UNITED STATES GOVERNMENT
MEMORANDUM

U.S. FISH AND WILDLIFE SERVICE
NEW ENGLAND FIELD OFFICE
70 COMMERCIAL STREET, SUITE 300
CONCORD, NEW HAMPSHIRE 03301-5087

Transmittal Memorandum

TO: Paul Phifer, ARD/Ecological Services
THRU: David Simmons, Acting HCP Coordinator

April 3, 2015

FROM: Thomas R. Chapman, Supervisor, New England Field Office

SUBJECT: HCP Determination Screening Form/Environmental Action Statement

Attached please find the signed subject document for the Town of Orleans, Massachusetts for over-sand vehicle access.

If you have any questions pertaining to the report, please contact Susi von Oettingen at 603-223-2541.

Attachment

FINAL LOW-EFFECT HCP DETERMINATION SCREENING FORM AND ENVIRONMENTAL ACTION STATEMENT (EAS)

I. Project Information

A. Project Name: Town of Orleans Over-Sand Vehicle Access Habitat Conservation Plan, Orleans, Barnstable County, Massachusetts

B. Affected Species: Piping plover (*Charadrius melodus*)

C. Project size: The proposed permit area encompasses Nauset Beach in Orleans, Massachusetts in its entirety as it includes the self-escort corridor and all portions of the beach where onsite mitigation may occur. The proposed self-escort corridor is an over-sand vehicle (OSV) travel corridor of approximately 4,224 feet (0.8 mile) in length located within the Pochet washover area (Pochet) on Nauset Beach South. The specific length of the OSV trail in which the self-escorting program is implemented will be based on the number of broods present, the distance over which the chicks within each brood are spread, and the broods' locations in relation to each other.

D. Brief project description including minimization and mitigation plans:

Purpose: The Over-Sand Vehicle Access Habitat Conservation Plan (HCP) is intended to provide the basis for issuance of a section 10(a)(1)(B) incidental take permit (ITP) to the Town of Orleans (Town). The Town proposes to deviate from current State and Federal beach management guidelines by allowing late season OSV use, beginning on or after July 15, in the presence of no more than two broods of piping plover chicks within a designated vehicle escort area. This will allow recreational use of up to 5 miles of beach south of the Pochet that is often unavailable to OSV access.

Need: The Town manages pedestrian and vehicular recreational use on Nauset Beach (which incorporates Nauset Beach South and Nauset Spit) in compliance with the Orleans Conservation Commission's 2014 Order of Conditions (OOC) and State (Massachusetts Division of Fisheries and Wildlife [MADFW] 1993) and Federal (U.S. Fish and Wildlife Service [USFWS] 1994) Guidelines (Guidelines) to avoid take of piping plovers on recreational beaches. A designated OSV trail traverses piping plover breeding habitat on Nauset Beach; only permitted and essential vehicles are allowed to utilize the OSV trail. Permits are sold by the Town, and revenue derived from the sale of permits is used to manage and maintain the beach's natural resources, recreational facilities, and pedestrian and OSV recreational access to Nauset Beach. To avoid take of piping plover chicks, OSV travel is precluded when unfledged (unable to fly) chicks are located in or adjacent to the travel corridor. Recently, the presence of piping plover chicks near the OSV trail on the Pochet, a narrow section of Nauset Beach South, has prevented OSV access to 5 miles of otherwise legally accessible beach. The closures have lasted for a few days to almost 14 weeks. Due to the increasingly lengthy OSV trail closures at Nauset Beach South in recent years, average annual revenue from the sale of OSV permits declined by approximately $175,000, a 40 percent reduction from average annual revenue collected

prior to the extensive OSV closures. The Town seeks incidental take coverage to allow limited recreational access to Nauset Beach South during the latter part of the piping plover breeding season (after July 15). Doing so will have an incidental benefit, increasing revenue to further manage and protect the beach's natural resources.

Proposed Project: The Town manages Nauset Beach South for pedestrian and vehicular use in compliance with local, State, and Federal regulations, the 2014 OOC, and State and Federal Guidelines. In complying with the regulations and Guidelines, vehicular access for recreational activities on portions of Nauset Beach South is precluded when unfledged piping plover chicks of late-nesting piping plovers are present. In the last 5 years, vehicular access of up to 5 miles of beach unoccupied by breeding piping plovers has been prohibited during the latter part of summer because of one to three pairs of nesting piping plovers located in the Pochet. The plovers occur in an area where there is no opportunity to safely route vehicles around unfledged plover chicks. To regain vehicular access to otherwise open portions of Nauset Beach South, the Town proposes to implement a self-escorting program for up to 180 vehicles that may pass by no more than two broods of piping plover chicks beginning on or after July 15.

The self-escorting program will be limited to 2 hours in the morning for vehicles accessing Nauset Beach South and 2 hours in the afternoon for vehicle egress (a total of 4 hours per day). Qualified piping plover monitors will be assigned to the broods to locate and observe chicks during the self-escorting program. Additional monitors will observe the self-escorted vehicles to ensure that the escorting protocols are being correctly implemented. Vehicular and pedestrian management elsewhere on Nauset Beach South will continue to follow the 2014 OOC and State and Federal Guidelines for managing piping plovers on recreational beaches.

The HCP provides the basis for issuance of an ITP that would authorize incidental take of up to two broods of piping plover chicks. The HCP estimates that up to four chicks per brood could be exposed to take from mortality as a result of vehicles driving within the vicinity of unfledged chicks. Over the 3-year life of the permit, a total of 24 chicks may be exposed to the potential for take (4 chicks x 2 broods x 3 years). Take of adults is not anticipated because State and Federal Guidelines, with the exception of the proposed vehicle traffic in the presence of up to two broods of plover chicks, will be fully implemented.

This take estimate does not account for take reductions due to implementation of the HCP's required minimization measures, which further reduce the take and its anticipated impact on piping plover productivity. The HCP anticipates that the minimization measures will reduce the likelihood of take by 50 percent, resulting in a maximum of four unfledged chicks per year, for a total of 12 unfledged chicks over the life of the permit. Mitigation measures to compensate for the impact of any take that occurs would be implemented onsite and offsite and are primarily focused on predator management. Nonlethal predator management occurring onsite will be considered experimental until the methodology is shown to increase productivity. Offsite, lethal targeted predator management is aimed at increasing statewide piping plover productivity.

Project Duration: The requested permit duration is 3 years.

Covered Lands: The entire plan area is the geographic area known as Nauset Beach that includes Nauset Beach South and Nauset Spit. Within the plan area, the proposed escort program will be implemented in an approximately 0.8-mile travel corridor of the OSV trail on Nauset Beach South. Specifically, the self-escort corridor is located at the Pochet (see HCP for map). Site-specific boundaries are not possible to define because of the dynamic nature of the coastal ecosystem, since sand deposition or beach erosion may cause the boundaries to shift. The beginning and end points of the self-escorting program will be initiated 300 feet north of the northernmost plover chick (nearest the parking lot). The self-escort corridor will end 300 feet south of the southernmost chick in the brood (farthest from the sand trail access point). The total distance for the self-escorting program may vary and is dependent upon the number of broods present at one time, the location of each brood, and the area over which chicks are spread for each brood.

The HCP includes Nauset Spit within the covered lands because (1) it is managed under a similar Conservation Commission OOC by the Town of Orleans; (2) it is contiguous to Nauset Beach South, although the OSV access points for each beach are separated by the lifeguarded beach; (3) weather and predation pressure are anticipated to be similar; and (4) mitigation measures implemented by the Town at this location (for example, education materials related to OSV permits) will be the same as at Nauset Beach South.

