

Town of Orleans Over-Sand Vehicle Access Habitat Conservation Plan

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Table of Contents

I.	Introduction.....	1
II.	Purpose and Need	2
III.	Regulatory Context	3
IV.	Current OSV Management.....	9
V.	Covered Lands – ITP Permit Area.....	10
VI.	Covered Activities	11
VII.	Covered Species.....	12
VIII.	Biological Goals and Objectives	12
IX.	Proposed OSV Program.....	13
X.	Analysis of Impacts.....	20
XI.	Mitigation Measures	23
XII.	Monitoring and Reporting	27
XIII.	Changed Circumstances	28
XIV.	Unforeseen Circumstances.....	29
XV.	Funding Assurances.....	30
XVI.	Alternatives to Taking	31
XVII.	Permit Amendment.....	31
XVIII.	Permit Renewal	34
XIX.	Literature Cited	35

Appendices

Appendix

1. Nauset Beach South ORV Map
2. MADFW Conservation & Management Permit (July 15, 2014)
3. Nauset Beach South ORV Management Plan: Order of Conditions (SE 542246) (July 23, 2014)
4. Beach Related Revenue Summary 2003 - 2013
5. 2013 Massachusetts Piping Plover Census Forms
6. Orleans Historical Commission re: Environmental Review (April 3, 2014)
7. MEPA Certificate
8. Orleans Conservation Commission's Order of Conditions (SE 54723) of January 14, 1991
9. Nauset Barrier System (Aerial photographic map)
10. Variable Escort Route Map
11. 1998 Summary of Piping Plover and Other Shorebird Breeding Success
12. 1999 Summary of Piping Plover and Other Shorebird Breeding Success
13. 2000 Summary of Piping Plover and Other Shorebird Breeding Success
14. 2001 Summary of Piping Plover and Other Shorebird Breeding Success
15. 2002 Summary of Piping Plover and Other Shorebird Breeding Success
16. Summary of the 2003 Piping Plover and Waterbird Nesting season for Nauset Beach
17. Summary of the 2004 Piping Plover and Waterbird Nesting season for Nauset Beach
18. 2005 Summary of Piping Plover and Other Shorebird Breeding Success
19. Summary of the 2006 Piping Plover and Waterbird Nesting season for Nauset Beach
20. 2007 Massachusetts Piping Plover Census Forms
21. 2008 Summary of Piping Plover and Other Shorebird Breeding Success
22. 2009 Massachusetts Piping Plover Census Forms
23. 2010 Massachusetts Piping Plover Census Forms
24. 2011 Massachusetts Piping Plover Census Forms
25. 2012 Massachusetts Piping Plover Census Forms
26. Orleans/MADFW Offsite Mitigation Memo
27. Escrow Agreement
28. USFWS Piping Plover Atlantic Coast Population Recovery Plan (1996)

I. Introduction

Orleans is one of a number of Atlantic Ocean beachfront towns in the Commonwealth of Massachusetts whose beaches provide breeding habitat for state and federally protected shorebirds as well as recreational opportunities for residents and visitors. As such, the Town of Orleans is responsible for managing and permitting certain activities on these beaches in accordance with state and federal regulations and in the context of recreational use and natural resource protection. The Town of Orleans Over-Sand Vehicle Access Habitat Conservation Plan (HCP) will address management flexibility on “Nauset Beach South”, a section of beach approximately 3.5 miles starting at the Nauset Beach Parking Lot in Orleans and extending south to the Chatham town line (Appendix 1). Although for many years, annual piping plover census reports (Appendices 5 & 11-25) submitted to the Massachusetts Division of Fisheries and Wildlife (MADFW) have referred to this beach as “North Beach”, in order to be consistent with other formal documents and unless otherwise noted, the HCP will use the name “Nauset Beach South” to identify this beach.

In 1986, the Atlantic Coast Piping Plover (*Charadrius melodus*) was listed as a threatened species under the Endangered Species Act of 1973, as amended (ESA). The listing was due to interrelated threats such as loss of habitat, predators, and human disturbance. The Town of Orleans has a long history of managing Nauset Beach South with guidance from the Massachusetts Natural Heritage & Endangered Species Program (NHESP). The Town manages all beaches in compliance with the United States Fish and Wildlife Service (USFWS) for managing recreational activities in piping plover breeding habitat (USFWS 1994) (federal Guidelines), the Massachusetts guidelines for managing recreational use of beaches to protect piping plovers, terns, and their habitats (MADFW 1994) (state Guidelines) and the Massachusetts barrier beach management guidelines (Massachusetts Barrier Beach Task Force 1994).

Nauset Beach is managed by the Town of Orleans Department of Parks and Beaches according to federal and state recreational beach management Guidelines to protect piping plovers and state-listed least terns. Seasonal Parks and Beaches staff hired to manage recreation and natural resources consists of at least two full-time qualified shorebird monitors who work under the supervision of the Natural Resources Manager and the seasonally hired Beach Director. Parks and Beaches staff implement shorebird conservation and management actions such as installing symbolic fencing (i.e., pole and string fencing) to protect piping plover and least tern nesting habitat, monitoring nesting shorebirds, documenting reproductive success, installing predator exclosures as recommended by MADFW and USFWS, and a variety of other measures designed to increase piping plover and least tern productivity and to protect fragile coastal resources. Seasonally hired enforcement staff enforces access restrictions on the recreational use of plover and tern breeding habitat by pedestrians, domestic animals and over-sand vehicles (OSV) in accordance with state and federal Guidelines.

Implementation of protective measures outlined in the state and federal Guidelines by the Town of Orleans and throughout Massachusetts, has contributed to a significant increase in breeding pairs and progress towards statewide and regional recovery goals (USFWS 1996, 2009). The management being implemented by the Town of Orleans comprehensively

addresses the beach management issues that potentially affect piping plovers and cover a range of issues such as habitat protection, pedestrian traffic, dog exercising, surf activities and OSV use.

While the state and federal Guidelines generally work well for both the Town of Orleans recreational beach management objectives and the overall protection and conservation of piping plovers, recently there have been issues with aspects of the OSV program that require some flexibility from strict adherence to the Guidelines. This flexibility will introduce increased risk of impacts to a small number of piping plovers, primarily unfledged plover chicks, thus the Town's need for pursuing incidental take coverage under both the Massachusetts Endangered Species Act (MESA) and the Federal Endangered Species Act of 1973, as amended (ESA). Because the Town of Orleans is fully implementing the state and federal Guidelines for all other aspects of their beach management responsibilities, it is only the OSV use program that needs to be addressed by this habitat conservation plan.

This HCP is being submitted in support of a three-year incidental take permit (ITP) application for the piping plover, authorized under section 10(a)(1)(B) of the ESA, and to minimize and mitigate impacts to the piping plover and its habitat. The HCP provides a framework for effectively managing breeding piping plovers and their habitats at Nauset Beach South, and for providing mitigation to advance the conservation of the piping plover both on-site and elsewhere in Massachusetts. At the same time, this HCP will preserve recreational opportunities and historic uses of Nauset Beach South and reduce impacts of piping plover protection on beach revenue.

A previous draft of this HCP served as an application for the Conservation and Management Permit pursuant to the MESA (MGL c. 131A; 321 CMR 10.23) (CMP). Since the CMP was issued (July 15, 2014), the proposed escorting protocols have been revised and minor changes to the estimated take, biological objectives and mitigation have been made to the document. These changes address comments provided by the USFWS, MADFW, and the public. The MADFW will amend the CMP, or otherwise approve minor changes, to incorporate the final HCP and revised protocols.

II. Purpose and Need

Over the next three years (the permit term proposed in the HCP), the Town of Orleans will engage in management and regulatory activities along Nauset Beach that will provide conservation of the overall plover population and will minimize the potential for incidental take from OSV use of the beach. The Town of Orleans is pursuing this HCP for the years 2015, 2016, and 2017. Since piping plovers nest, roost, forage, and raise chicks on the sandy landscape of Nauset Beach, the Town of Orleans has an obligation to ensure its management activities are compatible with protecting plovers and their habitat.

In order to comply with the Massachusetts Wetlands Protection Act, MESA and avoid take of piping plovers, the Town of Orleans currently restricts, when necessary, OSV use on portions of Nauset Beach South during the breeding season (April 1 to August 31) to avoid potential adverse effects on nesting populations of piping plover. The only reasonable means

of access to the majority of available area of Nauset Beach South is via OSV access. Nesting and related piping plover activity in a 0.8 mile long area known as the “Pochet Wash-Over” (Pochet) is the primary reason for what has evolved into a predictable annual complete OSV access closure on Nauset Beach South. The Pochet area is located approximately three-quarters of a mile south of the Nauset Beach (Orleans) main parking lot and has no crossover access trails to direct traffic to the outer, seaward beach in order to avoid nesting plovers. Multiple cross-overs exist south of the Pochet area for OSV access to the outer beach (Appendix 1). Total closures related to breeding piping plover activity prevent OSV access to approximately five miles of beach located between the Pochet and the southern end of Nauset Beach South in the Town of Chatham. Currently, when piping plover protection mandates complete closure of the Pochet area to OSV access, OSV use on the remaining portion of the five-mile area south of the Pochet area complies with both state and federal Guidelines for avoiding take of the piping plover and the Orleans Conservation Commission’s Order of Conditions (OOC) (SE 54-2246) (Appendix 3).

These seasonal use restrictions have been implemented annually since 1991. In 2006, Nauset Beach South experienced its first complete OSV access closure due to protection of nesting piping plovers and their chicks. A complete OSV access closure has been required during each consecutive season beginning in 2006. In general, closures have been increasing in length (number of days). The 2013 closure was the longest on record lasting 83 consecutive days (Table 1).

Table 1. South trail OSV closure at Pochet wash-over, 2006 -2014.

Year	Date of Closure	Date Re-opened	Number days Closed
2006	22-Jun	25-Jul	33
2007	22-Jun	1-Aug	40
2008	16-Jun	24-Jul	38
2009	30-May	4-Aug	66
2010	27-May	9-Aug	74
2011	3-Jun	5-Aug	63
2012	6-Jun	14-Aug	69
2013	3-Jun	23-Aug	81
2014	11-Jun	15-Aug	65

As previously stated, Nauset Beach South is managed according to state and federal beach management Guidelines, however; under the HCP, the Town will deviate from these beach management Guidelines by allowing late season OSV use, beginning on or after July 15th, in the presence of no more than two broods (chicks that hatched from a pair of plovers) of piping plover chicks occurring within the proposed permit area as defined in Section IV of this document. While this activity could result in incidental take¹ of the chicks, the Town

¹ Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. [ESA §3(19)] Harm is further defined by FWS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Harass is defined by FWS as actions that create the likelihood of injury to listed

will implement measures including late-season OSV self-escorting to minimize the potential for impacts to the chicks. Self-escorting will be implemented for a total of two broods, irrespective of whether they overlap temporally or not. Therefore if a third brood occurs in the Pochet area within the authorized time frame (after July 15) the OSV program will not be implemented.

