

# FEASIBILITY STATEMENTS FOR ISLAND-NESTING TERNS 2006 GOALS AND OBJECTIVES

Prepared by: R. Bradford Allen  
January 8, 2007

**Goal:** Increase the abundance, expand the distribution, and ensure the long-term viability of all three island-nesting tern species (Common Terns, Arctic Terns, and Roseate Terns) in Maine.

**Population Objective 1:** By 2021, increase the five-year average populations of all island-nesting tern species to at least 10,000 pairs of Common Terns, 6,000 pairs of Arctic Terns, and 300 pairs of Roseate Terns.

Desirability: There is widespread public interest and support for restoration of Endangered and Threatened Species and in particular for terns and other seabirds. The Maine Endangered Species Act is explicit in its charge to maintain or enhance populations of rare and endangered species and the ecosystems on which they depend. The public has demonstrated its support of this through voluntary financial support of the tern restoration program, via MDIFW, Maine Audubon, National Audubon, College of the Atlantic, and others. There is a growing desire in the public for perpetuation of intact, natural ecosystems including their flora and fauna. The Roseate, Common, and Arctic terns have become cornerstone species in regards to island ecosystems, and, as such, their perpetuation is greatly desired by many.

Feasibility: Management of terns on nesting islands is based on established and proven methods developed in Maine, and resounding success has been demonstrated on several islands in Maine. Therefore, technically and biologically, attainment of the goals and objectives is feasible. However, actual achievement is entirely dependent on the Department's ability to work with partners (especially U.S. Fish and Wildlife Service and the National Audubon Society) to place and maintain intensive management programs on several offshore nesting islands. The outcome, therefore, hinges on the Department obtaining funding for these programs.

Capability of Habitat: There currently exist in Maine sufficient nesting islands to support populations of island-nesting terns equal to or greater than the goals and objectives. Habitat will not be a limiting factor. However, many of these islands are functionally unavailable to nesting terns because of the presence of gulls.

Possible Consequences: Competition and predation from gulls are the major limiting factor to these three species. Gulls will undoubtedly need to be controlled through lethal methods on managed islands. Some people will

find this undesirable. Use of certain islands, or sections of islands, would be restricted during nesting seasons, and some development proposals on certain islands may be denied to protect nesting sites. These specific actions could be viewed as undesirable by some people.

**Productivity Objective 1: By 2011, increase or maintain productivity of Roseate Tern colonies to sustain a five-year productivity average of  $\geq 1$  fledged chick/pair at 3 core colonies, each of which support more than 50 pairs of Roseate Terns.**

Desirability: Nesting colonies of Roseate terns have a tenuous viability due to small numbers of nesting pairs at a few core colonies. Increasing the number of birds at a few core sites will enhance the stability of the state's breeding population.

Feasibility: In 2006, two core colonies (Stratton Island and Eastern Egg Rock) had greater than 50 pairs. One additional colony on Petit Manan Island had 23 pairs but work is underway to improve nesting conditions for Roseates at this site. Through habitat management, predator control, and restricted human use of the Roseate tern breeding area, this objective is feasible. Further, the long-term productivity objective of  $\geq 1$  fledged chick/pair is also feasible.

Capability of Habitat: Habitat conditions at three important Roseate Tern nesting sites can support this objective, but a long-term presence of researchers and nearly annual maintenance of the habitat is required.

Possible Consequences: Larger colonies will increase the stability of Maine's breeding population of Roseate terns, thus reducing vulnerability to decline or extirpation due to catastrophic events. Increasing the number of nesting pairs will require continual protection of nesting populations by reducing or eliminating gull populations and restricting human visitation to these islands. There may be public resistance to these management approaches.

**Productivity Objective 2: By 2016, increase or maintain productivity of Arctic Tern colonies to sustain a five-year productivity average of  $\geq 1$  fledged chick/pair at 3 core colonies, each of which support more than 1,000 pairs of Arctic Terns, and 3 other core colonies, each of which support more than 400 pairs of Arctic Terns.**

Desirability: Nesting colonies of Arctic terns have a tenuous viability due to relatively small numbers nesting at a few core colonies. In 2005, 94% of the statewide nesting population nested on only three intensively managed (predator-free) nesting islands. Increasing the number of birds at a few core sites will enhance the stability of the state's breeding population.

## *Island-nesting Tern Feasibility Statements 2007*

Feasibility: Unlike Common and Roseate tern populations, Arctic tern populations have not shown significant improvements lately despite intensive management. The primary causes of Arctic tern breeding failure are predation, weather, flooding, food shortage, and disease. In 2006, two core colonies (Seal Island and Matinicus Rock) had greater than 1000 pairs. One additional colony, Petit Manan Island, had 779 pairs but, with habitat management and gull control, nesting conditions for Arctic terns can be improved to support 1,000 pairs. Developing three additional core colonies that support more than 400 pairs of Arctic Terns will be difficult unless additional resources are expended on some of the more offshore sites that Arctic Terns prefer. Further, the long-term productivity objective of  $\geq 1$  fledged chick/pair is optimistic but feasible at the core colonies.

Capability of Habitat: Habitat conditions at three important Arctic tern nesting sites can support this objective, but a long-term presence of researchers and nearly annual maintenance of the habitat will be required.

Possible Consequences: Competition and predation from gulls are the major limiting factor to these three species. Gulls will undoubtedly need to be controlled through lethal methods on some managed islands. Some people will find this undesirable. Use of certain islands, or sections of islands, will need to be restricted during nesting seasons and some development proposals on certain islands will be denied to protect nesting sites. These actions could also be viewed as undesirable by some people.

