Draft

Guidance on Applying for a Conservation & Management Permit for Recreational Activities Affecting the Least Tern

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Note: This document provides guidance to the public on how to develop impact minimization and mitigation strategies for the least tern to aid in the process of applying for a Conservation & Management Permit pursuant to the MA Endangered Species Act (MGL c. 131A; 3210 CMR 10.00). Although potentially applicable to any beach with breeding least terns, this guidance was developed to assist potential participants in the Massachusetts Statewide Piping Plover Habitat Conservation Plan in achieving MESA compliance for the state-listed least tern.

The Massachusetts Division of Fisheries & Wildlife will accept public comments on this Draft Guidance through March 25, 2016. Please submit comments to coastal.waterbirds@state.ma.us. Information about the Piping Plover Statewide HCP can be found at http://www.fws.gov/newengland/. Questions should be directed to Jon Regosin at jonathan.regosin@state.ma.us or (508) 389-6376.

February 2016

Least Tern and MESA Compliance

1.1 Overview

The Massachusetts Statewide Piping Plover Habitat Conservation Plan (Plan) will authorize beach operators (subpermittees) to engage in activities that expose piping plovers to potential take (covered activities), subject to certain conditions. Piping plovers (*Charadrius melodus*) are listed as Threatened pursuant to both the federal Endangered Species Act (87 Stat. 884, as amended: 16 U.S.C. 1531, et seq.; ESA) and the Massachusetts Endangered Species Act (MESA; MGL c. 131A; 321 CMR 10.00). In order to authorize take associated with the Plan, the Natural Heritage and Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife (DFW) will obtain an Incidental Take Permit (ITP) from the U.S. Fish and Wildlife Service (FWS), associated with the Plan, and then issue Certificates of Inclusion to subpermittees. The certificates will also serve as Conservation & Management Permits (CMP), to authorize take pursuant to MESA and to ensure both ESA and MESA compliance.

To request coverage, each subpermittee will prepare an application containing site background information, information on the types of proposed covered activities and the amount of requested take exposure, a beach management plan to include a site specific impact minimization plan for implementation of the covered activities, and a mitigation plan.

To ensure MESA compliance, DFW will review each application for potential impacts to piping plover, and any other state-listed plant or animal species present at the site based on DFW's Priority Habitat mapping. In the event that a state-listed species other than Piping Plover is present, DFW will determine if there is a potential take. If there is the potential for take, DFW will first work with the applicant to condition implementation of the covered activities so as to avoid a take (e.g. move the OSV corridor out of state-listed plant habitat). If take avoidance is not possible, the applicant will propose and implement impact minimization and mitigation measures so as to qualify for a CMP (see 321 CMR 10.23).

In general, this process will involve site-specific consultations between DFW and the applicant based on site conditions and the particular species present, the discussion of which lies outside the scope of the Plan. However, the state-listed least tern (*Sternula antillarum*) frequently co-occurs with piping plovers, particularly at some of our larger beaches. Both plovers and terns are covered by DFW's *Guidelines for Managing Recreational Use of Beaches to Protect Piping Plovers, Terns and Their Habitats in Massachusetts* (Guidelines) (Massachusetts Division of Fish and Wildlife 1993), and at some sites least tern nests and unfledged chicks are very likely to co-occur with piping plover nests and unfledged chicks. In such circumstances, implementation of certain covered activities would likely expose both piping plovers and least terns to potential take. Therefore, subpermittees receiving coverage for an activity such as OSV use in the vicinity of unfledged piping plover chicks might expose least tern chicks to potential take in order to act on their piping plover subpermit. For these reasons, this Guidance document discusses impact minimization and mitigation options for applicants at sites where least terns are also present.