The primary management issue this HCP is seeking to address is the repeated closure of OSV access to the majority of Nauset Beach South from mid-July through August. The length of beach that is unavailable to OSV use is considerable and results in very limited numbers of pedestrians that are able to access Nauset Beach South. The only reliable means of access to the majority of Nauset Beach South is via OSV access that has been affected by the annual 0.8 mile “pinch point” closure that occurs when late nesting plovers and their young are present in the Pochet area. Without OSV access, the majority of the public is unable to reach the 5 miles of available beach. Recreational users who are unable to visit much of Nauset Beach South include anglers, birders, family beach goers, children, the elderly and persons with disabilities for whom walk-on access is simply an unrealistic option.

A second and separate problem the Town of Orleans seeks to address within this HCP is that the predictable annual and increasing duration of OSV access closures are directly linked to a significant decline in revenue from the OSV management program as documented in the attached report entitled Beach Related Revenue (Appendix 4). The average revenue produced by the OSV program in the four year period prior to and including the first total OSV access closure (2003-2006) was over \$415,000. The average revenue over the seven year period since total OSV access closures began (2007-2013) was \$243,000. It is obvious to the town of Orleans that the significant decline in OSV revenue is due to the reduction of available access. OSV revenue contributes to the budget that funds management of the entire Nauset Beach. The Town of Orleans is concerned that this decline in revenue has the potential to affect the town’s ability to fund management of Nauset Beach, including management actions recommended by state and federal Guidelines.

A third reason for developing this HCP is that piping plover production, as measured by fledge rate, is not sufficient to maintain a stable population at Nauset Beach despite management of Nauset Beach South that is in compliance with all regulations and guidelines set forth by both OOC (SE-54-2246), the USFWS and the MADFW. This lack of production is especially concerning when measured against the time, investment and sacrifice made by the entire Town of Orleans, all aimed at increasing piping plover production. The Nauset Beach 2013 piping plover census report with notes (Appendix 5) clearly demonstrates that predation is the main threat preventing continued piping plover recovery on Nauset Beach South (referred to as “North Beach” in the report).

Consequently, the Town of Orleans, in collaboration with USFWS and MADFW, has prepared this HCP with a proposed three year term, to address potential effects on piping plover resulting from the Town of Orleans’ authorization and management of OSV activities

species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. [50 CFR §17.3]

on the covered lands (Section V. Covered Lands) and to work toward the conservation and recovery of the coastal population of the species.

III. Regulatory Context

A number of Federal and State laws regulate the types of activities that can occur on beaches of Massachusetts. These laws address protection of threatened or endangered species (Federal and State law), and regulation of recreational activities (State law) and development. A summary of laws that may affect the Town of Orleans management activities is provided below. All measures that are incorporated into this HCP are compliant with local, state and federal laws and regulations.

Federal

Federal Endangered Species Act

Section 9 of the ESA prohibits the “take” of any endangered or threatened species of fish or wildlife listed under the ESA. Under the ESA, the term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect species listed as endangered or threatened or to attempt to engage in any such conduct. Under section 10 of the ESA, the USFWS may authorize, under certain terms and conditions, any taking otherwise prohibited by Section 9(a)(1)(B) if such taking is incidental to, and not the purpose of, an otherwise lawful activity. This section 10 take authorization is known as an ITP.

Harass in the definition of “take” in the ESA means an intentional or negligent act or omission that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns that include, but are not limited to, breeding, feeding, or sheltering. Harm in the definition of take in the ESA means an act that actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

To qualify for an ITP, a non-federal landowner or land manager must develop, fund, and implement a USFWS-approved HCP. The HCP must specify the following information described in ESA Section 10(a)(2)(A) and 50 Code of Federal Regulations (C.F.R.) 17.22(b)(1) and 50 C.F.R. 17.32(b)(1):

- The impact that will likely result from such taking;
- The measures the applicant will undertake to monitor, minimize, and mitigate such impacts, the funding that will be available to implement such measures, and the procedures to be used to deal with unforeseen circumstances;
- The alternative actions the applicant considered that would not result in take and the reasons why such alternatives are not proposed to be utilized; and
- Such other measures that the Director of the USFWS may require as necessary or appropriate for purposes of the HCP.

The USFWS will issue an ITP if it finds that the following criteria of ESA Section 10(a)(1)(B) and 50 CFR 17.22(b)(2) and 50 CFR 17.32(b)(2) are met:

- The taking will be incidental to otherwise lawful activities;
- The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such takings;
- The applicant will ensure that adequate funding for the HCP and procedures to deal with unforeseen circumstances will be provided;
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild;
- The applicant has met the measures, if any, required by the Director of the USFWS as being necessary or appropriate for the purposes of the plan; and
- The Director of the USFWS has received such other assurances, as he or she may require, that the plan will be implemented.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 USC 703-712), prohibits the take of migratory birds. A list of birds protected under MBTA implementing regulations is provided at 50 CFR 10.13. Unless permitted by regulations, under the MBTA it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product. The MBTA provides no process for authorizing incidental take of MBTA protected birds. The piping plover covered by this HCP is protected under the MBTA. The USFWS has a policy of allowing an ITP to serve as a Special Purpose Permit under 50 CFR 21.27 for the take of listed, migratory birds that are addressed in an HCP (U.S. Fish and Wildlife Service 1996). The USFWS has determined that any take authorized by the ITP will not be in violation of the MBTA.

National Environmental Policy Act

The National Environmental Policy Act (NEPA) is one of the primary laws governing the environmental protection process. It is a decision-making requirement that applies to proposals for Federal actions. The Council on Environmental Quality (CEQ) regulations defines, major Federal action as those actions with, “effects that may be major and which are potentially subject to Federal control and responsibility,” including, “projects and programs entirely or partly financed, assisted, conducted, regulated, or approved by Federal agencies.” NEPA states that any Federal agency undertaking a major Federal action likely to significantly affect the human environment must prepare an Environmental Impact Statement (EIS). If, however, a project qualifies as a low-effect habitat conservation plan and generally meets the following criteria, it may be eligible for a categorical exclusion under the National Environmental Policy Act as provided by the Department of the Interior Manual (516 DM 2 Appendix 1 and 516 DM 8):

- The effects of the ITP on federally listed, proposed, or candidate species and their habitat covered under the HCP are minor or negligible prior to implementation of the mitigation plan.
- The effects of the ITP on other environmental values or resources (e.g., air quality, geology and soils, water quality, socio-economic, cultural resources, recreation, visual resources) are minor or negligible prior to implementation of the mitigation plan.

- The impacts of the ITP, considered together with the impacts of other past, present, and reasonably foreseeable similarly situated projects will not result, over time, in cumulative effects to environmental values or resources that would be considered significant.

Issuance of an ITP under ESA Section 10(a)(1)(B) is a Federal action subject to NEPA compliance. Although ESA and NEPA requirements overlap considerably, the scope of NEPA goes beyond that of the ESA by considering the impacts of a Federal action not only on fish and wildlife resources, but also on other resources such as water quality, air quality, and cultural resources. The purpose of these procedures is to ensure the agency has before it the best possible information to make an “intelligent, optimally beneficial decision” and to ensure the public is fully apprised of any environmental risks that may be associated with the preferred action.

National Historic Preservation Act of 1966

USFWS’s issuance of an ITP under ESA Section 10(a)(1)(B) is considered an “undertaking” as defined by regulation and must comply with Section 106 of the National Historic Preservation Act (NHPA) (36 CFR 800). Section 106 requires USFWS to assess and determine the potential effects on historic properties that would result from the proposed undertaking. When an adverse effect to a historic property cannot be avoided, the USFWS must consult with State Historic Preservation Office (SHPO), the Tribal Historic Preservation Office, and other interested parties to identify ways to mitigate the effects of the undertaking. This process usually results in the development of a Memorandum of Agreement (MOA), which identifies the steps the agency will take to reduce, avoid, or mitigate the adverse effect. The MOA will be submitted to the Advisory Council on Historic Preservation (ACHP) for review and comment. The USFWS must document NHPA compliance and include such documentation in the administrative record for the HCP. Details on the consultation process for resolution of adverse effects are found at 36 CFR 800.6.

Based on a review of the HCP proposed action and permit area, the Orleans Historical Commission determined that there are no known historic or archeological sites that will be affected by the HCP activities (Appendix 6).

State

Massachusetts Endangered Species Act

The Massachusetts Endangered Species Act (MESA) was enacted in December 1990 (M.G.L. c.131A). Implementing regulations were promulgated in 1992 and most recently revised and implemented as of October 15, 2010 (321 CMR 10.00).

The MESA protects rare species and their habitats by prohibiting the "Take " of any plant or animal species listed as Endangered, Threatened, or Special Concern by the MADFW. "Take" is defined as, "in reference to animals to harass, harm, pursue, hunt, shoot, hound, kill, trap, capture, collect, process, disrupt the nesting, breeding, feeding or migratory activity or attempt to engage in any such conduct, or to assist such conduct, and in reference to plants, means to collect, pick, kill, transplant, cut or process or attempt to engage or to assist in any such conduct. Disruption of nesting, breeding, feeding or migratory activity may result from, but is not limited to, the modification, degradation or destruction of Habitat." Permits

for “taking” rare species for scientific, educational, conservation, or management purposes can be granted by the MADFW.

The MESA and its implementing regulations establish procedures for the listing and protection of rare plants and animals and outline project review filing requirements for projects or activities that are located within a Priority Habitat of Rare Species (“Priority Habitat”). The MESA regulations also provide clear review timelines and establish an appeal process for agency actions. If during the MESA project review it is determined that a project will result in a "take" of a state-listed species, the project may be eligible for a Conservation and Management Permit (321 CMR 10.23; CMP).

