

FEASIBILITY STATEMENTS FOR LEACH'S STORM-PETREL GOAL AND OBJECTIVES

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Goal: Increase the number of Leach's Storm-Petrels nesting on the coast of Maine, and increase the public's awareness and understanding of Maine's nesting seabirds, including Leach's Storm-Petrels.

Population Objective 1: With partners, develop by 2004 and implement by 2005 a program to inventory and monitor nesting Leach's Storm-Petrels in Maine.

Desirability: Population inventory and monitoring are key components to the management of Leach's Storm-Petrels in Maine. Data are inadequate to ascertain current population levels. Population trends cannot be projected based on available data. An improved survey methodology is needed to increase accuracy of population estimates.

Feasibility: An accurate population estimate for Leach's Storm-Petrels is difficult to determine due to their nocturnal habits at nesting sites. The best method to census petrel populations is a systematic count and inspection of all burrows to determine the number of occupied burrows. When colonies are large, petrel abundance is determined by sampling the total area. In cooperation with conservation partners, Department biologists can develop a program to systematically inventory and monitor nesting Leach's Storm-Petrels (based on established seabird inventory techniques).

Capability of Habitat: Not applicable.

Possible Consequences: The viability of many petrel colonies in Maine is tenuous, due to their small size. Monitoring population size and productivity of Leach's Storm-Petrel nesting colonies will enable Department biologists to identify and address factors limiting this breeding population.

Population Objective 2: By 2010, increase and then maintain through 2015 the number of Leach's Storm-Petrels nesting in Maine by 20% from 1995 levels.

Desirability: Nearly all of the U.S. breeding population of Leach's Storm-Petrels along the Atlantic coast nest on Maine's coastal islands. Petrel colonies in Maine are at the southern edge of the species' breeding range. Many nesting colonies in Maine have a tenuous viability due to limited numbers of nesting pairs. Increasing

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the number of Leach's Storm-Petrels nesting in Maine will enhance the stability of the state's breeding population.

Feasibility: Known breeding colonies of Leach's Storm-Petrels on Maine islands have increased from 17 in 1977 to 35 in 1999. Maintenance of petrel breeding colonies on the Maine coast depends on continued management to maintain habitat, reduce predation, and limit human disturbance of nesting colonies. The continued cooperation of conservation partners (which includes the owners of several important petrel nesting islands) is essential to enhance and maintain petrel breeding colonies.

Capability of Habitat: In 1900, Leach's Storm-Petrel populations in Maine began to steadily decline due to predation, grazing, and other human-related disturbances. Some colonies were completely eliminated during this period. Nesting colonies need continued protection from disturbance from predators and humans.

Possible Consequences: Larger colonies will increase the stability of Maine's breeding population of Leach's Storm-Petrels, reducing its vulnerability to decline or extirpation due to catastrophic events, predation, or human disturbance. Increasing the number of nesting pairs will require continued protection of nesting populations by reducing or eliminating predator populations and restricting human use on petrel nesting islands. Several management techniques for enhancing petrel habitat (e.g., reducing predator populations, including use of lethal means; removing sheep from petrel habitat) may conflict with preferred approaches of cooperating partners, which may be focusing habitat management on different priority species (e.g., terns). There also may be public resistance to these management approaches.

Population Objective 3: By 2010, increase and then maintain through 2015, the number of islands from 5 to 10 that support at least 100 nesting pairs of Leach's Storm-Petrels.

Desirability: Viability of small nesting colonies is tenuous. Increasing and maintaining the size of the nesting colonies of Leach's Storm-Petrels on 10 islands in Maine will enhance the stability of the state's breeding population. Petrels' have a strong tenacity to a nesting burrow. Maintenance and enhancement of existing colonies is crucial to increasing the size and distribution of Maine's breeding population.

Feasibility: Management of petrel breeding colonies on the Maine coast depends on continued effort to maintain habitat, reduce predation, and limit human disturbance of nesting colonies. With continued habitat and population protection (most islands with petrel colonies are in conservation ownership), it is feasible to increase and maintain a breeding population of at least 100 pairs on 10 islands. However, the Department will need to work with conservation partners to manage habitat for petrels in a manner that is not deleterious to tern restoration efforts.