Although the COI will only contain conditions relating to the federally listed piping plover, if take of other state-listed species will be authorized, DFW will issue a connected CMP to ensure an efficient

ESA/MESA review process. All CMP's must meet MESA permitting standards although CMP/COI documents associated with the HCP may contain additional conditions necessary to comply with the FWS ITP. As described in the draft HCP, any actions undertaken to implement the CMP/COI must be carried out in accordance with applicable state, federal, and local statutes and regulations. For example, if an activity such as OSV use requires a valid Order of Conditions (OOC), the CMP/COI holder will have to obtain a valid OOC before acting on the CMP/COI. Some but not all activities associated with the HCP may trigger a Massachusetts Environmental Policy Act review (301 CMR 11.00), in which case the applicant will file an Environmental Notification Form before implementing HCP-related beach activities.[1] Whether or not an ENF is required, requests for COI coverage, including impacts to least tern or other state-listed species if applicable, will be subject to a minimum 15 day public review and comment period (see draft HCP, page 5-11).

1.2 How to Use This Document

This document assumes familiarity with the Massachusetts Statewide Piping Plover Habitat Conservation Plan (http://www.fws.gov/newengland/). Beach operators preparing a request for coverage should follow the instructions in the Plan when preparing their request (see Plan, Section 5.2). If the proposed covered activities will also impact least tern, this guidance document should be used as a supplemental guide in preparing the Impact Avoidance and Minimization Plan (IAMP) and Mitigation Plan associated with the request for coverage.

Because take of the federally listed Piping Plover requires an ITP from the FWS, the HCP contains binding impact minimization and mitigation commitments for piping plover that *must* be followed by DFW and COI holders. Because exposing the state-listed least tern to potential take requires only a MESA permit (CMP), DFW and beach operators applying for a least tern CMP have greater flexibility in developing, implementing, and approving impact minimization and mitigation measures for the least tern. While potential Plan participants are strongly encouraged to follow the recommendations contained in this guidance document, DFW will consider alternatives that meet the CMP performance standards set forth in the MESA regulations (321 CMR 10.23).

Those permitting requirements include, but are not limited to avoiding and minimizing impacts and assessing alternatives to both permanent and temporary impacts to state-listed species. Because least terns colonies occur at far fewer sites than piping plovers, and because their distribution at a given site is often much more limited, there may be a greater opportunity in some cases to avoid take of least terns while still meeting recreational beach management objectives. This issue is considered further in Sections 1.5 and 1.9.

Applicants considering submittal of a COI/CMP request including impacts to least tern or other state-listed species in addition to piping plover should refer to section 5.2.2.3 of the HCP as well as DFW's guide on applying for a certificate of inclusion (http://www.mass.gov/eea/docs/dfg/nhesp/species-and-conservation/coi-guidance.pdf). General information on obtaining a Conservation & Management Permit can be found at http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/mass-endangered-species-act-mesa/mesa-conservation-and-management-permit-process.html.

[1] Or comply with the conditions of a MEPA Special Review Procedure (SRP; 301 CMR 11.09) for the HCP, should a SRP be established in the future.

1.3 Least Tern Biology

The least tern is a small tern that breeds primarily in North America, but also in Central and South America, and the Caribbean. In North America, it breeds on the Atlantic coast from Maine to Florida, along the Gulf coast, on the Pacific coast from California to Mexico, and inland, principally along major tributaries of the Missouri, Ohio, and Mississippi rivers. The Interior and California least tern populations are federally listed as endangered while the Atlantic Coast population is not federally listed. In Massachusetts, the least tern is state-listed as a species of special concern pursuant to MESA.

Massachusetts birds arrive in early May and generally leave by early September. In Massachusetts, the least tern nests on sandy or gravelly beaches periodically scoured by storm tides, resulting in sparse or no vegetation; it also takes advantage of dredge spoils. Least terns forage for fish, and occasionally crustaceans or insects, in shallow-water habitats, including bays, lagoons, estuaries, river and creek mouths, tidal marshes, and ponds.

Least terns nest in colonies of varying size from <25 to over 1,000 pairs, generally from late May to mid August. Clutch size is usually 2 - 3 and incubation is about 21-23 days. Adults engage in collective mobbing behavior that can deter predators. Chicks are semi-precocial, and after a few days of age are capable of moving considerable distances over land. Although some chicks may move 200 m or more, most unfledged chicks remain in the general vicinity of the colony, seeking shelter in vegetation or debris. Parents carry prey to chicks in their bills. Older chicks and recent fledglings may move into cooler areas in intertidal zone or at the water's edge. Least tern chicks fledge, or are capable of flight, at about three weeks of age.

