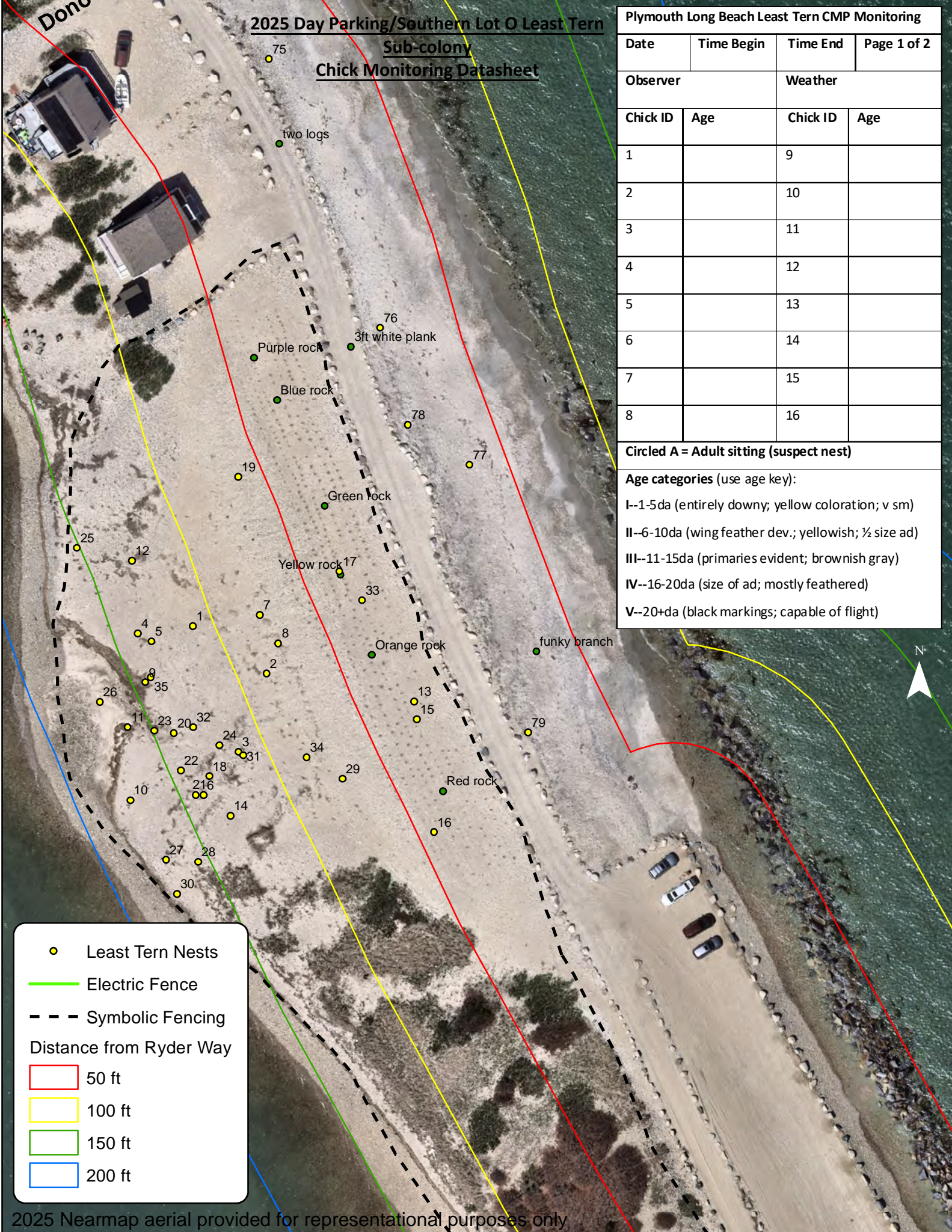
**Sub-colony  
Chick Monitoring Datasheet**

Date	Time Begin	Time End	Page 1 of 2
Observer		Weather	
Chick ID	Age	Chick ID	Age
1		9	
2		10	
3		11	
4		12	
5		13	
6		14	
7		15	
8		16	