Species Occupation and Baseline: Federally listed threatened piping plovers nest on the sandy, sparsely vegetated dunes and overwash areas of Nauset Beach, including Nauset Beach South and Nauset Spit. Adult plovers and their young forage on wrack washed up onto the beach and intertidal flats adjacent to the bay and oceanside shoreline. The Town of Orleans has been managing breeding piping plovers under an Orleans Conservation Commission OOC since 1991, having adopted one of the earliest beach management plans for plovers in the State of Massachusetts. The management plan addressed recreational use of Nauset Beach and identified measures to avoid take of piping plovers by managing OSV access in the presence of plover nests and broods.

Annual surveys of Nauset Beach South and Nauset Spit for piping plover pairs and productivity have been conducted since 1991. The population of breeding piping plovers at Nauset Beach has ranged from a minimum of 12 pairs (1991) to a high of 32 pairs (2010 and 2011). Nauset Beach South, on average, has fewer pairs of breeding plovers than Nauset Spit, with the exception of 2013 when Nauset Beach South had 16 pairs of plovers, while Nauset Spit had 13 pairs of plovers. Although habitat is highly suitable and recreational management has been consistent with State and Federal Guidelines, interannual productivity at both of these beach sections varies widely and is dependent on weather (storms causing loss of nests and chicks) and predation impacts.

Biological goals and objectives for covered species: According to the proposed HCP, the primary goal is to reduce the 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. A secondary goal is to increase the public awareness of the effects of predation on piping plover recovery in Orleans.

To meet the biological goals, the HCP describes objectives to reduce the exposure risk of piping plover chicks to being run over by vehicles by limiting the hours during which vehicles may access the OSV trail, intensive monitoring of broods prior to, during, and after the self-escorting periods, and temporary closures to protect chicks in the vicinity of the active OSV self-escort corridor. Additionally, the Town will prepare educational material for Orleans residents, permit holders, and visitors about piping plover recovery, threats to piping plovers, and strategies to address the threats.

Minimization and Mitigation Measures:

Minimization measures:

The OSV self-escorting program will allow vehicular passage along a section of a 0.8-mile-long travel corridor past no more than two broods of piping plovers older than 24 hours on or after July 15. The program is designed to minimize the likelihood of take to the maximum extent practicable. Minimization measures focus on reducing vehicle speed, limiting the time of plovers' exposure to vehicles, tracking chicks and preventing mortality, and strictly enforcing self-escorting protocols.

Currently, in the absence of unfledged piping plover chicks in or adjacent to the travel corridor, vehicles may utilize the sand trail between 6 a.m. and 11 p.m. for a total of 17 hours per day. In the presence of unfledged plover chicks, vehicle access is precluded. Under the HCP, in the presence of unfledged plover chicks, vehicle access would be permitted for 4 hours per day. Implementation of the OSV self-escorting program is restricted to daylight hours and limited to 4 hours (2 hours in the morning and 2 hours in the afternoon), significantly minimizing the daily exposure of vehicle passes in the vicinity of broods as compared to implementing the program for 17 hours per day. Moreover, the number of vehicles able to access the OSV trail has been reduced by over 50 percent, from a maximum of 375 vehicles allowed at any given time on the beach under the 2014 OOC to a maximum of 180 vehicles per day.

The majority of plover pairs in the Pochet after July 15 have been with chicks generally older than 2 days. Restricting OSV travel to July 15 or after increases the likelihood that chicks will be older and more easily visible. Moreover, precluding travel past broods within the first 24 hours of hatching increases the likelihood of chicks being more visible to escorts and monitors as well.

Each vehicle will be preceded by a walker at least 10 feet (for safety) in front of that vehicle and at least 15 feet behind the preceding vehicle. Vehicle speeds will be limited to the speed of the walking escort. It is anticipated that speeds will average approximately 3.1 miles per hour, the average speed of a walking person under most weather and landscape conditions (http://www.princeton.edu/~achaney/tmve/wiki100k/docs/Walking.html, accessed December 2014). The escort will watch for

chicks and stop the vehicle if a chick is observed in the travel corridor. A vehicle monitor will observe the self-escorted vehicles to ensure compliance with the self-escort program protocols.

The likelihood of mortality will be further reduced by daily intensive monitoring of the broods prior to, during, and after the self-escort period, and by a self-escort requirement whereby the pedestrian searches for chicks to prevent vehicles from running over them. Prior to vehicles accessing the sand trail, monitors assigned to each brood will document the location of the broods. Self-escorting will begin at a clearly marked point 300 feet from the northernmost unfledged chick in the brood and will end at a clearly marked point 300 feet south of the southernmost chick in the brood. The total length of the self-escorting corridor will vary depending upon the number and location of the broods and the area over which the chicks are spread for each brood. Monitors will continue to track the broods during the 2 hours of vehicles accessing the sand trail and will halt traffic if chicks are observed less than 100 feet from the sand trail. Patterns of behavior (e.g., if broods are consistently documented transiting through or foraging in an area) documented during the intensive monitoring may assist in locating and protecting mobile broods prior to and after OSV travel.

Tire ruts are known to impede small chicks from moving freely along the beach because the ruts may trap chicks, forcing them to move laterally along the ruts and preventing their egress from the sand trail. This may direct chicks away from adults, foraging habitat, or shelter. Chicks may also use tire ruts as shelter during windy weather, making them less visible and more likely to be run over by vehicles. Tire ruts will be raked smooth daily at the end of the second OSV travel period to promote easy passage by plover broods to foraging or sheltering habitat. Mechanical raking may be used, but will require a qualified monitor to walk in front of the rake to ensure chicks are not run over by the raking vehicle.

The OSV travel corridor at the Pochet is situated landward of the wrackline. Therefore, no measures are needed to reduce impacts to wrackline foraging habitat.

Mitigation:

Mitigation measures will focus on reducing predation on eggs and chicks at Nauset Beach using nonlethal predator management strategies that will be developed in coordination with the MADFW and the USFWS, and on outreach and education undertakings regarding piping plover recovery and threats to breeding piping plovers in Massachusetts. The HCP mitigation plan incorporates a strategy to ramp up onsite efforts to address predation effects at Nauset Beach over the permit period. Due to some uncertainty in how much success can be achieved during the ramping up period, the Town has also committed to an offsite predator management plan that will be implemented at the same time as the onsite plans. Together, the onsite and offsite mitigation plans will assure that adequate mitigation is being provided each year to offset the authorized incidental take. Offsite predator management will not directly affect

piping plover productivity at Nauset Beach, but will be applied to other beaches in Massachusetts, thus benefitting the statewide population.

Piping plover productivity is measured by the number of chicks fledged (able to fly) per brood. To increase productivity, the number of fledged chicks (fledglings) per brood must be increased. Although the covered activity will result in the take of unfledged plover chicks, the number of fledglings calculated to be lost as a result of the take will be the metric used for mitigation. If unfledged chicks are lost during late season OSV use in the travel corridor, the true impact will be manifested by a reduction in successful plover fledglings. Therefore, the impact for the purposes of the mitigation is quantified in terms of productivity per nesting pair, assessed through fledging success. Furthermore, it has been adjusted to reflect the reduction in take due to implementation of the minimization measures summarized above.