To be eligible for a CMP, the applicant must first (1) assess alternatives to both temporary and permanent impacts to state-listed species. Thus, certain projects that can be redesigned to avoid a "Take" may not be eligible for a CMP. The permit applicant must also (2) demonstrate that a proposed project will impact an insignificant portion of the local population of an affected state-listed species. Finally, the applicant must (3) design and implement a conservation and management plan that provides a long-term net benefit to the conservation of the affected state-listed species.

The Town of Orleans submitted a MESA filing checklist and supporting materials to MADFW concurrent with submission of this HCP, and the HCP is also serving as an application for a CMP. On July 15, 2014, MADFW issued a take determination and CMP for this Vehicle Access Plan prior to implementation to ensure MESA compliance (Appendix 2).

Massachusetts Environmental Protection Act

The Massachusetts Environmental Policy Act (MEPA; MGL c.30 s.61; 301 CMR 11.00) requires that state agencies study the environmental consequences of their actions, including permitting and financial assistance. It also requires them to take all feasible measures to avoid, minimize, and mitigate damage to the environment. MEPA further requires that state agencies "use all practicable means and measures to minimize damage to the environment," by studying alternatives to the proposed project, and developing enforceable mitigation commitments, which will become conditions for the project if and when they are permitted.

MEPA applies to projects that exceed certain review thresholds and that require a state agency action, specifically that they are either proposed by a state agency or are proposed by municipal, nonprofit or private parties and require a permit, financial assistance, or land transfer from state agencies. MEPA review is not a permitting process. MEPA requires public study, disclosure, and development of feasible mitigation for a proposed project. It does not pass judgment on whether a project is environmentally beneficial, or whether a project can or should receive a particular permit. Those decisions are left to the permitting agencies. MEPA review occurs before permitting agencies act, to ensure that they are fully cognizant of environmental consequences of their actions. MEPA review provides the mechanism through which this information collection and mitigation mandate is executed. MEPA empowers the Secretary of Energy & Environmental Affairs to oversee the review

process. The process is public and encourages comments from citizens and from state, regional and local agencies.

Pursuant to MEPA, on May 23, 2014 the Town of Orleans filed an Environmental Notification Form describing this HCP (Appendix 7), and was issued a MADFW Conservation & Management Permit on July 15, 2014 (Appendix 2).

Massachusetts Wetlands Protection Act

Activities in wetland resource areas, such as dunes, beaches, tidal flats and coastal banks, are subject to performance standards outlined in the regulations that protect the interests of the Massachusetts Wetlands Protection Act, including storm damage prevention and protection of wildlife habitat. The local conservation commission implements the regulations as overseen by the Department of Environmental Protection's Division of Wetlands and Waterways. Orders of Conditions regulate proposed activities to minimize or prohibit impacts to wetland resource areas.

The Orleans Conservation Commission's Order of Conditions (OOC) SE 54-2246 was filed and accepted by the MA Department of Environmental Protection on July 23, 2014 (Appendix 3).

Executive Order Number 190 Regulation of Off-Road Vehicle Use on Public Lands Containing Coastal Wetlands Resources (1980)

This Executive Order directs state agencies to balance competing uses of public lands and minimizes the degradation of the wetlands resources due to off-road vehicle use through management and monitoring. The Guidelines for Barrier Beach Management in Massachusetts (MADFW 1994) advance the Executive Order. The Town of Orleans adheres to the state Guidelines and is in compliance with the Executive Order.

IV. Current OSV Management

The Town of Orleans manages recreational use of Nauset Beach by implementing beach maintenance activities on the public pedestrian portion of Nauset Beach as well as the areas accessed by permitted OSVs. Beach management activities include raking, providing lifeguards and trash removal of the public beach, managing OSV and self-contained vehicle access, maintaining the OSV trails to ensure safe passage and patrolling the entire beach to ensure public safety. Implementation of these beach management activities takes into consideration the conservation of natural resources including protecting the dunes by prohibiting pedestrian and OSV access in fragile coastal habitat, managing breeding coastal shorebird populations including piping plovers, least terns and oystercatchers, and maintaining water quality.

The OSV program is administered under the joint supervision of the Towns of Orleans and Chatham. Program participants are required to complete an educational video, carry specific equipment and follow rules and regulations of the OSV program. In addition, access, driving and parking on the beach is limited to specific areas. Residents as well as non-residents may obtain OSV permits. Regulations address motor vehicle rules and equipment, registration,

prohibitions, restricted access, and other activities associated with OSV access (http://www.town.orleans.ma.us/pages/orleansma_parks/orv). In general, vehicles (other than those used by Parks and Beaches staff or emergency vehicles) are prohibited on Town of Orleans beaches except and unless they have authorization.

There is a long history of OSV use on Nauset Beach (Nauset Spit and Nauset Beach South) that dates back many decades. Since 1991, the OSV access at Nauset Beach has been managed according to the January 14, 1991 OOC (SE 54-723), specifically Sections E and F that constitute the Beach Management Plan as it pertains to rare and endangered species (Appendix 8). It is important to note Nauset Spit and Nauset Beach South have been managed as separate properties, both in compliance with the OOC (SE 54-723).

On July 23, 2014, the Massachusetts Department of Environmental Protection accepted a separate Order of Conditions (SE 54-2246) (Appendix 3) instituting a specific Management Plan for Nauset Beach South. Under the authority of each OOC (as described in Section I. Introduction), up to 375 permitted vehicles are authorized access at any one time. The maximum limit of vehicles on the beach at any one time shall be determined by the Natural Resource Manager based on general beach and shorebird nesting conditions, and at times may be less than the maximum allowable number of vehicles. The OOC specifically requires the use of existing access and egress corridors through the dunes and that the Ocean side north/south corridor be a minimum of 15 feet seaward of the coastal dune (in the absence of nesting piping plovers or terns). Driving on the shoreline of the bay (west) side of Nauset Beach South is prohibited with the exception of driving on the existing sand trails and spurs. Driving anywhere outside of the designated OSV corridor is prohibited.

V. Covered Lands

The entire plan area is the geographic area known as Nauset Beach (Orleans) which includes Nauset Spit and Nauset Beach South and is described in the two separate Orleans Conservation Commission's Orders of Conditions: (OOC SE 54-723 of 1991)(Appendix 8) and (OOC SE 54-2246 of 2014)(Appendix 3). The plan area for this HCP includes all vegetation communities, wetlands and water resources, wildlife and their habitats, threatened and endangered species and their habitats, land uses, and any other relevant natural resources or existing conditions as described in the OOC. An aerial photographic map entitled "Nauset Barrier System" which includes an overlay (in yellow) of Orleans boundaries and identification of the various sections of the entire Nauset Barrier System both within and abutting the plan area is provided in Appendix 9. On suitable piping plover habitat within the permit area the Town of Orleans will continue to implement the state and Federal Guidelines with the exception during implementation of the HCP.

The proposed self-escort travel corridor is completely contained within the approximately 0.8-mile Pochet area as measured north to south. For the purposes of this HCP, both the northern and southern boundaries of the area in which the covered activity (OSV travel) is limited are defined as the general location where the sandy eroded and sparsely vegetated wash-over area transitions into dense vegetation on both sides of the existing OSV corridor. It is assumed that because of the dynamic nature of Pochet that the actual northern and

southern endpoints are likely to change; however, the description of what defines the implementation area will be the control as to the actual location of the northern and southern endpoints. The eastern/seaward and western/estuarine boundaries of the permit area are defined in the 2014 Order of Conditions for Nauset Beach South (Appendix 3). The OSV travel corridor is a designated trail that may only be temporarily relocated with the approval by the Orleans Conservation Commission and after consultation with the Conservation Agent, Natural Resources manager and the Massachusetts Natural Heritage and Endangered Species Program. The temporary relocation of a section of the OSV corridor must still comply with conditions outlined in the OOC including avoiding nesting piping plovers and terns and avoiding driving in vegetated areas. The implementation area is further detailed in the Nauset Beach South ORV Trails Map (Appendix 1) which is accompanied in the filing for the Nauset Beach South OOC (SE 54-2246).

VI. Covered Activities

Through this HCP, the Town of Orleans will flexibly manage OSV access on Nauset Beach South in the presence of unfledged piping plover chicks beginning on or after July 15th, a deviation from the current management that follows state and federal Guidelines for managing piping plovers. Therefore, the covered activity for which the Town of Orleans is seeking incidental take is the authorization and implementation of the OSV program described under the OOC and consistent with conservation measures contained in the HCP. Vehicles that would be covered include day use vehicles and those permitted for self-contained overnight use.

In implementing the HCP, the Town will continue to implement the state and federal Guidelines to protectively manage piping plovers with respect to OSV use, until July 15th. Prior to July 15th, the Town of Orleans Natural Resource Manager, Beach Director and staff will have delineated all suitable piping plover nesting habitat with posts and warning signs or symbolic fencing on or before April 1. All vehicular access into or through posted nesting habitat will be prohibited. Vehicles may pass by such areas along designated vehicle corridors established along the outside edge of plover nesting habitat prior to hatching. Vehicles may also park outside delineated nesting habitat, if beach width and configuration and tidal conditions allow. Vehicle corridors or parking areas will be moved, constricted, or temporarily closed if territorial, courting, or nesting plovers are disturbed by passing or parked vehicles or if disturbance is anticipated because of unusual tides or expected increases in vehicle use during weekends, holidays, or special events. Because the OSV management program will follow state and federal Guidelines, no take is anticipated prior to July 15th. It should be noted that the HCP only addresses self-escorting of vehicles on the designated travel corridor and that no parking will be allowed, foraging habitat including wrack will not be affected and buffers around nests, should they be present, will be adhered to according to the state and federal Guidelines.

Beginning on or after July 15th, the Town will allow up to 180 self-escorted OSVs (360 vehicle passes) per day on Nauset Beach South past no more than two broods of piping plover chicks. The proposed limit of up to 180 vehicles per day includes all OSV's seeking to access Orleans and Chatham town property and further includes those permitted for self-

contained overnight use. While late season OSV use could result in incidental take of the chicks, the Town will implement OSV self-escorting and other measures to minimize the potential for impacts to the chicks.

VII. Covered Species

The only species to be covered is the Atlantic Coast piping plover (*Charadrius melodus*), which was listed as a threatened species under the ESA in 1986. There are no other federally listed species that breed in the HCP planning area or that will be affected by the HCP covered activities.

There is one state listed species known to nest within the HCP planning area, the least tern (*Sternula antillarum*) currently listed by the Commonwealth of Massachusetts as a species of special concern. The Town of Orleans will comply with state Guidelines for the management of OSV use when least terns are present and it is not considered to be a covered species.