**Circled A = Adult sitting (suspect nest)**

**Age categories (use age key):**

- I--1-5da (entirely downy; yellow coloration; v sm)
- II--6-10da (wing feather dev.; yellowish; ½ size ad)
- III--11-15da (primaries evident; brownish gray)
- IV--16-20da (size of ad; mostly feathered)
- V--20+da (black markings; capable of flight)



- Least Tern Nests
- Electric Fence
- Symbolic Fencing
- Distance from Ryder Way
- 50 ft
- 100 ft
- 150 ft
- 200 ft

**2025 Day Parking/Southern Lot O Least Tern  
Sub-colony  
Chick Monitoring Datasheet**

Date	Time Begin	Time End	Page 2 of 2
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Observer		Weather	
----------	--	---------	--

Chick ID	Age	Chick ID	Age
1		9	
2		10	
3		11	
4		12	
5		13	
6		14	
7		15	
8		16	

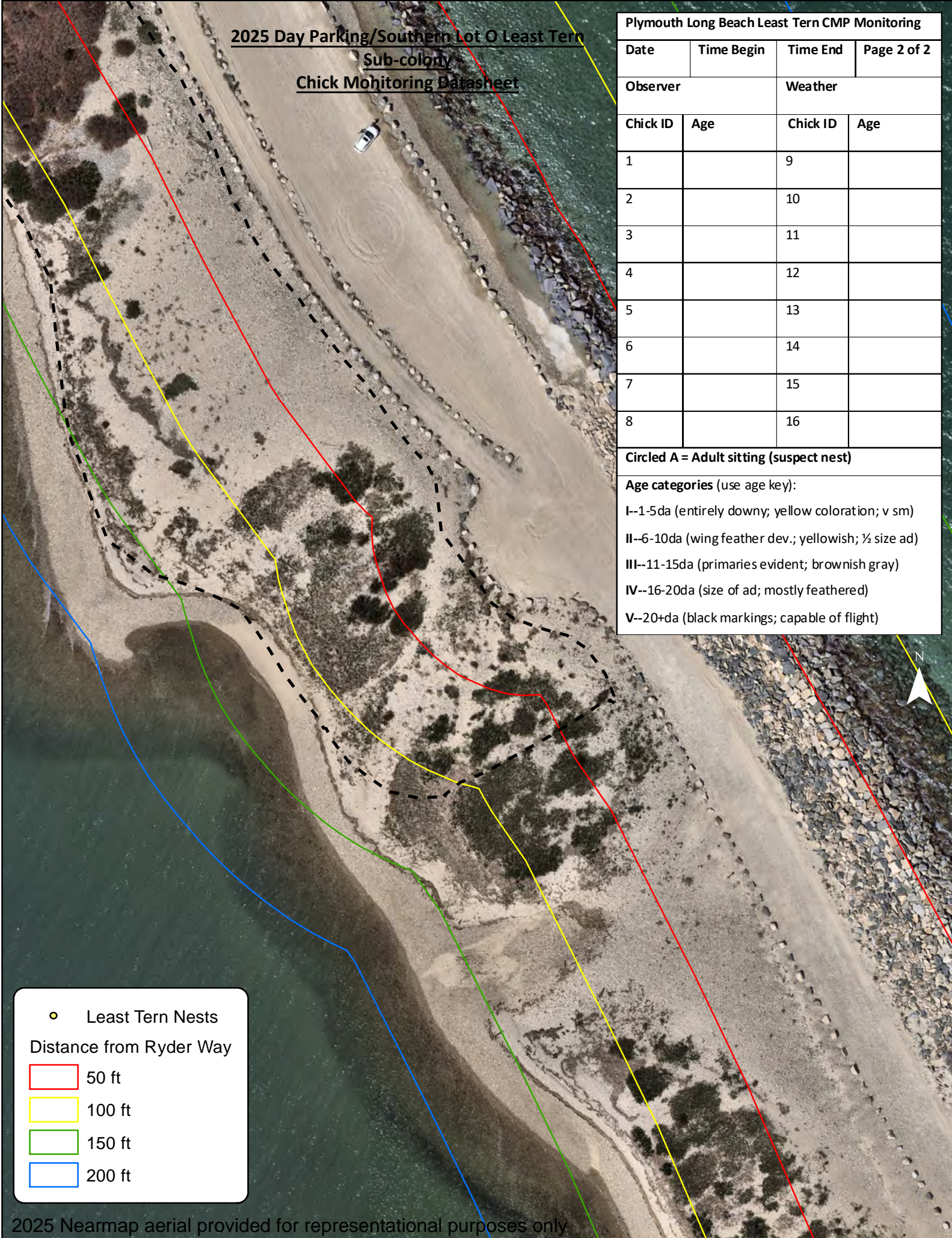
**Circled A = Adult sitting (suspect nest)**