**Productivity Objective 3: *By 2016, increase or maintain productivity of Common Tern colonies to sustain a five-year productivity average of  $\geq 1$  fledged chick/pair at 4 core colonies, each of which support more than 1,500 pairs of Common Terns, and 6 other core colonies, each of which support more than 500 pairs of Common Terns.***

Desirability: Nesting colonies of Common terns have a tenuous viability because a significant portion of the State's nesting pairs nest at a few core colonies. Increasing the number of birds at a few core sites will enhance the stability of the state's breeding population. Despite surpassing the previous goal for this species, threats to Common Tern populations are numerous. The primary causes of breeding failure are predation, human disturbance, weather, flooding, food shortage and contaminants.

Feasibility: In 2006, two colonies (Petit Manan and Seal Island) had greater than 1,500 nesting pairs. Five other colonies had populations exceeding or near 500 pairs (Eastern Egg Rock, Pond Island, Jenny Island, Outer Green Island, and Stratton Island). Several colonies languish around 100 pairs where little or no management occur.

Capability of Habitat: Habitat conditions at four important Common tern nesting sites can support this objective, but a long-term presence of researchers, and nearly annual maintenance of the habitat, will be required.

Possible Consequences: Competition and predation from gulls are the major limiting factor for Common terns. Gulls will undoubtedly need to be controlled through lethal methods on some managed islands. Some people will find this undesirable. Use of certain islands, or sections of islands, may need to be restricted during nesting seasons, and some development proposals on certain islands may be denied to protect nesting sites for Common terns.

**Productivity Objective 4: By 2016, increase the number of minimally managed tern nesting islands to at least 20 islands, each of which sustain a five-year productivity average of  $\geq 0.5$  fledged chick/pair.**

Desirability: There is widespread public interest and support for restoration of seabirds and in particular for terns. While management at core seabird restoration sites have been extremely successful at returning terns to near historic levels, these activities are expensive, and there is concern amongst seabird researchers that “most of our eggs are in few baskets.” Additional productive colonies would reduce the tern’s vulnerability to decline due to catastrophic events.

Feasibility: Many of the sites with small tern populations are owned or are under the management authority of MDIFW. Several important islands are privately owned, and cooperative management relationships would need to be cultivated. This objective is feasible with some level of predator control and some reduction of human-related disturbance (signage and site visits). The financial responsibilities for these activities will need to be borne by the Department.

Capability of Habitat: In 2006, terns nested on 13 islands that are not currently core seabird restoration sites. Historically, terns have used dozens of small islands, but they have been displaced by predators or human-related disturbance. The habitat is capable of supporting this objective.

Possible Consequences: Increasing the number of minimally-managed islands (and tern numbers) will require a certain level of protection of nesting terns by reducing or eliminating gull populations and restricting human visitation during the nesting season. There may be public resistance to these management approaches.

**Distribution Objective 1: By 2011, maintain the current core of nine managed tern colonies, while increasing the number and distribution of productive colonies, to ensure that there is at least one productive colony in each of Maine's eight coastal regions that supports at least 200 pairs of terns.**

Desirability: Increasing the number and distribution of nesting colonies or terns in Maine will decrease the vulnerability of these populations to catastrophic events.

Feasibility: Establishing new tern colonies will require predator control, attraction techniques, with on-site presence of researchers throughout the summer. These intensive, long-term management approaches will be very costly, requiring a stable financial commitment by the Department, because MDIFW's conservation partners (USFWS and NAS) are having difficulty maintaining their existing seabird programs.

Capability of Habitat: Islands with suitable habitat for terns currently exist.

Possible Consequences: Increasing the number of breeding colonies will increase the stability of Maine's tern breeding populations, reducing their vulnerability to decline due to catastrophic events. The biggest impediment will be funding these additional sites, because current budgets for existing restoration sites are already strained. Further, to improve habitat suitability and increase production, gull populations on potential nesting islands for terns will need to be reduced or eliminated; additionally, human visitation will need to be restricted during the nesting season. There may be public resistance to these management approaches.

**Habitat Objective 1: By 2011, identify and conserve a suite of islands in each of Maine's eight coastal regions that have at least a short-term potential of supporting nesting terns.**

Desirability: Increasing the number of breeding colonies will increase the stability of Maine's tern breeding populations, reducing their vulnerability to decline due to catastrophic events. Protecting seabird nesting islands via acquisition is a high priority activity by federal and state wildlife agencies and several non-governmental organizations.

Feasibility: It is feasible to assume that the Department will work with landowners and conservation partners to acquire a fee title, conservation easement, management agreement, or other protection strategies over the planning period.

*Island-nesting Tern Feasibility Statements 2007*

Capability of Habitat: There are potential tern nesting islands in private ownership in each of the 8 coastal regions.

Possible Consequences: The transfer of ownership of a privately owned island to MDIFW will result in a loss of property taxes to some towns. Public use of these nesting islands would be restricted during the tern nesting season.

**Habitat Objective 2: By 2011, document and conserve principal island-nesting tern staging and foraging areas.**

Desirability: Management benefiting island-nesting terns and their habitats beyond the nesting islands is desirable, because efforts on the nesting islands will have little value if other important habitats are not conserved and protected.

Feasibility: This objective will require effective cooperation, support, and funding from conservation partners, landowners, and the general public

Capability of Habitat: There currently exists sufficient habitat to support populations of island-nesting terns.

Possible Consequences: Identification and conservation of these habitats should benefit a wide range of marine resources.