Federally listed threatened red knots (*Calidris canutus rufa*) may be present during spring and fall migration foraging on the mud and sand flats of both Nauset Beach South and Nauset Spit, or roosting above the high tide line. Red knots, however, are not included as a covered species in the HCP since they have not been documented in the travel corridor at the Pochet. The travel corridor does not provide foraging habitat, and although red knots might roost in the Pochet area, there have not been any documented observations of red knots specifically in or near the OSV sand trail.

VIII. Biological Goals and Objectives

Biological Goals:

- a. Reduce potential for take of piping plover chicks while exercising flexibility for OSV access during a limited time period in late July and/or August on Nauset Beach South.
- b. Increase awareness of effects of predation on piping plover recovery on Orleans beaches.
- c. Focus primary mitigation efforts at off-site locations, with the objective of increasing piping plover productivity at those locations.

Biological Objectives:

- a. Reduce exposure risk of piping plover chicks to vehicle mortality by constraining time of year to late season broods, time of day, number of hours, number of vehicle passes, length of beach, and temporary closures to protect chicks in the vicinity of the active self-escort corridor.
- b. Provide educational material to Orleans residents and vehicle permit holders on effects of predation on plover productivity and the tools needed to address the threats.

- c. Contribute to increasing productivity by a minimum of 20% over existing productivity at one or more piping plover breeding sites in Massachusetts, through funding for off-site mitigation conservation measures.

IX. Proposed OSV Program

In implementing the HCP, the Town of Orleans will continue to implement the state and federal Guidelines (including the Town of Orleans Order of Conditions) with respect to OSV use, with the exception of the proposed OSV program to be implemented beginning on or after July 15th.

Over 20 years of experience implementing beach management in accordance with state and federal Guidelines in Massachusetts suggests that measures such as symbolic fencing, restricted access to suitable plover habitat by pedestrians, dogs, and OSV's, and active monitoring can significantly boost productivity and population size and provide state and federal wildlife agencies with essential information to make informed management decisions. Use of other measures such as exclosures can further benefit plover populations. The Town of Orleans has a longstanding history of implementing such measures in full compliance with the Guidelines, and will continue to do so during the permit period.

The proposed OSV program to be implemented beginning on or after July 15th includes a number of measures to avoid and minimize take of piping plover chicks. The number of vehicles that will be able to access Nauset Beach South has been reduced from 375 vehicles allowed under the OOC to 180 vehicles. This reduces the maximum number of vehicle passes in the vicinity of no more than two broods of piping plover chicks from 750 passes per day to 360 passes per day.

The number of vehicles allowed to pass plover chicks was set at not more than 180 in order to reduce the likelihood of take by ensuring a manageable number of vehicles that may be self-escorted during the time allotted for beach access. To further reduce the likelihood of take through harm, harassment or mortality of recently hatched chicks, escorting will be initiated past a brood no sooner than one day after all chicks have hatched if occurring on or after July 15.

Once all chicks in the Pochet area have fledged or been documented lost to natural causes by the shorebird monitors, then the OSV program at Nauset Beach South, including the total number of vehicles, will be implemented in compliance with the OOC.

Vehicle Escort Program Elements:

1. *Program Administration*
Town of Orleans Natural Resources Manager
Town of Orleans Beach Director
2. *Escort Protocol*
Start date: Beginning on or after July 15th annually

Frequency: Twice daily²

Morning Session: 08:00 – 10:00

Afternoon Session: 16:00 – 18:00

Number of vehicles: 180 self-escorted vehicles for a maximum of 360 vehicle passes per day.

3. *Self-escort OSV Corridor Dimensions and Locations*

The self-escort corridor referred to in the proposed OSV program occurs within the ITP permit area (described in section V). The specific location of the self-escort OSV corridor is intended to be adaptive and variable to reflect the location of the brood(s). The self-escort OSV corridor may shift north or south along the identified route depending on piping plover locations and/or movements as shown in the Variable Escort Route Map (Appendix 10). The self-escort OSV corridor is not to exceed 2,100 feet in length and 30 feet in width (for vehicle traffic), for a total impact area of approximately 63,000 square feet or 1.45 acres. Additionally, 100 feet on either side of the OSV sand trail will be included in the corridor as the “safety zone” for plover chicks (vehicle traffic will be halted should plover chicks enter this zone).

The escort corridor will not be moved laterally for purposes of the HCP. The OSV corridor will be clearly marked at the beginning and termination points and will have the 30-foot travel width periodically delineated with wooden stakes. Updated corridor boundaries shall be reported daily to the Natural Resources Manager, Beach Director, or their designee, by shorebird monitor(s) prior to commencement of vehicle access and remarked as necessary.

4. *Personnel (monitors) and Required Qualifications:*

Up to two shorebird monitors will be required to monitor chick locations and movement, and up to two vehicle monitors will be required to ensure vehicle drivers comply with the self-escort protocols. One shorebird monitor per brood will be deployed to monitor the locations of chicks prior to and during the self-escort window; therefore, the number of plover broods will determine whether one or two bird monitors are required. The vehicle monitor (e.g., beach patrol ranger) will have the authority to revoke or suspend current over-sand beach stickers if the self-escorted vehicle is not following the protocols. The distance between the two broods within the permit area will determine by whether one or two vehicle monitors are required. All current and future monitors will meet the qualifications established by USFWS or MADFW definitions.

Seasonal Lead Shorebird Monitor

Reports to: Natural Resource Manager

Position Summary: Supervises shorebird monitors. Ensures that monitors locate, identify and symbolically fence piping plover, least tern and other shorebird nesting and locate shorebird feeding areas, adequately conduct surveys and counts

² Times may be flexible within one hour on each side due to inclement weather or temporary delay if monitors determine it is not safe to proceed because of chick locations.

of birds, re-route or escort vehicles (if necessary), compile and map bird nesting and productivity data, and prepare documentation required by State and Federal authorities.

Essential Functions:

- Working in assigned habitat areas, must be able to: identify piping plover, least and common terns, American oystercatcher, and other shorebird species as required; identify and locate shorebird nesting and feeding areas; and map the identified areas.
- Set up and maintain signage, symbolic fencing, and protective exclosures such that essential nesting and foraging habitat areas are protected from human disturbance.
- Interact with and educate the public to increase awareness of the birds and nesting/feeding areas.
- Re-route vehicles around protected areas and escort vehicles through protected areas as necessary.
- Conduct field surveys and establish counts of birds.
- Document and summarize results in formats provided by the state and federal authorities.
- Prepare annual End-of-Season reports as required by State and Federal authorities.
- Compile comprehensive maps that document the nesting sites of protected wildlife using GPS coordinates and GIS mapping tools.
- Performs other duties as assigned and in conjunction with other Town departments and employees.

Minimum Qualifications:

- A high school diploma or equivalent.
- Working knowledge of State and Federal Guidelines for the protection of Piping Plovers, Least and Common Terns, and American Oystercatchers on multi-use recreational beaches.
- Good observational skills.
- Ability to perform physical labor associated with the placing of posts, signage, symbolic fencing, and protective exclosures in habitat areas.
- Ability to walk up to 1-3 miles per day within habitat area for survey and protection activities.
- Knowledge and experience with four-wheel drive vehicles, small boat handling, and two-way radio communications.
- Ability to obtain Red Cross certification in basic first aid and CPR.
- Ability to work independently with little direct supervisory oversight.
- Strong people skills, team oriented, and ability to work in a collaborative, problem-solving approach.
- Experience with word processing and spreadsheet software.
- A valid Massachusetts driver's license.

Seasonal Shorebird Monitor:

Reports to: Natural Resource Manager and Lead Shorebird Monitor

Position Summary: Locating and identifying endangered shorebird nesting and feeding areas, setting up exclosures, signage, and symbolic fencing, conducting surveys and counts of birds, re-routing or escorting motor vehicles under the direction of the Lead Shorebird Monitor.

Essential Functions:

- Working in assigned habitat areas, must be able to: identify piping plover, least and common terns, American oystercatcher, and other shorebird species as required; identify and locate shorebird nesting and feeding areas; and map the identified areas.
- Data collection and note taking to document nest establishment, egg laying, hatching, predation of nests, chick rearing, and fledgling activities.
- Set up and maintain signage, symbolic fencing, and protective exclosures such that critical habitat areas are protected from human disturbance.
- Interact with and educate the public to increase awareness of the birds and nesting/feeding areas.
- Re-route vehicles around protected areas and escort vehicles through protected area as necessary.
- Assist the Lead Shorebird Monitor in field surveys and bird counts.
- Provide clear concise data summaries of nesting activities to the Lead Shorebird Monitor for inclusion in annual reports.
- Performs other duties as assigned and in conjunction with other Town departments and employees.

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 and Common Terns, and American Oystercatchers on multi-use recreational beaches.
- Good observational skills.
- Ability to perform physical labor associated with the placing of posts, signage, symbolic fencing, and protective exclosures in habitat areas.
- Ability to walk up to 1-3 miles per day within habitat area for survey and protection activities.
- Knowledge and experience, or willingness to obtain, with four wheel drive vehicles, small boat handling, and two-way radio communications.
- Ability to obtain Red Cross certification in basic first aid and CPR.
- 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.

Self-Escorting Procedures:

1. Basic Procedures for Escorting Past One Brood
 - a) A pre-determined area of the Nauset Beach (Orleans) parking lot, or another pre-determined area free of protected species, will be identified for staging of OSVs.
 - b) At least 1 hour prior to commencement of vehicle escorts, the shorebird monitor(s) will proceed along the designated vehicle route and surrounding area to determine locations of plover chicks. Each shorebird monitor will be responsible for monitoring the location of one brood. Once the shorebird monitor(s) have established the locations of chicks, they will notify the Natural Resource Manager, Beach Director or their designee of the brood locations and the self-escort corridor will be delineated with highly visible markers. At this time, personnel at the entrance booth, as well as the vehicle monitor will be notified that the OSV trail is open for travel. In the event that all chicks are not located, opening the OSV trail will be delayed until such time that all chicks are accounted for or it has been determined by the shorebird monitor(s) that there are no chicks in the OSV trail. The shorebird monitor(s) will communicate their determination(s) to the Natural Resource Manager for confirmation to open the trail. The self-escort duration of two hours will be implemented per the HCP protocols although the time of closing may be adjusted accordingly to respond to a later opening.
 - c) Prior to opening the OSV trail, the vehicle monitor will contact the shorebird monitor(s) to confirm that the locations of all chicks are still being monitored, that all chicks are accounted for, and/or it is safe for the trail to open. During the two-hour self-escort period, monitor(s) shall maintain constant visual on any plover chicks using binoculars from a distance of no less than 200 feet. Disturbance, if any, of the chicks shall be minimized. Once vehicles have passed through the delineated "chick zone", vehicles may proceed to use the sections of beach previously determined to be free of piping plover and least tern chicks, in accordance with state and federal Guidelines.
 - d) 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 self-escort corridor. The escort will look for chicks in the road and stop the vehicle if either a chick is observed or one of the monitors (shorebird or vehicle monitor) requires the vehicle to stop. All self- escorted vehicles must maintain a safe distance of at least 15 feet from the vehicle in front.
 - e) In order to avoid adverse effects to the habitat and allow unimpeded chick passage across the OSV corridor when vehicles are not present, the vehicle "ruts" will be raked at the end of the afternoon self-escort period. Mechanized raking will be utilized only with a trained observer walking in front of the vehicle to search for chicks.
 - f) If at any time during the escorting process, the shorebird monitor(s) lose visual contact with one or more chicks, the vehicles will be allowed to continue on their way and the period between the self-escort time frame (or after the afternoon session) 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.