**Age categories (use age key):**  
 I--1-5da (entirely downy; yellow coloration; v sm)  
 II--6-10da (wing feather dev.; yellowish; ½ size ad)  
 III--11-15da (primaries evident; brownish gray)  
 IV--16-20da (size of ad; mostly feathered)  
 V--20+da (black markings; capable of flight)

○ Least Tern Nests

Distance from Ryder Way

- 50 ft
- 100 ft
- 150 ft
- 200 ft



**2025 Fishermen's Turnaround Least Tern Sub-colony Chick Monitoring Datasheet**

**Plymouth Long Beach Least Tern CMP Monitoring**

Date	Time Begin	Time End	Check #
Observer		Weather	
Chick ID	Age	Chick ID	Age
1		9	
2		10	
3		11	
4		12	
5		13	
6		14	
7		15	
8		16	

**Circled A = Adult sitting (suspect nest)**

**Age categories (use age key):**  
 I--1-5da (entirely downy; yellow coloration; v sm)  
 II--6-10da (wing feather dev.; yellowish; ½ size ad)  
 III--11-15da (primaries evident; brownish gray)  
 IV--16-20da (size of ad; mostly feathered)  
 V--20+da (black markings; capable of flight)



● Piping Plover Nests  
 Distance from Ryder Way  
 50 ft  
 100 ft  
 150 ft  
 200 ft



# Least Tern Aging Key

Reformatted from key developed by MA Audubon

## Age Class 1-5 days



About 2 Days Old

Tern chicks in Age Class 1-5 Days are distinguished by:

- A. entirely downy
- B. yellow coloration with brown spots
- C. often will be found in or near the nest bowl
- D. quite small in size compared to other ages and will be more difficult to find

## Age Class 6-10 days



About 9 Days Old

Tern chicks in Age Class 6-10 Days are distinguished by:

- A. coloration is still yellowish with brown mottles
- B. feather development seen on the wings
- C. at age 10 days, chick is about 1/2 the size of an adult
- D. will be spending more time in vegetation

## Age Class 11-15 days



About 11 Days Old

Tern chicks in Age Class 11-15 Days are distinguished by:

- A. coloration on the top will change from yellow to brownish-gray mottle
- B. primaries continue to develop & elongate
- C. at age 15 days, chick is about 2/3 the size of an adult
- D. majority of time will be spent in vegetation hiding
- E. when running, will resemble a bowling pin, head will be erect

# Least Tern Aging Key

Reformatted from key developed by MA Audubon

## Age Class 16-20 days



About 18 Days Old

Tern chicks in Age Class 16-20 Days are distinguished by:

- A. similar in size and shape to adult, but a bit smaller and not fully feathered
- B. will be more visible and will spend more time near shoreline
- C. cannot fly

## Age Class 21+ days - Fledged



Fledged tern chicks are distinguished by:

- A. similar in size and shape to an adult
- B. forehead and top of head brownish gray
- C. black markings around eyes and the back of the head
- D. capable of sustained flight
- E. may still be fed by an adult











**Plymouth Long Beach - Least Tern Conservation & Management Permit  
Night Fishing Access Log**

**LIMIT - 5 vehicles/night**

**NIGHT = Road Close to Open (Not Per Date)**

Date \_\_\_\_\_

	Lot O	Day Parking	Fishermen's T.
Number of chicks within 100ft of end of fence:			
Approx distance of nearest chick to end of fence:			