The HCP estimates an average productivity of 1.7 chicks per brood for nests that hatch successfully on Nauset Beach South in the absence of the proposed covered activity (based on productivity rates from 1998 to 2014). Applying this average productivity to two broods per year for the life of the permit results in a total estimate of 10.2 fledged chicks lost over the 3-year life of the permit (1.7 chicks/brood x 2 broods/year x 3 years). This estimate does not reflect the effects of implementing protocols to minimize take from the covered activities. Given limited driving hours, intensive chick monitoring, self-escorting, and other impact minimization procedures, the actual number of fledglings expected to be lost will be substantially lower than 10.2 fledglings, because this scenario assumes 100 percent mortality from OSVs for all chicks exposed to the covered activity. Based on careful consideration of the protocol, more than 25 years of technical assistance to implementation of management across the piping plover's Atlantic Coast breeding range, and extensive knowledge of piping plover behavior and breeding ecology, the USFWS concurs with the 50 percent reduction of take estimated in the HCP. Thus, the expected impact of take (i.e., reduced productivity) resulting from the program will not exceed 5.1 fledglings over the 3-year life of the permit. Mitigation should therefore compensate for the loss of 5.1 fledglings over the life of the permit to offset the incidental take related to the late season OSV use in the travel corridor. The conservation measures contained in the HCP are anticipated to completely offset this level of take.

The Town will develop an annual mitigation work plan in consultation with the MADFW and the USFWS. The mitigation plan will identify measures that may be taken onsite to increase nest hatching success (e.g., judicious use of nest exclosures), may identify and implement experimental, nonlethal predator management actions that may later be incorporated as mitigation if resulting in an increase in nest and/or fledgling success and the MADFW and USFWS are in agreement, and will outline an outreach plan to inform the public about the impact of predation on piping plover recovery and measures needed to ameliorate the impact. Lethal, targeted predator removal has been successfully used on other beaches in New England to increase the number of fledged chicks per pair (productivity). However, it is not proposed for Nauset Beach at this time due to a lack of support by the local community. As such, the Town's plan will focus on education and outreach for the first year and a feasibility study of nonlethal predator management

options the second year, followed by implementation of feasible nonlethal predator management during the third year.

At the same time the onsite mitigation plan is being implemented at Nauset Beach, the Town will provide $10,000 annually to MADFW for offsite predator management that will be conducted during permit years 1, 2, and possibly 3 (if mitigation measures are not achieving the required onsite productivity thresholds at Nauset Beach). A memorandum from the MADFW to the USFWS (appendix 26 of the HCP) outlines the offsite mitigation strategy and implementation. The offsite mitigation funds will be used exclusively for selective predator control at Massachusetts beaches that have been identified by the MADFW as experiencing low productivity due to high rates of predation. This requirement will meet the Massachusetts Endangered Species Act requirements of net benefit to the species and should fully offset the take as a result of the HCP. An escrow agreement between the Town and the MADFW (appendix 27 of the HCP) describes the manner in which the funds will be transferred and obligated to carry out the offsite mitigation.

Monitoring and Reporting: Nauset Beach, including Nauset Beach South and Nauset Spit, is currently managed according to State and Federal Guidelines for managing piping plovers on recreational beaches and in compliance with the Conservation Commission 2014 OOC. Piping plovers are monitored according to the State and Federal Guidelines and as required by the MADFW, data are collected on the number of nests, hatching success, and fledging success, and possible reasons are documented for egg and/or chick loss. The Natural Resource Manager submits annual reports documenting the number of piping plovers nesting at Nauset Beach and their productivity to the MADFW.

The OSV program will require additional monitoring staff. Qualified monitors will be assigned to each brood that is present in the vehicle corridor. Depending on brood locations along the sand trail, one or more sand trail monitors will be present to ensure compliance with the self-escorting protocols.

Prior to commencing OSV escorting, brood monitors will collect data on chick numbers, chick locations, and travel corridor locations and provide the information to the Natural Resource Manager. A map showing chick locations and the designated corridor will be posted at the Nauset Beach administration building and updated daily. Violations, incidents, or accidents associated with the vehicle escort program, including take of a chick, will be immediately reported to MADFW and USFWS staff. The Natural Resource Manager and/or Beach Director will work with the USFWS and the MADFW to develop a template summary report to be submitted at least weekly to the USFWS and the MADFW. Daily reports (including maps) will be made available to the USFWS and the MADFW upon their request.

By December 31 of each calendar year, the Town will submit an annual HCP implementation report to the USFWS and the MADFW that will include, at a minimum, the estimated age of chicks in each brood when self-escorting was initiated, the fledging success, the escorting dates, the number of broods, the number of chicks present during

self-escorting on each date, the number of vehicle passages, and the number of any documented "take" of chicks resulting from the vehicle escorting program. The report will also contain recommendations for improving the efficiency and/or effectiveness of the escorting program in the future.

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

II. Does the HCP fit the following low-effect criteria?

A. Are the effects of the HCP minor or negligible on federally listed, proposed, or candidate species and their habitats covered under the HCP? Yes. The only federally listed species covered by the proposed HCP is the piping plover, and the effects of the HCP on this species and its habitat are minor. The amount of incidental take (in terms of both size and scope) relative to the State, regional, and rangewide population is of small magnitude and short duration. Breeding habitat is only temporarily impacted. Minimization measures are anticipated to significantly decrease the potential for even the small amount of incidental take that is presented in the proposed HCP. The HCP's estimated take is occurring in a geographic recovery unit (New England Recovery Unit) that in 2013 (preliminary data) was at 137 percent of the recovery goal, and has exceeded the recovery goal of 625 pairs every year (or been within three pairs) since 1998. It should also be noted that the conclusion that there are minor effects to piping plovers does not consider the replacement of fledglings through offsite mitigation that will further reduce the impact of the HCP on the statewide population, the New England Recovery Unit and the species.

The requested permit duration is 3 years; therefore, impacts to the population from the loss of fledglings will occur during a short timeframe. Daily implementation of the self-escorting program is restricted seasonally to the latter end of the breeding season in mid-to-late summer. Unfledged chicks will have limited exposure to take by OSVs because OSV traffic past chicks is restricted to a 4-hour period during daylight hours. An additional hour of escorted raking (to smooth the tire ruts) might expose chicks to harm or harassment; however, injury or mortality is not anticipated to occur because a qualified monitor will precede the raking vehicle in accordance with the USFWS recreational beach management guidelines.

No reduction in habitat for courtship or nest establishment[1] on Nauset Beach is anticipated because the habitat will be managed according to State and Federal Guidelines until chicks are present, at which point implementation of the HCP will be limited to a 0.8-mile corridor on Nauset Beach South. Temporary impacts to the habitat during brood rearing will be of a short duration. During the 4 hours of self-escorted vehicle travel, the functional suitability of the habitat may be affected, as chicks may not be able to cross the sand trail to reach shelter or forage on the other side. Ruts created by morning vehicle traffic may impede or slow chick travel during the 6 hours between vehicle access time periods (i.e., between 10 a.m. and 4 p.m.); however, the ruts will be raked daily following the afternoon vehicle access period to provide unimpeded access for the remainder of the day, night, and early morning (approximately 12 to 13 hours). Therefore, habitat effects within the vicinity of the plover chicks are of short duration and the same as occur before and after brood rearing under the State and Federal Guidelines.

Should unfledged plover chicks be present south of the Pochet, State and Federal Guidelines for managing piping plovers will continue to be implemented to avoid take. Vehicles will be directed away from the brood or be required to stop at the distance outlined in the State and Federal Guidelines to avoid take. Therefore, no occupied piping plover habitat south of the Pochet will be affected by vehicles accessing the OSV travel corridor in accordance with the HCP protocols.