- g) The Natural Resource Manager or Beach Director will have the independent authority to close the trail at any time for any reason. For example, if at any time a shorebird monitor determines that chicks have approached within 100 feet of the self-escort corridor, the OSV trail will be closed to allow time for the chicks to move out of the area. The OSV trail will not reopen until the Natural Resource Manager or Beach Director determines that it is safe to do so. Monitors will document in the daily report the approximate time that the OSV trail was closed and the duration of the closure.

2. Basic Procedures for Escorting Past Two Broods

The following procedures are in addition to applicable actions outlined under Basic Procedures for Escorting Past One Brood (see above):

- a) Two broods in close proximity (<1,200 feet apart): Only one segment of the OSV trail will require self-escorting due to the close proximity of the two broods and a single vehicle monitor will ensure compliance. Two shorebird monitors will be deployed to monitor the chicks in each brood. The corridor in front of the broods will have beginning and end points clearly marked for self-escorting and both monitors will follow each brood. The shorebird monitors and vehicle monitor will be in close communication to ensure that chicks are not moving towards the OSV trail.
- b) Two broods are more than 1,200 feet apart: Two segments of the OSV trail will require self-escorting. In this case, a second vehicle monitor will be assigned to monitor escorting compliance. Both sections will have beginning and end points clearly marked to delineate the separate self-escort corridors. Beginning and end points of the self-escort corridor may be moved in response to linear chick movements (information provided by the shorebird monitors). Two shorebird monitors will be deployed to monitor the chicks in each brood.

Contingency Plan

1. Personnel availability

Two shorebird monitors (*i.e.*, one monitor per brood) will locate and observe chicks prior to and during the self-escort periods. A minimum of one vehicle monitor will oversee the self-escort corridor to ensure compliance by the self-escorted vehicles. Should two self-escort corridors be required (see above) then a second vehicle monitor will be required. In the event that one of these employees is unavailable, the Natural Resource Manager, Beach Director or their designee shall assume this duty.

2. Inclement weather

The Natural Resource Manager, Beach Director 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 OSV trail shall be closed for

the duration of the hazard or the start time may be moved one hour later or earlier. The OSV trail may not reopen until the Natural Resource Manager, Beach Director or their designee has given the all clear. It shall be presented in writing prior to purchasing an OSV sticker that all users shall use the beach at their own risk. Exiting escorts will not take place due to unpredicted weather. OSV sticker holders shall be informed in writing that a “shelter in place” policy will go into effect until the inclement weather has passed, or scheduled exiting escorts have begun.

3. Medical or family emergencies

OSV sticker holders shall be advised verbally and in writing at the time of OSV sticker application, via affidavit, that egress from the beach outside of the self-escort windows shall be strictly prohibited (see permit Rules and Regulations for information to report an emergency). In the event of a life-threatening medical emergency, the staff of the Nauset Beach Administration Building and/or emergency responders should be notified. Essential vehicles will assist in escorting the vehicle off of the beach.

Violations

Any violations of the aforementioned protocol will not be tolerated. Violators of the escort protocols shall be subject to OSV sticker revocation and shall have their rights to operate an OSV on Nauset Beach suspended immediately for a period of one year from the date of the violation.

Self-Escorting Program Reporting

Chick numbers, chick locations and travel corridor locations/dimensions shall be provided to the Natural Resource Manager or Beach Director by the lead shorebird monitor daily, prior to commencing OSV escorts. A map showing the locations shall be posted at the Nauset Beach administration building and shall be updated daily. Any violations, incidents or accidents associated with the vehicle escort program, including take of a chick(s) shall be immediately reported to MADFW and USFWS staff. In the event of an alleged incident related to the escort program, the Natural Resource Manager, Beach Director 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 Orleans, MADFW and USFWS reserve the right to suspend all vehicle escorts for such time as they deem appropriate.

Every week or sooner if necessary, a brief summary report will be submitted to the USFWS and MADFW. The Natural Resource Manager and Beach Director will work with USFWS and MADFW to develop a template summary report.

By December 31 of each calendar year, the Town of Orleans will submit an escort monitoring report to MADFW and USFWS describing at minimum, estimated age of chicks in each brood when self-escorting was initiated. Fledging success, escorting dates, number of broods, number of chicks present during self-escorting on each date, number of vehicle passages, and any documented “take” of chicks resulting from the vehicle

escorting program shall be included in this report. The report will also contain recommendations for improving the efficiency and or effectiveness of the escorting program in the future.

X. Analysis of the Impacts

Species Effects and Impacts Analysis

Because the Town of Orleans will be following the state and federal Guidelines for recreational beach management, the only anticipated impacts to piping plovers will occur during implementation of the late season self-escort OSV program. There are no anticipated impacts to state-listed nesting least terns during the Town's beach management activities because they will continue to be managed according to state least tern management guidelines to avoid adverse effects.

Late season OSV use (beginning on or after July 15th) could result in adverse effects leading to take of unfledged piping plover chicks that may be in the vicinity of the self-escorted vehicles. Adverse effects could occur to up to two broods of four chicks each (generally the maximum number of chicks per brood) from harm, harassment or mortality. Thus theoretically, adverse effects in the absence of minimization measures could occur to up to eight chicks per year.

Under state and federal beach management guidelines, vehicles in designated travel corridors are allowed to pass in the vicinity of adult piping plovers foraging or roosting outside of symbolic fenced nesting habitat. Adherence to state and federal Guidelines for managing piping plovers in the vicinity of OSV traffic is anticipated to avoid take of adults, including mortality. The HCP implements all state and federal guideline recommendations with the exception of the proposed vehicle traffic in the presence of up to two broods of plover chicks. Therefore, take of adults is not anticipated.

Piping plover habitat may be temporarily impacted during the late season OSV access as tire ruts are created by vehicle passage in the permit area. Nevertheless, adverse effects to piping plover habitat rising to the level of harm are not anticipated due to the avoidance and minimization measures incorporated into the escort procedures (Section IX. Proposed OSV Program). Daily raking of tire ruts at the end of every afternoon self-escort period will allow unimpeded piping plover movement between foraging and roosting habitats for the majority of the day and night. OSV travel will not occur in foraging habitat and should not affect the prey base for piping plover adults and chicks. Outside of the designated self-escorting travel corridor, no other piping plover habitat is anticipated to be adversely affected by OSVs accessing the beach within the plan area since the remainder of the beach will continue to be managed according to the Town of Orleans Conservation Commission Order of Conditions and state and federal guidelines for managing piping plovers.

Disturbance will be restricted to the four hours of self-escorting. Vehicles passing through areas near chicks could restrict chick movement and prevent them from foraging in preferred feeding habitat, seeking cover from predators or unfavorable environmental conditions, being brooded or otherwise protected by adults, or finding suitable roosting habitat. This could

affect the chicks' ability to thrive and delay fledging or expose them to an increased risk of predation. However, minimization measures are intended to reduce the effects of the disturbance so that take is not reached. Initiating the self-escort program after July 15 is likely to ensure that chicks are older, larger and more easily observed by vehicle escorts. In the past 5 years, approximately 63% of the broods have been 2 days or older and 36% of the broods have been 11 days or older. Older chicks may be less vulnerable to disturbance, more likely to survive on their own for short periods of time if separated from adults and better able to find foraging habitat away from the sand trail (which does not provide foraging habitat although it is a temporary barrier to moving between foraging habitats).

Take is anticipated to occur in the event an unfledged piping plover chick or chicks enter the self-escorted travel corridor during the four hours of OSV travel and are run over by a vehicle. This could occur if a chick is not detected by the chick monitors or the walker preceding each vehicle. Minimization measures to reduce mortality include: monitors locating chicks prior to and during the self-escorting of vehicles; allowing vehicle traffic to occur only when chicks are outside of the travel corridor; reduction in vehicle speed from 15 mph (under the OOC) to less than 5 mph; escorts watching for chicks in the corridor; and stopping vehicle traffic if monitors and/or the Natural Resource Manager determine that chicks are in the travel corridor and vulnerable to being run over.

In the absence of minimization measures, it is anticipated that annually a maximum of 8 chicks could be killed by being run over by OSVs (4 chicks per brood), or 24 chicks over the life of the permit (4 chicks per brood x 2 broods x 3 years = 24 chicks) at any time during the self-escorting program. However, the minimization measures should decrease the likelihood of take since the amount of time chicks may be exposed to take has been reduced to four hours per day: two hours in the morning and two hours in the afternoon. Take is not anticipated to occur during the period before, during or after the self-escorting periods. The additional measures incorporated to further reduce take include intensive chick monitoring and adjusting travel periods to preclude OSV travel when chicks might be vulnerable to take. Based on discussions with the MADFW and the USFWS, the Town conservatively anticipates that minimization measures will reduce the actual loss of chicks by 50 percent.

The average productivity from 1998 to 2014 (excluding 1999, 2005 and 2009 missing data) for piping plover pairs present on Nauset Beach South after July 15 is 1.7 chicks fledged per pair in the absence of the HCP. Productivity is influenced by a variety of factors including but not limited to weather, predation and intra-specific competition. Based on the long-term productivity average, the two pairs should produce approximately 3.4 chicks per year (2 pairs x 1.7 chicks/pair) for a total of 10.2 chicks fledged over three years (the life of the permit). The minimization measures should reduce the likelihood that all chicks will be run over by 50 percent; therefore, the impact of the HCP is on 5.1 chicks that otherwise would have fledged.