	License Plate	Sticker #	Time On	Time Off	Make	Color
1						
2						
3						
4						
5						

Date \_\_\_\_\_

	Lot O	Day Parking	Fishermen's T.
Number of chicks within 100ft of end of fence:			
Approx distance of nearest chick to end of fence:			

	License Plate	Sticker #	Time On	Time Off	Make	Color
1						
2						
3						
4						
5						

Date \_\_\_\_\_

	Lot O	Day Parking	Fishermen's T.
Number of chicks within 100ft of end of fence:			
Approx distance of nearest chick to end of fence:			

	License Plate	Sticker #	Time On	Time Off	Make	Color
1						
2						
3						
4						
5						



**Plymouth Long Beach HCP - Weekly Summary Report Worksheet**

Date: \_\_\_\_\_ to \_\_\_\_\_

No. Broods Affected: \_\_\_\_\_ Chicks Affected: \_\_\_\_\_ Specific Broods: \_\_\_\_\_  
 No. EIM Broods: \_\_\_\_\_ EIM Chicks: \_\_\_\_\_ EIM Broods: \_\_\_\_\_

**Vehicle Travel:**

Manter's Pt (roundtrip)							
Crossover (roundtrip)							

**Total Length of Barrier Fence:** \_\_\_\_\_ **Broods Affected:** \_\_\_\_\_

Summary of Changes: \_\_\_\_\_

**Daily observations of plover chicks for Brood \_\_\_\_\_:**

Number of Chicks							

Unfledged chicks crossing or within 50 ft of the road in an area without a barrier:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Injuries, mortalities or other issues w/ implementation of the HCP or violations of Guidelines:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Daily observations of plover chicks for Brood \_\_\_\_\_:**

Number of Chicks							

Unfledged chicks crossing or within 50 ft of the road in an area without a barrier:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Injuries, mortalities or other issues w/ implementation of the HCP or violations of Guidelines:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Daily observations of plover chicks for Brood \_\_\_\_\_:**

Number of Chicks							

Unfledged chicks crossing or within 50 ft of the road in an area without a barrier:

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Injuries, mortalities or other issues w/ implementation of the HCP or violations of Guidelines:

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**Daily observations of plover chicks for Brood \_\_\_\_\_:**

Number of Chicks							

Unfledged chicks crossing or within 50 ft of the road in an area without a barrier:

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Injuries, mortalities or other issues w/ implementation of the HCP or violations of Guidelines:

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**Additional information:**

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**Plymouth Long Beach HCP - Weekly Summary Report Worksheet - Least Terns**

Date: \_\_\_\_\_ to \_\_\_\_\_

No. Broods Affected: \_\_\_\_\_ No. Chicks Affected: \_\_\_\_\_

**Vehicle Travel:**

Manter's Pt (roundtrip)							
Crossover (roundtrip)							

**Night Fishing Access:**

Chicks within 100ft of end of fence							
Closest chick to end of fence							
Vehicles of Fishermen							

**Total Length of Barrier Fence:** \_\_\_\_\_ **Sub-colony Affected:** \_\_\_\_\_

Summary of Changes: \_\_\_\_\_

**Daily observations of least tern chicks for Sub-colony \_\_\_\_\_:**

I -- 1-5 days							
II -- 6-10 days							
III -- 11-15 days							
IV -- 16-20 days							
V -- 21+ days							
Unknown age							
Total							

Unfledged chicks crossing or within 50 ft of the road in an area without a barrier:

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Injuries, mortalities or other issues w/ implementation of the HCP or violations of Guidelines:

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**Daily observations of least tern chicks for Sub-colony \_\_\_\_\_:**

I -- 1-5 days							
II -- 6-10 days							
III -- 11-15 days							
IV -- 16-20 days							
V -- 21+ days							
Unknown age							
Total							

Unfledged chicks crossing or within 50 ft of the road in an area without a barrier:

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Injuries, mortalities or other issues w/ implementation of the HCP or violations of Guidelines:

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**Additional information:**

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