Take is measured as the number of chicks hatched per brood that will be exposed to direct killing or wounding as a result of the covered activity (OSV passage in the vicinity of the broods). For the purpose of assessing the level of take for the HCP, we assume the worst case scenario that two broods are present in the permit area and will be exposed to passing vehicles. The USFWS anticipates that a maximum of four chicks per brood will be exposed to take by the covered activities, for a total of 24 chicks over the life of the permit, based on the maximum number of chicks that generally hatch from a standard four-egg clutch.

Maintaining a 5-year average productivity of 1.5 chicks fledged/brood is one of the criteria needed to achieve piping plover recovery. Therefore, the number of chicks fledged per pair is the metric used to assess the impact of the take on the piping plover population.

As discussed in the previous section addressing minimization and mitigation measures, the HCP estimates that, based on the average productivity of 1.7 chicks per brood at Nauset Beach South, implementation of the covered activity will result in the take of 3.4 fledged chicks per year (1.7 fledged chicks/brood x 2 broods = 3.4), for a total of 10.2 fledged chicks over the 3-year life of the permit. The USFWS concurs with the HCP's estimate of a 50 percent reduction in take due to implementation of the intensive minimization measures, resulting in a loss of approximately 5.1 fledged chicks over the life of the permit. Therefore, the impact of the loss of six fledged chicks (rounding up)

[1] Available habitat for courtship and nesting is the fundamental determinant of carrying capacity for breeding pairs of piping plovers.

over the life of the permit (two chicks per year) will be analyzed with respect to impacts on the statewide, recovery unit, and rangewide population. This impact is assessed without regard to offsetting benefits of mitigation activities.

The average number of fledglings produced in Massachusetts over the 10-year period[2] when the New England Recovery Unit exceeded the recovery goal for most years (2004 to 2013)[3] is approximately 654 fledged chicks per year. The MADFW and USFWS calculations of the loss of approximately two fledged chicks per year equate to approximately 0.31 percent of the annual average number of chicks produced in Massachusetts. The average number of fledglings produced in the New England Recovery Unit from 2004 to 2013 is approximately 897 chicks per year. The loss of approximately two chicks annually equates to approximately 0.22 percent of the annual average number of chicks produced in the New England Recovery Unit. Given that the New England Recovery Unit has exceeded the recovery goal in 9 of the past 10 years, and in 2013 (based on preliminary data) is at 137 percent of the recovery goal, the loss of 0.2 percent of fledglings per year will have a minor effect on the average annual productivity and hence the New England Recovery Unit piping plover population as a whole.

The average number of fledglings produced in the U.S. Atlantic Coast range of the piping plover from 2004 to 2013 is approximately 2,040 fledglings per year. The loss of approximately two fledglings at Nauset Beach South as a result of the HCP equates to approximately 0.10 percent of the average annual number of fledglings produced in the U.S. portion of the piping plover range, and will have only a minor effect on the overall annual productivity for the species. Moreover, the fidelity and dispersal patterns of piping plovers mean that piping plover productivity foregone in Orleans has an infinitesimal probability of even the lowest possible effect on abundance of piping plovers in other portions of the range, such as Eastern Canada and New York/New Jersey, where populations have experienced recent declines.

In summary, based on the minor, short-term impacts to the piping plover breeding habitat, the loss of up to two fledglings per year in a recovery unit that is consistently over 100 percent of the recovery objective, and the HCP's minimization measures that will reduce the likelihood of mortality, we anticipate the effects of the HCP will be minor to the covered species and its habitat.

B. Are the effects of the HCP minor or negligible on other environmental values or resources (e.g., air quality, geology and soils, water quality and quantity, socioeconomic, cultural resources, recreation, visual resources) prior to implementation of the minimization and mitigation measures? Yes. The effects on other environmental values from OSV travel on the designated sand trail are minor or

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[2] The last 10 years provides an estimate of reproductive output that is most likely to be predictive of conditions anticipated during the life of the proposed permit. It reflects a reasonable range of good and bad productivity for recent abundance of the breeding population.

[3] Preliminary estimates are used for 2012 and 2013 (A. Hecht, USFWS, pers. comm. 2014).

negligible because OSV travel is allowed in the presence of courting and nesting piping plovers (no unfledged chicks present) and in the absence of piping plovers when no ITP is required.

Over-sand vehicle travel on Nauset Beach is an ongoing activity that is regulated under the Massachusetts Environmental Protection Act and requires an approved OOC to occur. The Orleans Conservation Commission 2014 OOC reviewed environmental impacts for the management of OSVs at Nauset Spit, including the installation of temporary symbolic fencing, delineator posts, signage, temporary closings, and management of the sand trail, including crossover, pullout, and parking areas. The Conservation Commission evaluated the effects of OSV operation that currently occurs on the designated sand trail at times when unfledged plover chicks are not present and determined that the existing OSV trail would not promote wind tunneling or erosion or wave washover, nor was any increase from storm or flood damage anticipated. Moreover, the design and placement of the OSV trail would not cause a change in vegetation, nor would there be any interference with the landward movement of coastal dunes (pages 2 and 3 of the findings for the Off Road Vehicle [ORV] and Beach Management Plan for Nauset Beach South, approved on June 24, 2014, by the Orleans Conservation Commission [appendix 3 of the HCP]). The OOC identified a number of mandatory special conditions designed to protect coastal resource areas and wetland interests to further reduce environmental impacts such as limiting the maximum number of vehicles permitted on the beach at any time to 375 vehicles, posting of temporary closures due to tide conditions, prohibiting vehicle access to the bay (west) side of Nauset Beach South along the shoreline outside of existing ORV trails, designated parking corridors, speed limit of 5 mph near posted bird nesting areas, and the implementation of any other conditions responsive to significant environmental changes and/or any conditions necessary to protect the Nauset Beach South Barrier Beach System (pages 4 and 5 of the 2014 Orleans Conservation Commission OOC, appendix 3 of the HCP).

In summary, the only change in the State-authorized OSV management plan at Nauset Beach South is to allow vehicles to pass in the presence of up to two broods of unfledged piping plover chicks. No environmental impacts are anticipated beyond those incurred during regular vehicular use authorized under the Conservation Commission OOC. Vehicles that access portions of Nauset Beach South beyond the permit area will continue to be managed according to the OOC; therefore, additional impacts are not anticipated.

The proposed onsite and offsite predator management for mitigation is also anticipated to result in only minor or negligible effects to environmental values or resources. Predation is a serious threat to breeding piping plovers, resulting in the loss of eggs, chicks, and adults throughout the range (USFWS 1996; Clark and Niles 2000; USFWS 2009). In Massachusetts, predation is the most serious factor limiting reproductive success of piping plovers; nearly 30 percent of nests are unsuccessful in some years due to predation (USFWS *et al.* 2012). Principal nest predators in Massachusetts are crows, foxes, skunks, coyotes, and gulls.

A suite of predation management techniques similar to those utilized by the USFWS in Maine (Vashon 2008), the National Park Service (NPS) in New Jersey (NPS 2007a), and the U.S. Department of Agriculture (USDA) in Virginia (USDA 2005) and Massachusetts (USDA 2011a; USDA 2011b) may be utilized. Based on discussions with MADFW staff (J. Regosin, MADFW, pers. comm. 2014), the management is anticipated to be adaptive in nature, allowing for the selection of predator control methods that are most suited to reducing narrowly targeted and most problematic predator species and/or individuals.