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Capability of Habitat: There are 5 islands in Maine with petrel nesting colonies ranging 114-724 pairs; 5 islands have colonies ranging 25-88 pairs. These nesting colonies need continued protection from disturbance from predators and humans to maintain populations of at least 100 nesting pairs.

Possible Consequences: Larger colonies will increase the stability of Maine's breeding population of Leach's Storm-Petrels, reducing its vulnerability to decline or extirpation due to catastrophic events, predation, or human disturbance. Increasing and maintaining the number of nesting pairs will require continued protection of nesting populations by reducing or eliminating predator populations, restricting human use on petrel nesting islands, and habitat management that benefits burrow-nesting petrels. Lethal control of predators (e.g., gulls) may create social conflicts with various groups, disagreeing with management that locally eradicates a population of one species to benefit a different species.

Population Objective 4: Maintain at least 2 islands with 3,000 nesting pairs of Leach's Storm-Petrels through 2015.

Desirability: Great Duck and Little Duck Islands represent the core of Maine's breeding population of Leach's Storm-Petrels. These colonies need to be maintained and managed for petrels to enhance the stability of the state's breeding population.

Feasibility: Management of petrel breeding colonies on the Maine coast depends on continued effort to maintain habitat, reduce predation, and limit human disturbance of nesting colonies. With continued habitat and population protection, it is feasible to maintain at least 3,000 nesting pairs on each of these 2 islands. Black-backed gull control may be required to provide the needed level of protection.

Capability of Habitat: More than 76% of the known statewide population of petrels nests on 2 islands (Great Duck and Little Duck Islands), based on 1994-1996 estimates. These islands have nesting populations ranging 2,800-5,040. Nesting colonies need continued protection from disturbance from predators and humans.

Possible Consequences: Large colony size increases the stability of Maine's breeding population of Leach's Storm-Petrels, reducing its vulnerability to decline or extirpation due to catastrophic events, predation, or human disturbance. Management actions may require reducing or eliminating predator populations and restricting detrimental human use on petrel nesting islands. There may be public resistance to these management approaches.

Population Objective 5: By 2010, increase and then maintain through 2015 the population of Leach's Storm-Petrels at 10 of the smallest colonies from 2000 levels to 25 nesting pairs.

Desirability: Small nesting colonies are especially vulnerable to reduction or eradication by predation or habitat disturbances. Increasing the size of the nesting colonies of Leach's Storm-Petrels on 10 islands in Maine will enhance the stability of the state's breeding population. Petrels have a strong tenacity to a nesting site. Maintenance and enhancement of existing colonies is crucial to increasing the size and distribution of Maine's breeding population.

Feasibility: Management of petrel breeding colonies on the Maine coast depends on continued effort to maintain habitat, reduce predation, and limit human disturbance of nesting colonies. With continued habitat and population protection, it is feasible to increase and maintain small breeding colonies on 10 islands to 25 nesting pairs.

Capability of Habitat: There are 15 Maine islands with petrel nesting colonies ranging 1-20 pairs; 5 islands have populations of at least 12 pairs, 5 islands have 4-8 nesting pairs. These nesting colonies need continued protection from disturbance from predators and humans and habitat management designed to improve nesting conditions for petrels (i.e., remove sheep from petrel nesting islands).

Possible Consequences: Larger colonies will increase the stability of Maine's breeding population of Leach's Storm-Petrels, reducing its vulnerability to decline or extirpation due to catastrophic events, predation, or human disturbance. Increasing the number of nesting pairs will require continued protection of nesting populations by reducing or eliminating predator populations and restricting human use on petrel nesting islands. There may be public resistance to these management approaches.

Habitat Objective 1: By 2005, identify and prioritize sites with suitable nesting habitat for Leach's Storm-Petrels and cultivate a relationship with partners and landowners to facilitate management.