For more information about least terns in Massachusetts, see http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/rare-birds/coastal-waterbird-conservation.html.

1.4 Current Management

Current management of least terns on recreational beaches in Massachusetts requires adherence to the Guidelines. Key elements of the Guidelines are described below. Please note that managers should refer directly to the Guidelines and not this summary when making management decisions.

Symbolic fencing – In general, suitable breeding habitat in areas where least terns have traditionally nested should be proactively symbolically fenced in March or April to prevent disturbance of courting and nesting birds and trampling of nests. As least tern colony locations tend to shift over time, monitoring by qualified shorebird monitors should be carried out during the nesting season, and locations of symbolic fencing should be adjusted as necessary. At minimum, on beaches with more than de minimus recreational activity, *refuge areas of at least 50 yard radius around nests and above the high tide line* should be delineated with warning signs and symbolic fencing.

Timing restriction on Oversand Vehicle Use – When unfledged least tern chicks are present, vehicles are prohibited from all dune, beach, and intertidal habitat within 100 yards of either side of lines drawn through the outermost nests of the colony and perpendicular to the long axis of the beach. The resulting area of protected habitat for least tern chicks should extend from the ocean side

low water line to the bay side low water line or to the farthest extent of dune habitat if no bayside intertidal habitat exists. If unfledged chicks move outside the original protected area, then the boundaries of the protected area should be adjusted to provide at least a 100-yard wide buffer between unfledged chicks and vehicles. However, vehicles may be allowed to pass through portions of the protected area that are considered inaccessible to least tern chicks because of distance, steep topography, dense vegetation, or other naturally occurring obstacles. Because least tern chicks disperse from nests shorter distances and at older ages than piping plover chicks, under some circumstances it may be possible to allow passage of vehicles through portions of protected least tern chick habitat if, in the opinion of the Division, this can occur without substantially increasing threats to least tern chicks and their habitats.

1.5 Covered Activities

Section 3.2 of the HCP describes covered activities that expose piping plovers to potential take, and associated impact minimization measures that must be employed to minimize risk when carrying out the covered activities. These covered activities are considered here as applied to the Least Tern.

1. Use of Roads and Parking Lots in the Vicinity of Unfledged Chicks.
2. Recreation and Beach Operations.
    a. Recreation and Beach Operations Associated with Reduced Symbolic Fencing Around Nests.
    b. Recreation and Beach Operations Associated with Reduced Proactive Symbolic Fencing of Least Tern Habitat.
    c. Recreation and Beach Operations at Least Tern Nest Sites with Nest Moving.
3. OSV Use in the Vicinity of Unfledged Least Tern Chicks.

Use of Roads and Parking Lots in the Vicinity of Unfledged Chicks

Because least tern chicks generally move less than piping plover chicks and least terns nest colonially, movement of chicks across roads or into parking lots has not been a significant management issue in Massachusetts. Should this become an issue, many of the impact minimization measures described in Section 3.2.1 of the HCP will apply, and beach managers may apply for a CMP to address this.

Recreation and Beach Operations Associated with Reduced Symbolic Fencing Around Nests

Recreational and beach operational activities will be allowed to occur in areas less than 50 yards from an unhatched least tern nest that would otherwise have been symbolically fenced and restricted from use under the Guidelines.

At many sites narrow beach width precludes maintenance of a 50 yard buffer on the seaward edge of the least tern colony because fencing would have to extend well into the intertidal zone and would be submerged at high tide. In these cases, the Guidelines do not require maintenance of the full 50 yard buffer. Outside of this circumstance, though, maintaining a full 50-yard buffer may in some circumstances significantly reduce recreational use. For example, if least terns nest within 50 yards of a major beach access point, symbolic fencing would close that access point. Beach managers should refer to section 3.2.2.1 of the HCP for guidance on developing an impact avoidance and

minimization plan for this activity. The IAMP should consider the need to adjust fencing, if necessary to provide chick refugia once the eggs hatch.