Approved lethal techniques for predator management (USDA 2003; USDA 2004; USDA 2011b) may be implemented to selectively target predators for offsite mitigation as required by the Massachusetts Endangered Species Act permit and outlined in the HCP mitigation section (HCP section X.). Massachusetts law (MGL c.131 Section 80A: Regulations 321 CMR 2.08) requires that trapping of mammalian predators (e.g., raccoons, opossums, and skunks) be limited to cage- or box-type traps and should meet the existing best management practices for trapping (Association of Fish and Wildlife Agencies 2006). Avian predators may also be removed via trapping, toxicants, or shooting.

Predator removal programs have been implemented at a number of sites in the Northeast, including New York (Cohen *et al.* 2009), Virginia, New Jersey (NPS 2007a), Maryland (NPS 2007b), Massachusetts (USFWS 2009; USDA 2011a), Rhode Island (Hartlaub *et al.* 2007; Hartlaub *et al.* 2008; Wiitala *et al.* 2009), and Maine (Vashon 2008) and have demonstrated that selective predator management will increase piping plover productivity. Generally, predator management is conducted on species whose local population densities are high (hence the increase in predation impacts to nesting plovers). Removal of individual predators to protect piping plovers will result in short-term, localized reductions in numbers of these predators. Long-term impacts to the predator populations are not anticipated, given the generally extensive predator population and high mobility and reproductive rates of these mammalian and avian predators.

The USDA completed an environmental assessment (EA) for predator management activities conducted on recreation areas in Massachusetts (USDA 2011b). Most of the wildlife species considered for selective predator management are harvestable in Massachusetts within designated annual hunting and/or trapping seasons. The USDA concluded that removal of a limited number of targeted individuals will not reduce the local populations to the extent that hunting and/or trapping of these species in these areas would be affected. Moreover, the USDA finding of no significant impact (USDA 2011c) for management of predators on threatened and endangered species in Massachusetts determined that the effect of the lethal removal of predators to benefit nesting threatened and endangered species would be considered to be of low magnitude when compared to current population trend data, population estimates, and/or harvest data.

Predator management described as the preferred alternative in the Bouchard Barge Oil Spill final restoration plan and environmental assessment (B120 FRP and EA) (USFWS *et al.* 2012) for piping plovers impacted by the Bouchard Barge 120 oil spill in Buzzards

Bay in Rhode Island and Massachusetts is similar to the offsite predator management proposed in the HCP. Some of the Massachusetts locations that have been selectively managed for predators under the B120 FRP and EA may be chosen as offsite mitigation locations if additional predator management is needed and the take offset requirements can be met (e.g., anticipated increase in productivity will offset the take by the covered activity).

Current targeted predator management as implemented in the past by the USDA in Massachusetts and under the B120 RFP and EA in Massachusetts and Rhode Island has not required closures for recreational use during predator removal efforts or been documented to place public safety at risk (M. Sperduto, USFWS, pers. comm. 2014). Consequently, we do not anticipate effects to the public's ability to recreate on beaches or the potential for public safety issues where predator management is implemented as part of the HCP.

Therefore, we anticipate that the effects of the HCP will be minor or negligible to environmental values or resources before and after implementation of HCP minimization and mitigation measures.

C. Would the impacts of this HCP, considered together with the impacts of other past, present, and reasonably foreseeable similarly situated projects not result, over time, in cumulative effects to environmental values or resources that would be considered significant? Yes. There have been no similar HCPs developed for piping plovers prior to this one, hence no impacts from past similarly situated projects. There are no similar HCP proposals being pursued at this time, hence no present projects. The term of this HCP is 3 years; therefore, all effects will cease at the end of the 2017 breeding season. The State of Massachusetts is in the initial stages of pursuing a statewide HCP for take of piping plovers on recreational beaches. In addition to streamlining participation for individual beaches, the statewide HCP is anticipated to provide a framework to manage overall impacts to approximately 75 percent of the New England piping plover population (more than a third of the entire Atlantic Coast) and provide mitigation to offset any losses from covered activities. Cumulative effects of the statewide HCP on environmental values and resources will be addressed at that time. It is unknown at this time how many landowners will participate in the statewide HCP; however, the Town anticipates participating in the statewide HCP, depending on the results of the implementation of this HCP.

Predator management is currently being implemented at a number of beaches in Massachusetts, New Hampshire, Rhode Island, and Maine (USFWS *et al.* 2012; USFWS 2014). Targeted predator removal is localized and temporary, and, as indicated in section II.B. above, the effects are considered to be minor or negligible. Therefore, impacts of predator management should not result over time in cumulative effects to the environmental values or resources.

III. Do any of the exceptions to categorical exclusions apply to this HCP? (form 516 DM 2.3, Appendix 2)

Would implementation of the HCP:

A. Have significant adverse effects on public health or safety? No. The proposed implementation of self-escorting vehicles in the presence of piping plovers has been implemented for essential vehicles elsewhere in New England, with no adverse effects on public health or safety. The USFWS Guidelines for managing piping plovers on recreational beaches provide recommendations for essential vehicles passing through areas where unfledged piping plover chicks are present. The HCP implements some of the recommendations from the USFWS Guidelines, including speed of vehicles less than 5 miles per hour and vehicles guided by a person through the area (generally a qualified monitor). The use of OSVs on Nauset Beach is a Town-permitted activity requiring adherence to rules and regulations that address public safety and environmental concerns. Noncompliance with the OSV permit regulations results in loss of the permit (see http://www.town.orleans.ma.us/parks-and-beaches/pages/orv-off-road-vehicles) (accessed November 2014).

Targeted predator management has been implemented on Massachusetts beaches under private, State, and Federal ownership for a number of years. The USDA's 2011 EA assesses the environmental and social impacts of selective predator management in Massachusetts (USDA 2011b) and determined that no significant adverse effects are anticipated to occur. Predator management described by the B120 FRP and EA and conducted at select Massachusetts and Rhode Island beaches has not resulted in any reported adverse effects on public health or safety in the 2 years of implementation (M. Sperduto, USFWS, pers. comm. 2014). Therefore, no significant adverse effects on public health or safety are anticipated.

B. Have adverse effects on such unique geographic characteristics as historic or cultural resources; park, recreation, or refuge lands; wilderness areas; wild or scenic rivers; sole or principal drinking water aquifers; prime farmlands; wetlands; floodplains; or ecologically significant or critical areas, including those listed on the Department's National Register of Natural Landmarks? No. The purpose of the HCP is to allow limited recreational access to occur on Nauset Beach South when piping plover chicks are present. This recreational use would otherwise occur in the absence of plovers; therefore, no adverse effects are anticipated on recreational lands, since the beach is protectively managed according to State and Federal Guidelines for managing recreational beaches. The habitat is a barrier beach; therefore, there are no prime farmlands, floodplains, or drinking water aquifers. Based on a review by both the Orleans Historical Commission and the State Historic Preservation Officer, there are no known historic or archeological sites. There are no known National Register areas or Natural Landmarks on the property.

Targeted predator management has been implemented on Massachusetts beaches under private, State, and Federal ownership for a number of years. Multiple land use activities on potential mitigation beaches, including OSV use, pedestrian use, fishing, and beach nourishment will co-occur with the proposed mitigation. To date, we are unaware of any ecologically significant or critical areas, including those listed on the Department of the Interior's National Register of Natural Landmarks, that could be adversely affected by the proposed offsite mitigation. The offsite mitigation will affect a minimal land area (area encompassed by a trap or baited nest) with minimal human impact (one or two people traversing the beach).