As a result, the overall impact of the take of 12 unfledged chicks will be equal to the loss of 5.1 chicks that would otherwise have fledged. The HCP should permit the take of 12 chicks over the lifetime of the permit. The mitigation required to offset the effect of the take should replace 5.1 chicks lost to the population (or 6 chicks rounded up to ensure the offset).

Piping plovers breeding on Nauset Beach are a small part of the local population centered on Cape Cod, and Massachusetts as a whole. This conclusion is supported by observations suggesting that few first time breeders return to natal sites to breed, but that they do tend to seek breeding sites in the general vicinity of natal beaches. Considering 2011 data on population size and fledging success (1.18 statewide; this is the most recent year for which regional and statewide data has been published), this would constitute an estimated impact of 1.0% (n=256), 0.8% (n=403), and 0.5% (n=655) of the Lower Cape, Cape Cod, and Massachusetts populations of piping plover (MADFW 2012). Although 2012 and 2013 data are not available in a format to allow for detailed analysis, preliminary 2012 and 2013 statewide data show a slight increase in number of breeding pairs coupled with declining productivity, indicating that these numbers could be underestimates (MADFW, unpublished preliminary data). However, even a doubling of the impact estimates provides a reliably conservative indication of the order of magnitude of the effect on the population. Furthermore, these impact estimates do not take into account the increased productivity expected to derive from the proposed on- and off-site mitigation program.

Cumulative Impacts

According to the MADFW, the state and federal governments do not anticipate receiving any additional piping plover permit applications for the 2015 beach season. It is extremely difficult to project how many additional HCP's might be permitted during the three-year period for which this proposed permit will be effective. In the 1996 Final Conservation Plan for Piping Plovers in Massachusetts, MADFW estimated that 3-7 sites per year might propose to escort caravans of non-essential vehicles under the then-proposed statewide HCP (MADFW 1996). During recent consultations with MADFW the agency has indicated that this estimate remains reasonable for the current permitting scenario, and that it is extremely unlikely that a full seven sites would implement caravan escorting (or other activities leading to equivalent incidental take) by even the second year of the Orleans permit (MADFW pers. comm). Again, all such permits would be required to meet the "net-benefit" mitigation standard to qualify for a state permit (321 CMR 10.23).

The Town of Chatham currently conducts a shorebird monitoring and management program including sending yearly reports to MADFW. Historically, regardless of OSV access in Orleans, the Town of Chatham implements proper signage and closures as recommended by state and federal Guidelines, therefore no adverse effects are anticipated to occur to piping plovers and least terns nesting on Town of Chatham property.

Societal Impacts

For many years, as restrictions and closures to traditional beach access have been increasing because of needed shorebird protection, there has been an increasing negative public sentiment toward shorebird protection and management. This is easily demonstrated by a petition submitted to the Town of Orleans during the summer of 2013 and by the proliferation of anti- shorebird merchandise sold in beach side communities across the region. Conversely, the same community of beach users are known to be good stewards of general beach conservation as evidenced by the multiple community organized beach clean-up programs and public support of other programs focused on natural resource protection

related to the beach environment. The implementation of the escort program proposed within this HCP is likely to be viewed as a “compromise” between shorebird protection and the historic use of the Nauset Beach South. Long-term natural resource protection requires public buy-in and the best way to reverse the current cultural attitude is through collaboration within the community not through prohibition. It is for this reason that implementation of the HCP is more than likely to have a significant positive impact on the long term sustainability of piping plover and other shorebird protection programs by increasing public support for the continued protective measures.

The enhanced outreach and education program describe below will focus on the effects of predation on piping plover breeding success and its relationship to public access closures. The objectives of the education program are to decrease beach user activities that may attract predators to the beach, with particular emphasis on non-resident tourists. Activities such as leaving trash on the beach and feeding wildlife that may attract predators will be a focus of the education program. In addition, highlighting the threats to piping plovers by predation and the relationship of predator management to the recovery of the plover is expected to contribute toward building public understanding and support of a predator management program for plover beaches.

XI. Mitigation

One of the greatest threats to nesting piping plovers at Nauset Beach (including Nauset Spit and Nauset Beach South) is from mammalian and avian predation of eggs, chicks and adults. A review of data from 1998 through 2013 (Appendices 5, and 11 through 25) clearly indicates that eggs, chicks, and occasionally adult piping plovers, are taken by a variety of predators living on Nauset Beach. Consistent predation by crows, foxes and coyotes is documented in data field sheets and yearly summaries of piping plover activity at Nauset Beach. Less consistent predators include raccoons and skunks.

To mitigate for the potential mortality of 5.1 fledged chicks from implementation of this HCP, the Town of Orleans has developed a mitigation strategy that is aimed at reducing the impacts of egg and chick predation in the plan area and at off-site locations. The mitigation is anticipated to increase piping plover productivity to a level that fully offsets (i.e., produces more fledged chicks than may be lost) the impacts of the take.

The Town of Orleans proposes to mitigate adverse effects to piping plovers using a combination of on-site (i.e. applied at Nauset Beach) and off-site (i.e., applied at a different plover beach in Massachusetts) mitigation measures through a combination of non-lethal and lethal selective predator management strategies. Non-lethal predator management has had mixed success in increasing piping plover productivity and may be considered to be of short duration. The Town proposes to investigate non-lethal techniques in an effort to increase on-site productivity over the short time span of the ITP. The Town recognizes that a minimum of two years may be necessary to develop and implement successful non-lethal predator management tools and has considered this time frame in the mitigation strategy presented below.

The on-site mitigation strategy for this HCP is designed to take incremental steps over time to improve piping plover productivity. This mitigation approach is sensitive to concerns among some in the community (and potential misunderstandings) about certain forms of predator control. Although the benefits of the proposed education program and on-site measures may be difficult to quantify, it is anticipated that these measures will pave the way for significant benefits to the piping plover over and above the benefits that will accrue through the off-site mitigation program.

The on-site mitigation strategy is phased over the 3-year permit period beginning with a community education and outreach program (Section XII below). In subsequent years, the outreach and education program will be continued and feasibility studies for on-site non-lethal targeted predator management will be initiated. If productivity objectives are not met within the life of the HCP, transitioning into on-site targeted predator management may be a requirement for a future, long-term HCP. On-site mitigation measures will be coordinated with the MADFW and USFWS in response to previous years' productivity, identification of threats to the plovers within the plan area and other available information.

Since on-site non-lethal predator management will take time to achieve and the more effective selective lethal predator management is not an immediately viable option for the Town of Orleans, the HCP also incorporates an off-site mitigation strategy. The off-site mitigation strategy will ensure that the impact of the take authorized by the ITP will be fully offset. For off-site mitigation, the Town of Orleans will put \$10,000 per year into an escrow account. The money in this account will be used by MADFW to implement selective lethal predator management at other plover nesting sites in Massachusetts. In essence, MADFW (or their designated contractors) will be implementing the off-site mitigation that will generate the increased plover productivity required to offset the take that will occur from implementation of the HCP. The details of this agreement and how funds will be used by MADFW to implement selective predator management are provided in a memorandum from MADFW (appendix 26).

The Town anticipates that the MADFW will select the beach on which predator management will be implemented based on documented poor productivity that was caused by predators targeting plover nests and/or chicks. The Town anticipates that the beach at which predator management will be implemented will have a proven history of predation, will have target predator species identified and a plan developed to ensure that predators selected for removal are those responsible for the poor productivity (e.g. "smart" predators). The selective predator removal plan will be approved by the USFWS prior to implementation in order to ascertain that the off-site mitigation will be adequate to provide compensation for the take of piping plover chicks. An escrow agreement (Appendix 27) will ensure that the \$10,000 provided by the Town will be directed entirely for off-site predator management.

Off-site mitigation is anticipated to result in about a 20 percent increase in piping plover productivity on beaches where targeted predator management is implemented. This calculation is based on a review of the effects of predator management on piping plover productivity (number of chicks successfully fledged per pair of plovers) for the 2003 Bouchard 120 oil spill Natural Resources Damage Assessment (Final Restoration Plan and

Environmental Assessment for Piping plover (*Charadrius melodus*) Impacted by the Bouchard Barge 120 Oil Spill Buzzards Bay Massachusetts and Rhode Island (http://www.fws.gov/newengland/pdfs/FinalBouchardRPEAipingplover_%20122012.pdf). Therefore, to offset the incidental take of 5.1 chicks, it is anticipated that the off-site mitigation will require selective predator management to benefit 8 breeding pairs per year. Assuming the 20% increase in productivity, based on the statewide average productivity, this will produce an increase of 0.25 fledglings/pair – for 2 additional fledglings per year or 6 over the permit term. Based on the costs associated with the above-mentioned projects, the mitigation costs for the HCP could range from \$4,000 to \$12,000 per year. However, we believe that both ends of that spectrum are unrealistic and that the actual costs will be somewhat lower than the higher end. Therefore, we anticipate that the \$10,000 per year that the Town of Orleans will commit will be sufficient to produce the required amount of mitigation. The off-site mitigation will be focused on beaches where implementing predator management will increase the number of chicks.

The Town of Orleans will prepare and submit a detailed annual mitigation work plan to the USFWS and the MADFW. For year 1, at a minimum the plan will address the outreach and education program to be completed prior to July 1, 2015. For years 2 and 3, the mitigation plan will be based on data collected the previous year and progress toward increasing productivity on-site and offsetting the anticipated take by increasing productivity at an off-site plover beach (Section VIII). The mitigation work plan will: 1) report on the information collected in the previous year; 2) describe the outreach and education program; 3) design on-site non-lethal predator management strategies to assess likelihood of success; 4) commit to funding off-site targeted predator management; 5) describe reporting requirements and 6) describe other management measures that may be identified during the course of the ITP. For years 2 and 3, the mitigation work plan will need to be submitted to the MADFW and USFWS by February 1 and will require the written approval of MADFW and the USFWS. In order to ensure predictability for the Town of Orleans, MADFW and USFWS will commit to approving the plan within 30 work days of receipt as long as it is consistent with the HCP criteria. The February 1 date will allow for time prior to the recreational season in case a discussion or negotiation regarding the context of the plan is needed.