Recreation and Beach Operations Associated with Reduced Proactive Symbolic Fencing of Least Tern Habitat

Recreational and beach operational activities will be allowed to occur in suitable least tern nesting and sheltering habitat that would otherwise be restricted by the placement of proactive symbolic fencing in accordance with the Guidelines—particularly in sections of beach near major access points that tend to have high recreational use. Because least terns aggregate into colonies and generally occupy a relatively small portion of any given beach, the DFW anticipates that the need for this activity will be quite limited. The DFW reserves the right to reject proposals for this covered activity in the event that DFW determines that the symbolic fencing is not significantly impairing access or recreational activities at the site. In the event that DFW does authorize this activity at a given site, strict limits will be placed on the total area of reduced fencing at a given site. In the rare circumstance where a beach operator is able to demonstrate need (e.g. tern colony occupying a significant portion of a particularly high use recreational section of a beach), in general, no more than 15% of the colony may be affected.[2] Should least terns nest outside of the symbolically fenced area, small buffers will be required around nests with eggs to avoid trampling; or DFW will authorize nest moving (see below). Beach managers should refer to section 3.2.2.2 of the HCP for guidance on developing an impact avoidance and minimization plan for this activity, applying the 15% standard as described in this guidance.

Recreation and Beach Operations Associated with Nest Moving

As described in the HCP, moving the nests of piping plovers and least terns has been demonstrated to be effective although the process is complex, movement distances must be small, and the risk of abandonment is significant. If least terns nest in a major beach access trail, OSV corridor or "cut", or other high use recreational area (e.g., the site of an annual beach festival or in front of a train station), reduced symbolic fencing may not be sufficient to facilitate the activity (e.g., opening a beach access trail), or may not be the best way to minimize impacts to least terns. The DFW may also authorize this activity in combination with reduced proactive symbolic fencing because maintaining a small area of reduced fencing around a nest may present a greater risk than attempting to move the nest. If the DFW determines that nest moving is the best impact minimization measure at a given site, the DFW will authorize a qualified shorebird monitor, trained in nest moving procedures by the DFW, to move a nest using protocols similar to the nest moving protocols described in the HCP. Before authorizing nest moving, the DFW would work with the plan participant to determine whether nest moving is necessary or whether the same or similar result could be achieved with other approaches, such as through reduced symbolic fencing around the nest. Because least terns nest colonially and their distribution statewide and on a site-specific basis is much more limited than piping plover, DFW anticipates that circumstances justifying either reduced proactive fencing or nest moving for least tern will be rare (e.g. significant impact on a high use recreational portion of a beach that cannot be adequately addressed through another means). Beach managers should refer to section 3.2.2.3 of the HCP for guidance on developing an impact

[2] For colonies that have been relatively stable over time, DFW will make a preliminary determination of the extent of fencing reduction to be allowed based on consideration of the approximate areal extent of the tern colony during the previous 1-3 beach seasons and information about nest distributions and densities. Alternatively, the allowable reduction will be determined based on the distribution of terns relatively early in the breeding cycle at a given site. In making its determination, DFW may consider the size and distribution of sub-colonies across the entire site.

avoidance and minimization plan for this activity. However, because terns nest colonially and moving nests into the vicinity of other nests can lead to significant conspecific aggression and nest loss, allowable nest moving distances will be significantly smaller than distances for the piping plover (see HCP, page 3-11). Allowable nest moving distances will vary by site, depending on habitat, colony density, and other factors.

Oversand Vehicle (OSV) Use in the Vicinity of Unfledged Least Tern Chicks

This covered activity allows limited, escorted driving of non-essential OSVs within the 100-yard setback from unfledged least tern chicks required by the Guidelines. The majority of OSVs are expected to be recreational, although some could be used for other purposes (e.g., tending oyster aquaculture beds). The Guidelines allow OSV use outside of the least tern breeding season and during the pre-nesting, egg-laying, incubation, and postfledging periods. Therefore, the need for a CMP related to this activity is specific to the pre-fledging period (i.e., after chicks have hatched but before they have fledged).

As noted in the Guidelines, least tern chicks (particularly younger ones) are less mobile than piping plover chicks. For example, because they are fed by attending parents, they do not forage in the intertidal zone or bayside flats. In general older, pre-fledging least tern chicks are at greatest risk when they move to the beachfront and intertidal zone, seeking wet sand. On the other hand, older chicks may be less vulnerable to direct mortality as they are relatively agile and capable of rapid movement. However, without careful monitoring and vehicle management, least tern chicks may be more likely than plover chicks to become "stranded" seaward of the OSV corridor, resulting in increased risk as escape behavior is triggered. In addition, unlike piping plovers, it can be difficult or impossible to assess the exact number of chicks present at a site (in a colony) at a given point of time. Also chicks do not travel in broods, complicating monitoring.