The USDA 2011 EA reviewed potential effects to properties of cultural or historical importance and concluded that damage (predator) management "does not cause major ground disturbance, does not cause any physical destruction or damage to property, does not cause any alterations of property, wildlife habitat, or landscapes, and does not involve the sale, lease, or transfer of ownership of any property. In general, such methods also do not have the potential to introduce visual, atmospheric, or audible elements to areas in which they are used that could result in effects on the character or use of historic properties" (USDA 2011b, page 18).

Based on past implementation of predator management in Massachusetts and information provided in the USDA EA for management of predation losses to threatened and endangered species populations in Massachusetts, it is unlikely that offsite mitigation (predator management) will have adverse effects on historic or cultural resources; park, recreation, or refuge lands; wilderness areas; wild or scenic rivers; sole or principal drinking water aquifers; prime farmlands; wetlands; floodplains; or ecologically significant or critical areas.

C. **Have highly controversial environmental effects?** No. Since early 2014, the Orleans Board of Selectmen has been discussing the development of the HCP at its monthly meetings. The majority of comments addressed to the Board of Selectmen have been focused on the need to return OSV travel on the sand trail to a similar level as in years prior to the extended closures. Information about the HCP has been released to the public through numerous avenues, including a public meeting in Orleans in February 2014 regarding increasing flexibility for recreational management on plover beaches, articles in the local press, and the posting of an early version of a draft HCP on the Town of Orleans Nauset Beach web site. The USFWS is unaware of any controversy elicited by these public outreach efforts.

Targeted predator management was one of the strategies chosen for restoration of piping plovers affected by the Bouchard Barge 120 oil spill in Buzzards Bay and has been implemented at a number of beaches in Massachusetts and Rhode Island since 2013. Beach managers have either contracted out or themselves undertaken predator management to increase populations of nesting threatened and endangered species using private and/or State funds. In two cases, public information was broadcasted about the intended management actions, including a public meeting for the B120 draft restoration plan. Little public controversy was documented. Based on the lack of

public comments provided during meetings in Orleans and on the B120 draft restoration plan, highly controversial environmental effects of offsite mitigation are not anticipated.

D. **Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks?** No. The OSV travel on the designated sand trail occurs in the absence of piping plover chicks. The environmental effects of OSV travel at Nauset Beach South have been addressed under the Massachusetts Wetlands Protection Act. As a result, Nauset Beach, including Nauset Beach South and Nauset Spit, is managed under nondiscretionary conditions to avoid and reduce impacts to the environment. Moreover, current management also follows the USFWS's Guidelines for managing piping plovers on recreational beaches. No uncertain or significant environmental effects are anticipated, based on the very small area of beach that will be affected by the covered activities, and the established management techniques that will be implemented to further reduce environmental risks to the plover or other species and their habitats.

   The offsite mitigation strategy of selective predator management has been implemented in Massachusetts and elsewhere in New England with no known significant environmental effects. Offsite mitigation may occur on beaches that have been managed for predators in the past; therefore, no uncertain or significant environmental effects are anticipated.

E. **Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects?** No. The project, as described, will not result in significant environmental effects and therefore is not setting a precedent for future actions or consultations with potentially significant environmental effects. In section II.C., we explained that the State of Massachusetts is in the initial stages of pursuing a statewide HCP for take of piping plovers on recreational beaches. In addition to streamlining participation for individual beaches, the statewide HCP is anticipated to provide a framework to manage overall impacts to approximately 75 percent of the New England piping plover population and more than a third of the entire Atlantic Coast, and provide mitigation to offset any losses from covered activities. The statewide HCP will be different in scope, magnitude, and implementation process, though it may address similar issues.

F. **Be directly related to other actions with individually insignificant but cumulatively significant environmental effects?** No. The proposal is limited to Nauset Beach South and is not connected to other beach management activities that might affect piping plovers or the coastal environment. Implementation of the HCP will occur only if one or more broods of piping plovers are present at the Pochet washover on or after July 15. Should plovers be absent, OSV travel along the sand trail and access to the remainder of Nauset Beach South would be allowed and managed according to the USFWS's Guidelines for managing recreational use on plover beaches.

G. **Have adverse effects on properties listed or eligible for listing on the National Register of Historic Places?** No. The proposed OSV access plan has been cleared by the Massachusetts Historical Commission and the Town of Orleans Historical Commission. A review of the list of properties on the National Register of Historic Places for Barnstable, Bristol, Duke, Essex, Nantucket, and Nantucket Counties indicates that other than the Revere Beach State Reservation, no beaches are listed as historic places (http://www.nps.gov/nr/research/, accessed December 2014; http://en.wikipedia.org/wiki/National_Register_of_Historic_Places_listings_in_Barnstable_County,_Massachusetts, accessed December 2014). There are some buildings associated with beaches where offsite mitigation might be implemented. However, the potential methods used to remove targeted predators are not anticipated to occur near these buildings. Should offsite mitigation be proposed for Revere Beach State Reservation, coordination with the Massachusetts Historic Preservation Office will be required. Therefore, no adverse effects are anticipated to occur on properties on the National Register of Historic Places.

H. **Have adverse effects on listed or proposed species, or have adverse effects on designated Critical Habitat for these species?** No. The only other federally listed or proposed species that occurs in the proposed permit area is the recently federally listed threatened rufa red knot (red knot). Red knots may be present during spring and fall migration on Nauset Beach and elsewhere in Massachusetts. 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. Therefore, no effects are anticipated to red knots from the proposed covered activities. Moreover, the level of anthropogenic disturbance that could lead to take, such as vehicles passing by staging or roosting red knots, has not been determined. Should it later be determined that OSVs passing by staging or roosting red knots could cause sufficient disturbance so that it rises to the level of take, a separate HCP will be required to address the overall management of Nauset Beach, not merely the proposed covered activity.

The proposed offsite mitigation will avoid adverse effects to listed species. Red knots are generally present when other listed species are present (piping plovers, roseate terns). Since it has been determined that there will be no adverse effects to listed shorebird species from offsite mitigation, adverse effects to red knots are also not anticipated.

The Northeastern beach tiger beetle does not occur on Nauset Beach, and the northern boundary of its known historic range is Chatham, Massachusetts. Tiger beetle larvae are found in burrows up to 18 inches deep, and adult tiger beetles are generally found at the water's edge or on the beach berm. Light foot traffic, such as would occur during selective predator management, does not adversely affect the species, and predator management activities are otherwise not anticipated to adversely affect Northeastern beach tiger beetles.

There are no other listed or proposed species or designated critical habitat in the HCP area. There is no critical habitat designated for the breeding range of the Atlantic Coast piping plover population.

I. **Have adverse effects on wetlands or floodplains or be considered a water development project thus requiring compliance with either Executive Order 11988 (Floodplain Management), Executive Order 11990 (Protection of Wetlands), or the Fish and Wildlife Coordination Act?** No. The OSV plan does not affect wetlands or floodplains and does not fall within the U.S. Army Corps of Engineers jurisdiction.

J. **Threaten to violate a Federal, State, local, or Tribal law or requirement imposed for the protection of the environment?** No. We are unaware of any potential violations of environmental laws.

ENVIRONMENTAL ACTION STATEMENT:

Based on the analysis above, we determine that the Town of Orleans OSV access plan qualifies as a low-effect plan and is therefore 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 USFWS does not find that this HCP will pose potential significant environmental effects or involve unique or unknown environmental threats. We have not found any extraordinary circumstances that would require the preparation of an environmental assessment or environmental impact statement. Therefore, this action is categorically excluded from further National Environmental Policy Act documentation as provided by 516 DM 2, Appendix 1 and 516 DM 6, Appendix 1.