During year 3, on-site mitigation will be implemented in order to directly benefit the population that will potentially be exposed to risk; however, if other factors reduce the efficacy of on-site mitigation, off-site mitigation will be needed to supplement the required on-site mitigation and achieve the desired conservation outcome. If on-site productivity is ≥ 1 (average of years 1 & 2) then the agencies may waive the requirement for off-site mitigation if they determine that the increase in on-site productivity is high enough to complete the mitigation requirement without the off-site mitigation. The agencies have determined that if on-site productivity is ≥ 1.5 (average of years 1 & 2) then the agencies will automatically waive the requirement for off-site mitigation because the on-site mitigation will have been effective enough to complete the mitigation requirement without the supplemental off-site mitigation.

Summary of On-site and Off-site Mitigation:

1. *Year 1* – Implement a community education and outreach program (described below)
2. Fund and ensure implementation of the off-site mitigation program as part of the annual mitigation work plan established by the HCP.

Year 2 – Prepare mitigation plan by February 1 for agency approval:

1. Identify and assess feasibility of potential targeted non-lethal predator control; implement if practicable and approved by the agencies.
2. Fund and ensure implementation of the off-site mitigation program as in year 1.
3. Continue to implement community education and outreach program developed in Year 1.

Year 3 – Prepare mitigation plan by February 1 for agency approval.

1. On-site productivity (average of years 1 & 2) < 1.
 - a. Implement the community education and outreach program.
 - b. Implement targeted on-site non-lethal predator control at Nauset Beach South if approved by the agencies.
 - c. Fund and ensure implementation of off-site mitigation.
2. On-site productivity (average of years 1 & 2) \geq 1
 - a. Continue outreach and education program.
 - b. If the agencies determine that the on-site non-lethal targeted predator management is reasonably likely to be effective, then the agencies may waive the requirement to provide off-site mitigation under this scenario in year 3. If the on-site productivity (average of years 1&2) \geq 1.5, then the agencies will waive the requirement to provide off-site mitigation under this scenario in year 3.

Education and Outreach Program

The education and outreach program is intended to raise awareness among beachgoers and the general public of the many threats faced by the piping plover and the importance of maintaining adequate productivity through management actions. For example, data collected by the Town of Orleans clearly shows that predators are the major factor driving down plover productivity at Nauset Beach; it is possible that this link between predators and productivity is not well understood by the general public, stakeholders, and decision-makers. The limited, targeted nature of predator control is also not widely understood. The education and outreach efforts, to be undertaken in partnership with the MADFW, USFWS and other interested organizations will seek to provide an in-depth explanation of the issues impacting piping plover recovery and will explain potential solutions. The specific measures that will be implemented in the education and outreach program for all three years of the ITP will include (but may not be limited to):

- An expanded mandatory education program to educate OSV permit holders about the HCP escort program, piping plover productivity, the impact of predators on piping plover productivity and suggested techniques to minimize predators.

- The addition of the self-escort program and mitigation information to the existing mandatory instructional video for OSV permit holders.
- The design and erection of explanatory signage about the OSV program for locations targeting OSV permit holders.
- The addition of printed materials to locations targeting OSV permits holders.
- Implement of a public awareness campaign about the conservation status of the piping plover, threats and the link between predators, productivity & population status (in cooperation with MADFW and USFWS).
- Up to two annual public education seminars on the described subject matter hosted by the Town of Orleans beginning after 1/1/15. As host, the Town of Orleans will provide venue, presentation equipment, advertising and other types of promotion or may post a prerecorded public education seminar recording on the Orleans 18 TV station. Whereas the Town of Orleans does not have the expert knowledge on the subject matter, it will work with USFWS, MADFW, non-governmental organizations and/or academic institutions to develop the content and arrange for participation by qualified experts.

XII. Monitoring & Reporting

There are several types of monitoring and reporting that will occur for this HCP. First, annual monitoring data will be collected on piping plover productivity at Nauset Beach South, as it is at many other plover beaches in Massachusetts. Nauset Beach South is currently managed in compliance with the OOC and with guidance from the MADFW. Moreover, management is also in compliance with the USFWS “Piping Plover Atlantic Coast Population Recovery Plan” (Appendix 28). As such, piping plover monitoring is required and data related to the productivity are annually provided to the MADFW. Collection of productivity data necessitates a comprehensive monitoring and reporting program. The productivity data for Nauset Beach South will be included in an annual HCP implementation report provided by the Town of Orleans.

Second, the proposed OSV management program for the HCP establishes additional monitoring and reporting responsibilities. The additional data to be collected on the implementation of the self-escort program and effects to piping plover broods within the permit area will be the responsibility of the shorebird monitors specifically hired to implement the program. These and other responsibilities are described in Section IX and are further referenced and defined in other sections as well. As explained in Section IX, every week or sooner if necessary, a brief summary report will be submitted to the USFWS and MADFW. The Natural Resource Manager and Beach Director will work with USFWS and MADFW to develop a template summary report. In addition, by December 31 of each calendar year, the Town of Orleans will submit an annual HCP implementation report to USFWS and MADFW that includes an assessment of the escort program. The assessment will at a minimum describe: the estimated age of chicks in each brood when self-escorting was initiated, fledging success, escorting dates, number of broods, number of chicks present during self-escorting on each date, number of vehicle passages, and any documented “take” of chicks resulting from the vehicle escorting program shall be included in this report. The

report will also contain recommendations for improving the efficiency and or effectiveness of the escorting program in the future.

Finally, the Town of Orleans will provide a summary of the on-site and off-site mitigation programs in the annual HCP implementation report. For the on-site mitigation, the Town report will include the following information: 1) identification of target predators; 2) non-lethal management implemented (location, dates, days implemented); 3) evaluation of success (number nest(s) hatched, number chicks fledged in area where non-lethal predator management was implemented); and 4) recommendations for improving methodology (if necessary), addressing different predators or new methodology. For the off-site mitigation, the Town will incorporate the annual report provided by MADFW regarding implementation of selective predator management, per the signed memorandum (Appendix 26).

XIII. Changed Circumstances

Under HCP guidance, changed circumstances are those circumstances affecting a species or geographic area covered by a HCP that can reasonably be anticipated and that can be planned for. The HCP should discuss measures developed by the applicant to address foreseeable changed circumstances over time, possibly by incorporating adaptive management procedures for covered species within the HCP. To the extent practicable, HCP planners should identify potential changed circumstances in advance and develop specific strategies for dealing with them within the HCP. The intent of addressing changed circumstances early in the process is to provide a means for adjustments to the conservation plan as necessary without an amendment of the HCP/ITP.

Listing of a New Species

If a currently unlisted species is federally listed as endangered or threatened pursuant to the Endangered Species Act (ESA) after the ITP has been issued, the Town of Orleans will request that USFWS make a determination if there is a potential for incidental take of the newly listed species to occur while conducting activities covered by the HCP. If so, the Town of Orleans can choose to modify their management actions in coordination with USFWS to ensure incidental take of the species will be avoided, and/or amend the HCP to incorporate the newly listed species and request a formal amendment of the ITP in compliance with the provisions of section 10 of the ESA. The USFWS generally considers additions of covered species as a major amendment triggering re-initiation of the ESA section 7 consultations and additional NEPA compliance.

Extreme Weather Event

Morphological changes to the beach could result in precluding the implementation of the HCP should the designated travel corridor be impacted to the point vehicles may not proceed through the Pochet area (e.g. a breach at the Pochet wash over). Irrespective of whether the HCP may be implemented within the geographically designated area (Pochet), all other portions of Nauset Beach will continue to be managed according to the state and federal Guidelines. If the permitted activity is not able to be implemented due to extreme changes in

beach morphology, the Town will demonstrate that the mitigation has compensated for the take of plovers during previous years or continue to provide mitigation until the take has been offset.

XIV. Unforeseen Circumstances

Unforeseen circumstances are defined as changes in circumstances affecting a species or geographic area covered by a conservation plan that could not reasonably have been anticipated by plan developers and the USFWS at the time of the negotiation and development of the plan and that result in a substantial and adverse change in the status of the covered species. (50 CFR § 17.3).

The USFWS bears the burden of demonstrating that unforeseen circumstances exist using the best available scientific and commercial data available while considering certain factors. (50 CFR §§ 17.22(b)(5)(iii)(C)). In deciding whether unforeseen circumstances exist, the USFWS shall consider, but not be limited to, the following factors (50 CFR §§ 17.22(b)(5)(iii)(C)):

1. The size of the current range of the affected species;
2. The percentage of the range adversely affected by the covered activities;
3. The percentage of the range that has been conserved by the HCP;
4. The ecological significance of that portion of the range affected by the HCP;
5. The level of knowledge about the affected species and the degree of specificity of the conservation program for that species under the HCP; and
6. Whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the species in the wild.

In negotiating unforeseen circumstances, the USFWS will not require the commitment of additional land, water or financial compensation or additional restrictions on the use of land, water or other natural resources beyond the level otherwise agreed upon for the species covered by the HCP without the consent of the permittee. (50 CFR §§ 17.22(b)(5)(iii)(A)). If additional conservation and mitigation measures are deemed necessary to respond to unforeseen circumstances, the USFWS may require additional measures of the permittee where the HCP is being properly implemented only if such measures are limited to modifications within conserved habitat areas, if any, or to the HCP's operating conservation program for the affected species, and maintain the original terms of the plan to the maximum extent possible. (50 CFR §§ 17.22(b)(5)(iii)(B)). Additional conservation and mitigation measures will not involve the commitment of additional land, water or financial compensation or additional restrictions on the use of land, water, or other natural resources otherwise available for development or use under the original terms of the conservation plan without the consent of the permittee.

Notwithstanding these assurances, nothing in the "No Surprises" Rule "will be construed to limit or constrain the USFWS, any Federal agency, or a private entity, from taking additional actions, at its own expense, to protect or conserve a species included in a conservation plan." (50 CFR §§ 17.22(b)(6)).

XV. Funding Assurances

The following financial analysis/projections detail costs related to implementing the HCP including the mitigation project, additional staff and adding to the existing education program. These costs are exclusive of the costs associated with the monitoring and management required under the state and federal Guidelines.