Therefore we present least tern specific impact avoidance and minimization measures for this covered activity here, rather than referring to a parallel section of the HCP. As a first step, reasonable alternatives must be considered and the number of chicks to be exposed to vehicles must be minimized.[3] In general, escorting will not be allowed past more than 20 unfledged least tern chicks at a given site, although DFW will consider the site configuration and proposed monitoring levels in making a final determination. For example, a narrow beach with a travel corridor near the high tide line may present a greater risk than a site with a large overwash, where vehicles can be routed landward of the main colony.

Narrow Vehicle Corridor, No Parking: Travel in the vicinity of unfledged chicks will be restricted to a single, clearly demarcated vehicle travel corridor less than 5 yards wide. Parking will not be allowed within 100 yards of unfledged chicks. Because chicks are mobile, plan participants will be encouraged to establish a restricted parking zone considerably farther than 100 yards from unfledged chicks in order to reduce the need for constant monitoring of chicks and readjustment of vehicle parking during the course of the day. Exceptions to this rule may be approved by the DFW in limited circumstances. For example, at a site with little traffic (e.g., small numbers of aquaculturists tending oyster beds), a defined vehicle corridor may not be necessary.

[3] For example, if significant sections of the beach are already open to OSV use as a result of OSV corridors behind dunes and absence of nesting birds in some sections of beach, then escorting may not be justified.

Restricted Travel Hours: To limit disturbance of chicks and impacts on foraging, vehicle travel in the vicinity of chicks will be restricted to no more than 6 hours per day in 2–3 travel periods. For example, vehicle travel would be restricted to several hours in the morning and late afternoon to access and exit the beach. The IAMP for each site will specify the restricted vehicle travel timeframes for that site. DFW will consider requests to lengthen the travel windows in cases where fewer than 5 unfledged chicks are affected.

Vehicle Escorting: Vehicle escorting will be performed using one of two options.

- Each vehicle must be escorted by a passenger who walks in front of the vehicle (self-escorting), scanning for chicks.
- A single escort must walk in front of a caravan of 50 vehicles, scanning for chicks.

In lieu of the single pedestrian caravan escort, the DFW may approve a qualified shorebird monitor driving in an open top OSV at a speed of 5 mph or less. In any case, the escorts must have the ability to stop vehicle travel in the event that chicks approach or enter the travel corridor. Vehicle escorting will begin at least 200 feet from the closest chick and terminate 200 feet past the last chick in a given brood.

Staff Training, Enforcement, and Communication: Careful coordination among staff is essential to ensure proper implementation, enforce violations of OSV rules and procedures, and respond to emergency situations. IAMPs should include implementation measures to address issues such as enforcing restricted driving hours and escorting procedures, communication amongst monitors, beach access attendants, law enforcement, and other staff, and protocols for escorting vehicles off the beach during emergencies.

Mandatory OSV Operator Education: All OSV users participating in the escort program must undergo a mandatory orientation each beach season prior to implementation of the escort program.

Monitoring: The IAMP must describe the monitoring plan associated with this covered activity. It is difficult to prescribe required minimum monitoring because sites will vary in the number chicks present and in how they are distributed within a site (e.g. diffuse within a loose colony or clustered at a dense colony). The following principles should be applied in developing the site specific monitoring plan:

1. Monitor(s) must attempt to verify the locations and count all chicks prior to each travel window, and continue to monitor chick movements and locations periodically during the travel period.
2. A minimum of one qualified shorebird monitor must be present continuously during escorting periods at each sub-colony or site where escorted OSV use will occur. At sites with smaller numbers of unfledged chicks present at the time escorting begins (e.g. <10), low traffic rates, and confined to a relatively small geographic area, a single monitor may be adequate to both monitor chick movements and compliance with escorting procedures. However as traffic, number of chicks present, and spatial dispersion increase, the number of monitors will need to be increased. In general, as described above, escorting will not be allowed past more than 20 unfledged least tern chicks at a given site, although DFW will consider the site configuration and proposed

monitoring levels in making a final determination. For example, a narrow beach with a travel corridor near the high tide line may present a greater risk than a site with a large overwash, where vehicles can be routed landward of the main colony. Plan participants will need to demonstrate adequate staffing to implement both routine monitoring elsewhere on the beach and the vehicle escort program simultaneously.