Concurrence:

Thomas R. Chapman
Supervisor
New England Field Office

03 Apr 2015

Date

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Appendix
Response to Comments

1. Introduction

Public Comments Process

The Draft Town of Orleans Over-Sand Vehicle Access Habitat Conservation Plan (DHCP) and Draft Environmental Action Statement (DEAS) were officially released for public review on December 19, 2014. The public comment period was open for 30 days and ended on January 20, 2015. The DEAS and DHCP were distributed to the Massachusetts Division of Fish and Wildlife (MADFW), announced in the Federal Register (FR; 2014-29751), and made available in hard copy or electronic format for review at the following locations:

- U.S. Fish and Wildlife Service's (USFWS) New England Field Office (hard copy in office and electronic copy on Web site)
- Federal eRulemaking Portal: http://www.regulations.gov (electronic copy)

Comment letters were submitted by either of the following methods:

- Electronically: Federal eRulemaking Portal: http://www.regulations.gov by entering in the Search box FWS-R5-ES-2014-0051-0060, which is the docket number
- By hard copy: U.S. mail or hand delivery to Public Comments Processing, Attn: FWS-R5-ES-2014-0051-0060, Division of Policy and Directives Management, USFWS, MSBPHC, 5275 Leesburg Pike, Falls Church, Virginia 22041-3803.

Public Comments Received

The USFWS received 54 comment letters on the DHCP and DEAS, of which 11 were form letters. The USFWS received comments from private individuals, nongovernmental organizations, and state governmental agencies. Individual comments are available at the Federal eRulemaking Portal by entering in the search box the docket number: FWS-R5-ES-2014-0060. Each public comment was assigned a unique identifying number and individual comments within each letter were identified.

Comment Response Organization

The USFWS's responses to comments on the DHCP and DEAS are provided in the following sections. The comments reflect a wide range of issues regarding the DHCP and DEAS; in many cases commenters raised similar questions or concerns. To avoid redundancy in responses to individual comments and to comments on related issues, we prepared master responses (MRs) for those key topic areas. Master responses are followed by responses to individual specific comments.

2. Master Responses

MR-1 General Support

A number of comments (31) provided statements of general support for the DHCP and for the Over-Sand Vehicle (OSV) Escort Program. These comments were supportive overall and did not identify any particular issues that would require a response.

MR- 2 General Concerns

A number of comments (8) expressed general concern about increased use of the beach, and enforcement of leash laws. As these activities are not included as one of the covered activities, they were not considered and are outside of the purview of this DHCP and DEAS. Moreover, although increased access to Nauset Beach South was the purpose of the DHCP, the access would occur only in the presence of unfledged piping plover chicks. If unfledged chicks are not present, then access to Nauset Beach South would be allowed under the Conservation Commission's 2014 Order of Conditions (OOC). Therefore, overall, there is no increased use of the beach above and beyond what has been authorized by the 2014 OOC.

3. **Specific Responses to Individual Comments on DHCP and DEAS**

Comment 1 suggested that take permits should not be available for the general public and that issuance of a permit to members of the public violates the premise of the Endangered Species Act.

Response: Section 10(a)(1)(B) of the Endangered Species Act (ESA) specifically allows the Secretary of the Interior to permit any act otherwise prohibited by section 9(a)(1)(B) if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. This section does not restrict the Secretary's permitting authority.

Comment 2 mentions that plovers will suffer disturbance due to interruptions in feeding or sheltering behavior in addition to injury or mortality as a result of OSV use.

Response: In the context of this comment, "disturbance" appears to refer to potential indirect effects of OSVs on piping plovers leading to effects on feeding or sheltering behavior. Impacts to feeding and sheltering behaviors are addressed as take in the ESA and Code of Federal Regulation under the definitions of "harass" and "harm." Harass is defined by the USFWS as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined to include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering (50 C.F.R. 17.3). Therefore, "disturbance" would be considered take of piping plovers by harassment or harm if it creates the likelihood of injury to a plover or actually kills or injures a plover by significantly disrupting feeding, breeding, or sheltering behavior. We consider injury to include physiological effects to an individual (e.g., exhaustion), reduced productivity, increased risk of mortality (e.g., from predation), or similar effects.

The HCP contains measures designed to minimize indirect effects and prevent harassment or harm to piping plover chicks during vehicle use of the OSV trail by limiting the time that plovers could be affected and the extent of covered activities. The HCP would minimize exposure of plovers to OSVs by limiting OSV use to 4 hours per day, requiring shorebird monitors to monitor plover chicks and ensure vehicle compliance, and requiring escorts to stop vehicles if plovers are observed near or in the travel corridor. The HCP would minimize habitat disturbance by restricting OSVs to one travel corridor, and raking tire ruts daily. We

determined that any residual disturbance occurring as a result of the covered activities and despite the minimization measures would be limited, short term, and minimal, and would not result in significant disruption of feeding, breeding, and sheltering behaviors. Therefore, we do not expect the covered activities to cause harassment or harm of piping plovers.

Comment 3 expresses the opinion that no vehicles should be allowed on the beach and that people should have access only by foot.

Response: Section 10(a)(1)(B) of the ESA establishes the authority of the USFWS to permit any taking otherwise prohibited by section 9(a)(1)(B) if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.

The Town of Orleans has a long-standing vehicle use program at Nauset Beach. The vehicle-use management plan has undergone municipal and State environmental review and approval. The covered activity is a small deviation from the approved management plan and as such has received a Massachusetts Conservation and Management Permit (July 15, 2014). The use of vehicles on the beach is therefore an otherwise lawful activity.

And because the taking of plovers under the HCP would be incidental to, and not the purpose of an otherwise lawful activity, it may be permitted under the ESA (provided the HCP satisfies permit issuance criteria).

Comment 4 mentions that enforcement on the beach is not uniform, citing lack of enforcement of leash laws and supervision of OSVs. The commenter also suggests that reporting on the HCP implementation may be more accurate under the direction of an outside interest group other than the Town of Orleans.

Response: The Town of Orleans has been managing recreational use and piping plovers on Nauset Beach since 1998 and has a good record of annually reporting piping plover productivity and causes of nest and chick loss to the MADFW for years. The USFWS has confidence that the Town of Orleans will provide detailed and concise reporting as proposed in the HCP and required by the Incidental Take Permit. The USFWS may also request to review logs, data sheets, and interim monitoring reports at any time to ensure compliance with monitoring requirements.

Comment 5 suggests that the escort program may substantially increase the response time for emergency situations.

Response: The USFWS has coordinated with the Town of Orleans to provide the best response for emergency situations. The protocols for emergency situations are the same for vehicles accessing Nauset Beach when the HCP is not implemented. The HCP has been revised to read that OSV vehicle 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. In the event of a life-threatening medical emergency, a protocol will be in place that includes notification of the staff of the Nauset Beach

Administration Building and/or emergency responders and assistance in escorting the vehicle off of the beach (if needed).

Comment 6 disagrees that precluding travel past broods of chicks less than 24 hours old constitutes appreciable minimization of risk. The comment recommends precluding travel past chicks until they are 7 to 10 days old.

Response: 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 percent of the broods have been 2 days old or older, and 36 percent of the broods have been 11 days old or older. Further limiting the OSV use period to ensure that a majority of plover chicks will be 7 days old or older would not be practicable because there would be a greater likelihood of a significant delay for vehicle access to the beach south of the Pochet washover area. This would not meet the purpose of the HCP.