Table 2: Estimate Costs for Implementing the HCP:

Budget Item	Year 1	Year 2	Year 3	Permit Total
(4) Beach Patrol Officers	\$12,096	\$12,096	\$12,096	\$36,288 (2)
Plover & (2) Vehicle Monitors	\$15,552	\$15,552	\$15,552	\$46,656
Binoculars (4 pair)	\$400	\$0	\$0	\$400
Public Education Program**	\$2,500	\$2,500	\$2,500	\$7,500
Uniforms	\$975	\$975	\$975	\$2,925
3 Motorola Radios	\$1,050	\$0	\$0	\$1,050
Off-site Mitigation	\$10,000	\$10,000	\$0	\$20,000
On-site Predator Control	\$0	\$0	\$10,000	\$10,000
One Club Car	\$18,000	\$0	\$0	\$18,000
Totals	\$60,573	\$41,123	\$41,123	\$142,819

During the 2014 Orleans Town Meeting, the Town approved \$10,000 for off-site mitigation for implementation in 2015 upon finalization and signature of the Escrow Agreement between MADFW and the Town, and receipt of the ITP. Off-site mitigation may not be required in year 3 based on the productivity or implementation of on-site predator control. Therefore, if agreed to by the USFWS and MADFW, the above table projects that the on-site Predator Control will replace the off-site mitigation.

Funding for implementation of the HCP will be included in the Town of Orleans annual operating budget. Prior to the Orleans Town Meeting, the Town will provide a copy of the proposed budget “warrant” to the USFWS. The Town of Orleans will annually provide a letter or memorandum to the USFWS verifying that the HCP operating budget was approved at the Orleans Town Meeting no later than June 1. If adequate funding is not secured then the self-escorting OSV program will not be implemented and the standard state and federal Guidelines for recreational beach management will be continue to be implemented throughout Nauset Beach. In this case, the Town would not be in compliance with the terms of the HCP and therefore incidental take coverage for piping plovers would not apply for that year.

XVI. Alternatives to the Taking

Since 1991, the Town of Orleans has managed Nauset Beach South in full compliance with the OOC. This management has included total closures to OSV access during the nesting

season beginning in 2006 and continuing each and every year through 2014. It is the intent of the proposed program to have no impact on any other natural resources or species of wildlife beyond what might occur under normal circumstances, e.g. plovers absent.

The objective of the HCP is to allow access to OSVs beginning on or after July 15th in the presence of no more than two broods of piping plovers. Historic data indicates that generally one to two broods may be present in the Pochet area after July 15th, effectively precluding OSV access until late August. One alternative to the taking considered for the HCP was for only pedestrian access to Nauset Beach South when plover chicks are present. However, under current management, pedestrians are not restricted from the approximately five miles of beach that are restricted to OSVs when plovers are present in the Pochet but not on the beach south of the Pochet. Therefore, an alternative that considers pedestrian access only on or after July 15th is already in place. Moreover, this alternative does not meet the objective of providing OSV access and increased recreational access to open areas of the beach on or after July 15th, although it does prevent take.

Boat access to the five miles of beach that may be closed to OSVs on or after July 15th if plovers are present in the Pochet area would avoid take of piping plovers since the boat landings would not occur near the plover broods. However, the high-energy beach precludes safe boat landings and this alternative is not feasible.

Other alternatives that would meet the objective of providing recreational access to Nauset Beach South when two broods of piping plover chicks are present in the Pochet area on or after July 15th might not avoid or minimize to the level of the preferred alternative (for example, an alternative allowing 375 OSVs on the beach, the maximum allowable under the OOC) or sufficiently mitigate for lost plover fledglings. After years of consultation with both USFWS and MADFW; the Town of Orleans believes the only alternative to address the multiple issues described above in Section II (Purpose & Need) is to take the actions proposed within this HCP.

XVII. Permit Amendment

The HCP and/or ITP may be modified in accordance with the ESA, the USFWS's implementing regulations, and this chapter. HCP and permit modifications are not anticipated on a regular basis; however, modifications to the HCP and/or ITP may be requested by either the Town of Orleans or the USFWS. The USFWS also may amend the ITP at any time for just cause, and upon a written finding of necessity, during the permit term in accordance with 50 CFR § 13.23(b). The categories of modifications are administrative changes, minor amendments, and major amendments.

a) Administrative Changes

Administrative changes are internal changes or corrections to the HCP that may be made by the Town of Orleans, at its own initiative, or approved by the Town of Orleans in response to a written request submitted by the USFWS. Requests from

the USFWS shall include an explanation of the reason for the change as well as any supporting documentation.

Administrative changes on the Town of Orleans' initiative do not require preauthorization or concurrence from the USFWS. Administrative changes are those that will not (a) result in effects on a HCP species that are new or different than those analyzed in the HCP, the USFWS's environmental action statement (EAS), or the USFWS's biological opinion (BO), (b) result in take beyond that authorized by the ITP, (c) negatively alter the effectiveness of the HCP, or (d) have consequences to aspects of the human environment that have not been evaluated. The Town of Orleans will document each administrative change in writing and provide the USFWS with a summary of all changes, as part of its annual report, along with any replacement pages, maps, and other relevant documents for insertion in the revised document.

Administrative changes include, but are not limited to, the following:

- Corrections of typographical, grammatical, and similar editing errors that do not change intended meanings;
- Corrections of any maps or exhibits to correct minor errors in mapping; and
- Corrections of any maps, tables, or appendices in the HCP to reflect approved amendments, as provided below, to the HCP or ITP.

b) Minor Amendments

Minor amendments are changes to the HCP the effects of which on HCP species, the conservation strategy, and the Town of Orleans's ability to achieve the biological goals and objectives of the HCP are either beneficial or not significantly different than those described in this HCP. Such amendments also will not increase impacts to species, their habitats, and the environment beyond those analyzed in the HCP, EAS, and the BO or increase the levels of take beyond that authorized by the ITP. Minor amendments may require an amendment to the ITP. A proposed minor amendment must be approved in writing by the USFWS and the Town of Orleans before it may be implemented. A proposed minor amendment will become effective on the date of the joint written approval.

The Town of Orleans or the USFWS may propose minor amendments by providing written notice to the other party. The party responding to the proposed minor amendment shall respond within thirty (30) days of receiving notice of such a proposed modification. Such notice shall satisfy the provisions of 50 CFR § 13.23 as well as include a description of the proposed minor amendment; the reasons for the proposed amendment; an analysis of the environmental effects, if any, from the proposed amendment, including the effects on HCP species and an assessment of the amount of take of the species; an explanation of the reason(s) the effects of the proposed amendment conform to and are not different from those described in this HCP; and any other information required by law. When the Town of Orleans proposes a minor amendment to the HCP, the USFWS may

approve or disapprove such amendment, or recommend that the amendment be processed as a major amendment as provided below. The USFWS will provide the Town of Orleans with a written explanation for its decision. When the USFWS proposes a minor amendment to the HCP, the Town of Orleans may agree to adopt such amendment or choose not to adopt the amendment. The Town of Orleans will provide the USFWS with a written explanation for its decision. The USFWS retains its authority to amend the ITP, however, consistent with 50 CFR § 13.23.

Provided a proposed amendment is consistent in all respects with the criteria in the first paragraph of this section, minor amendments include, but are not limited to, the following:

- Correction of the site map to address errors in the covered area boundary location.
- Modifying existing or developing new take avoidance measures.
- Modifying the reporting schedule or notification process.
- Minor changes to the monitoring method.
- Any other modifications to the HCP that are consistent with the biological goals and objectives of the HCP that the FWS has analyzed and agreed to, and that will not result in changes to the operations under the HCP that are significantly different from those analyzed in connection with the HCP as approved.

c) Major Amendments

A major amendment is any proposed change or modification that does not satisfy the criteria for an administrative change or minor amendment. Major amendments to the HCP and ITP are required if the Town of Orleans desires, among other things, to modify the projects and activities described in the HCP such that they may affect the impact analysis or conservation strategy of the HCP, affect other environmental resources or other aspects of the human environment in a manner not already analyzed, or result in a change for which public review is required. Major amendments must comply with applicable permitting requirements, including the need to comply with NEPA, the NHPA, and Section 7 of the ESA.

In addition to the provisions of 50 CFR § 13.23(b), which authorize the USFWS to amend an ITP at any time for just cause and upon a finding of necessity during the permit term, the HCP and ITP may be modified by a major amendment upon the Town of Orleans' submission of a formal permit amendment application and the required application fee to the USFWS, which shall be processed in the same manner as the original permit application. Such application generally will require submittal of a revised HCP and preparation of an environmental review document in accordance with NEPA. The specific document requirements for the application may vary, however, based on the substance of the amendment. For instance, if the amendment involves an action that was not addressed in the original HCP or NEPA analysis, the documents may need to be revised or new

versions prepared addressing the proposed amendment. If circumstances necessitating the amendment were adequately addressed in the original documents, an amendment of the ITP might be all that would be required.

Upon submission of a complete application package, the USFWS will publish a notice of the receipt of the application in the Federal Register, initiating the NEPA and HCP public comment process. After the close of the public comment period, the USFWS may approve or deny the proposed amendment application. The Town of Orleans may, in its sole discretion, reject any major amendment proposed by the USFWS.

Changes that would require a major amendment to the HCP and/or ITP include, but are not limited to:

- The listing under the ESA of a new species or critical habitat that may be affected by the covered activities of the proposed Project.
- Significant changes to the HCP which were not addressed in the HCP, such as changes to the covered activities or changes in the permit duration.

XVIII. Permit Renewal

It is requested that the ITP associated with this HCP is renewable pursuant to 50 CFR 13.22. In the event that the Town of Orleans plans to continue to implement the HCP after the permit term, the Town of Orleans will file in writing a renewal request at least 30 days prior to the permit expiration.

XIX. Literature Cited

- Massachusetts Division of Fisheries and Wildlife. 1993. Guidelines for managing recreational use of beaches to protect piping plovers, terns, and their habitats in Massachusetts. Natural Heritage and Endangered Species Program, Field Headquarters, Westborough, Massachusetts. 14 pp.
- Massachusetts Barrier Beach Task Force. 1994. Guidelines for barrier beach management in Massachusetts. Massachusetts coastal Zone Management Program, Boston, Massachusetts. 265 pp.
- U.S. Fish and Wildlife Service. 1994. Guidelines for managing recreational activities in piping plover breeding habitat on the U. S. Atlantic Coast to avoid take under section 9 of the Endangered Species Act. Hadley, Massachusetts. 15 pp.
- U.S. Fish and Wildlife Service. 2009. Piping plover (*Charadrius melodus*) 5-year review: summary and evaluation. Northeast Region, Hadley, Massachusetts and the Midwest Region's East Lansing Field Office, Michigan. 95 pp.
- U.S. Fish and Wildlife Service and National Marine Fisheries Service. 1996. Habitat Conservation Planning Handbook.