3. Monitors must be able to temporarily halt traffic and take other reasonable measures to manage risk. Special care must be taken if chicks are aggregating in the intertidal zone when vehicles are approaching to minimize the risk of "stranding" chicks on the open beach seaward of the OSV corridor.

1.6 Mitigation

In accordance with MESA permitting standards, the applicant must propose and implement mitigation that provides a "net benefit" to the affected species (321 CMR 10.23). Although the applicant may propose other activities that meet this standard, the following information is provided as a guide to applicants.

The mitigation plan should propose to benefit a minimum of 2-4 breeding pairs of least tern for every breeding pair, nest, or unfledged chick exposed to covered activities. Because it may not be possible to precisely determine the number of breeding pairs or chicks affected, DFW will use a conservatively high estimate of the number pairs/chicks affected. Final determination of the appropriate level of mitigation will take into account the effectiveness of the proposed impact avoidance and minimization measures and the particular mitigation activities proposed at a given site (e.g. modest increased enforcement of pet rules may not be as effective as electric fencing around a colony).

As described in the HCP, plan participants will have the option of providing mitigation funds for outreach and education, increased law enforcement, and selective predator management. DFW will oversee the funds and use them to implement the above-mentioned activities to benefit piping plover at appropriate breeding sites. Because sites chosen for mitigation activities will support breeding piping plovers and least terns, participants proposing to engage in covered activities affecting least tern will also have the option of paying into the mitigation fund. Alternatively, applicants may propose to carry out their own mitigation activities to benefit least tern, including but not necessarily limited to:

1. Selective predator management
2. Nonlethal predator management including the use of electric fencing
3. Increased law enforcement – e.g. pet regulations, additional trained enforcement staff presence
4. Credible conservation research to benefit least tern (e.g. experimental nonlethal predator management; vegetation management). Any research proposal must provide support for the potential feasibility of the technique for benefitting least terns (e.g. scientific literature). Techniques that DFW considers too experimental or otherwise highly unlikely to provide benefits will not be considered.
5. Education and outreach producing tangible benefits to least terns at specific breeding beaches

1.7 Monitoring & Adaptive Management

As described in the HCP, requests for coverage must include a site specific monitoring plan that addresses the need for both compliance and effectiveness monitoring (HCP, Section 4.4). For example, to assist DFW in assuring CMP/ITP compliance, participants will keep daily logs to track staffing levels and specific activities such as frequency of least tern chick counts during OSV travel windows, frequency of rules violations by OSV operators, and numbers of vehicles participating per day.

Effectiveness monitoring requires collecting information about least tern behavior, colony size, and reproductive success that will facilitate an assessment of the impact of the covered activities over time. In addition, collecting such information will enable DFW to make improvements to the program over time (adaptive management). Such improvements might include changes to the impact minimization or mitigation protocols or ratios to reduce risk or increase conservation benefits, and/or improvements to procedures that lower implementation costs or increase recreational flexibility without adversely impacting least terns.

1.8 Funding

As described in the HCP (Section 5.4), plan participants must provide a budget and assurances that adequate resources are available to ensure successful implementation. This includes but is not limited to the requirement to secure supplemental staffing as needed to implement the Plan while maintaining standard bird monitoring and beach operations.

1.9 Alternatives to Take

The MESA requires applicants and to assess alternatives to take. As discussed above (Section 1.5), Least Terns are found at far fewer sites than piping plovers in Massachusetts, and tend to be clumped into fairly discrete colonies. Furthermore, least tern chicks are less mobile than piping plover chicks. For these reasons, at some sites it may be easier to avoid take of least terns and still meet recreational objectives than to do so for piping plover. DFW will consider need and the availability of viable alternatives in assessing all CMP/COI applications.