Comment 7 states that reducing the possible driving time on the beach from 17 hours/day to 4 hours/day should not be characterized as minimization because driving on the beach is currently not authorized.

Response: Driving on the beach is authorized for up to 17 hours per day under the Conservation Commission 2014 OOC in the absence of unfledged piping plover chicks. While driving on the beach is currently not allowed under the 2014 OOC in the presence of unfledged plover chicks, the baseline is considered to be 17 hours because that is the maximum that would be possible if not for the plover restriction. Therefore, the HCP's proposed 4 hours of driving time per day is appropriately considered a minimization measure.

Comment 8 recommends that smoothing out the tire ruts should be required at the end of the OSV travel period, which would occur twice a day.

Response: The USFWS believes that raking tire ruts once a day should be sufficient to meet the desired outcome. Moreover, limiting raking to once daily reduces the amount of disturbance from additional vehicular and human activity within chick habitat and allows chicks unimpeded travel between bayside and oceanside feeding habitat or shelter. Because intensive monitoring of broods prior to, during, and after the escort program is required by the HCP, monitors may be able to identify problem areas for chicks during the course of a day and voluntarily address them, such as periodic smoothing out of tire ruts between self-escort periods.

Comment 9 recommends that the fledged chicks be defined as chicks that are able to fly, rather than chicks greater than 25 days, since many chicks are not able to fly until closer to 35 days.

Response: The USFWS Guidelines recommend that vehicle restrictions remain in place until chicks have fledged. The USFWS considers fledged chicks as chicks that are at least 35 days of age or have been observed in sustained flight for at least 15 meters. The HCP has stated

that the Guidelines will be implemented with the exception of the covered activity; therefore, we anticipate that monitors will determine when chicks have fledged using the definition provided in the Guidelines.

Comment 10 concerns the impact of the activities on unfledged chicks and how the direct impact of take translates to the overall effect on piping plover populations. The comment states that the number of chicks exposed to potential take will be higher than the actual take because avoidance and minimization measures are likely to reduce take by 50 percent.

Response: The USFWS agrees that the avoidance and minimization measures proposed for implementation are likely to reduce the actual take of unfledged piping plover chicks by 50 percent. The DHCP and DEAS have been updated to reflect that although 24 chicks (4 chicks per brood x 2 broods per year x 3 years) may potentially be produced onsite over the 3-year permit term and exposed to take, we expect that take will be less than or equal to 12 chicks as a result of the implementation of avoidance and minimization measures.

Comment 11 concerns the use of selective predator management as a mitigation tool. The comment suggests that selective predator management has increased productivity of piping plover pairs by 20 percent, which may be a conservative estimate.

Response: The USFWS agrees that the data available suggest that implementation of selective predator management has increased productivity of piping plover pairs by 20 percent. Selective predator management has been shown to be one of the most effective forms of reducing mortality of chicks. Many of the other factors that reduce productivity of piping plovers are outside our control (e.g., storms/weather, beach overwash).

Comment 12 concerns the potential efficacy of monitoring minimization and mitigation effects due to the statistical difficulties associated with a small sample size (two broods) and potential confounding factors that may contribute to mortality of chicks unassociated with the proposed activities.

Response: The USFWS acknowledges the difficulty of detecting a statistical difference for analyzing productivity for one or two broods and the effects of the minimization and mitigation measures. We concur with the comment and will take into account confounding factors of weather and predation when assessing annual productivity for Nauset Beach South and the offsite mitigation.

Comment 13 suggests that a table may be helpful to demonstrate that beach closures have been increasing in length.

Response: The Final HCP has been revised to include a table that provides this information.

Comment 14 states that 360 vehicles passing per day on Nauset Beach would be considered a very high pass scenario and that other studies have found that piping plover chicks have been killed by vehicles even on beaches with relatively little vehicle use. The commenter

states that plover chicks feeding on the beach may move between oceanside and bayside habitats, which would put them at risk from vehicles.

Response: The applicant has committed to reducing beach access from the 375 vehicles allowed under the Orleans Conservation Commission's OOC to a maximum of 180 vehicles. On any given day, actual use of the beach may be less than 180 vehicles, which would further reduce the exposure to risk. A reduction in vehicle passes of over 50 percent provides for a significant reduction in the risk of take by reducing the exposure of unfledged chicks to vehicles. The HCP assumes that chicks will be exposed to risk as a result of the proposed activities. If there were no adverse effects (e.g., risk of take), the HCP would not be needed, and activities could occur without restriction. The intent of the HCP is to reduce the likelihood of that risk through the implementation of avoidance and minimization measures and to mitigate the impact of the take to the maximum extent practicable. The implementation of the escort program in combination with intensive monitoring and the ability to close the OSV trail in the event chicks are within 100 feet of the trail will minimize the likelihood that unfledged chicks will be exposed to take.

Comment 15 concerns the consequences associated with not achieving an increase in productivity during the implementation of the HCP.

Response: The USFWS is confident that the proposed mitigation will offset the impact of the take to the maximum extent practicable. Because the HCP is of such a short duration (3 years) and the amount of take is small (12 chicks over 3 years [or 5.1 fledged chicks]), the effect on the statewide, recovery unit, or rangewide population will be insignificant. The offsite mitigation that will offset the take will be conducted by the MADFW for the applicant. The MADFW provided a memorandum to the USFWS outlining how offsite mitigation will be implemented and has committed to coordinating with the USFWS on site selection and predator management plan development. The MADFW will prepare a yearly report summarizing the effectiveness of the mitigation, which will be provided to the permittee for submission to the USFWS. If the permittee fails to provide the stipulated funding to the MADFW and the appropriate mitigation is not conducted, the USFWS would consider the permittee out of compliance with the incidental take permit, and the permit would be subject to suspension or revocation under 50 C.F.R. Part §13.27 – 13.28.

Comment 16 states that in the analysis of impacts, the assumption that there will be three chicks per brood should be updated to assume that there will be four chicks per brood and that, in a worst case scenario without any avoidance and minimization measures, 24 chicks could be lost. This comment also raises the question of what will happen if three broods are present in the same area if one nest fledges and a new brood of eggs is laid and hatches alongside another unfledged brood.

Response: The applicant has updated the Final HCP and the USFWS has updated the EAS to indicate that the potential for highest productivity assumes two broods with four chicks each present for 3 years, for a total of 24 unfledged chicks. Under this scenario, up to 24 chicks could be exposed to potential take; however, the avoidance and minimization measures are expected to reduce the likelihood of take by 50 percent, resulting in a maximum amount of

take of 12 unfledged chicks. If a third brood occurs in the Pochet area within the authorized time frame (after July 15), the OSV program will not be implemented until such time as only two broods are present.

Comment 17 suggests that OSV drivers may be unlikely to report chick mortality if they will be subject to consequences as a result.

Response: Reporting of chick mortality may be done by OSV drivers, other beach users, or monitors observing broods during the self-escort program. In addition, there will be at least one compliance monitor observing the vehicles and their escorts. Since take will be authorized, the vehicle driver would not be subject to OSV sticker revocation unless he or she was not following the prescribed protocol. As a result, drivers that are following the prescribed protocol and observe take do not have any incentive to avoid reporting take. Moreover, the HCP states that any violations of the protocol will not be tolerated, including failure to report a chick possibly run over by a vehicle.

Comment 18 suggests that one lead shorebird monitor and one seasonal shorebird monitor will not be enough to accomplish the tasks required.

Response: 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. In the event that one of these employees is unavailable, the Natural Resource Manager, Beach Director, or their designee shall assume this duty.