Desirability: Protection of nesting habitat from predation, grazing, and human-related disturbances are a primary concern for petrel colonies. The distribution of Leach's Storm-Petrel habitat in Maine depends on continued habitat protection. Additionally, this protection needs to be extended to currently unoccupied islands with suitable habitat to aid in maintaining or enhancing the distribution of nesting habitat for petrels. Cooperative management with the Department's conservation partners is essential to attain population and habitat management objectives for Leach's Storm-Petrels.

Feasibility: Many islands in Maine probably can provide suitable nesting habitat for Leach's Storm-Petrels; however, they must be predator-free to be successful. In

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the past, federal, state, and private conservation agencies have acquired and/or managed Leach's Storm-Petrel nesting islands in Maine. With the mutual goal of securing the presence of Leach's Storm-Petrels in Maine, these cooperative management relationships should continue to be cultivated.

Capability of Habitat: Conservation ownership of petrel nesting islands, which aids in protecting habitat, has increased over the past 20 years. Of 35 currently known petrel colonies, 24 are owned or under management authority of a conservation agency (federal, state, private). Additionally, nesting islands for Leach's Storm-Petrels can be protected as Significant Wildlife Habitat (NRPA) and as P-FW or P-RP zones (LURC); 7 islands are under LURC zoning and an additional 21 are protected as Significant Wildlife Habitat. However, to maintain or improve the suitability of potential nesting islands, a cooperative relationship needs to be developed and enhanced with conservation partners and landowners.

Possible Consequences: Protection of nesting habitats and breeding populations of Leach's Storm-Petrels in Maine will increase with the support of cooperating partners and landowners. However, there may be public resistance to these habitat management approaches (i.e., predator control and reduction of grazing and human-related disturbance).

Habitat Objective 2: By 2015, increase the number of islands with nesting populations of Leach's Storm-Petrels by 5 from 2000 levels (35 islands), distributed between Penobscot Bay and downeast Maine.

Desirability: Increasing the number and distribution of nesting colonies of Leach's Storm-Petrels in Maine will decrease the vulnerability of this population to catastrophic events.

Feasibility: During the last 2 decades, the number of known petrel nesting islands has increased from 17 in 1977 to 35 in 1994-96 due to increased survey efforts. Maintenance of existing and creation of new breeding colonies depends on continued habitat protection from disturbance and degradation.

Capability of Habitat: Nesting habitat for Leach's Storm-Petrels began to decline in Maine during the early 1900s. Colonies were severely reduced or completely exterminated due to predation, grazing, and other human-related disturbances. Even though these disturbances to nesting habitat have declined, these factors are still a primary concern for persistence of petrel colonies. Petrels exhibit strong site tenacity; attraction techniques may be needed to lure prospecting first-time breeders to potential nesting sites.

Possible Consequences: Increasing the number of breeding colonies will increase the stability of Maine's breeding population of Leach's Storm-Petrels, reducing its vulnerability to decline or extirpation due to catastrophic events. To improve habitat

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suitability, predator populations on potential nesting islands for Leach's Storm-Petrels will need to be reduced or eliminated; additionally, human use will need to be restricted on nesting islands. These actions may result in resistance from the public.

Outreach Objective: By 2002 and in conjunction with partners, develop, expand, and implement an outreach plan to promote an understanding and awareness of nesting seabirds in Maine, including Leach's Storm-Petrels.

Desirability: The viability of many Leach's Storm-Petrel nesting colonies in Maine is tenuous because of their small size. Leach's Storm-Petrels are rarely seen at nesting sites due to their nocturnal habitats. Additionally, with their extended breeding season, Leach's Storm-Petrel breeding colonies need continued protection from trespassers through October or November. Therefore, outreach activities are needed to promote an awareness and understanding of this nesting seabird (including its habitat requirements) and necessary management tools (e.g., gull control and protection of colonies from human disturbance).

Feasibility: Department biologists and Information and Education staff, in conjunction with interested partners, can meet this Outreach Objective.

Capability of Habitat: Not applicable.

Possible Consequences: Human disturbance of critical Leach's Storm-Petrel nesting habitat in Maine hopefully will decrease as people attracted to Maine's coastal islands (for recreational use and nature appreciation) have increased awareness of Leach's Storm-Petrel habitat needs. This awareness also may increase the public's understanding and acceptance of management tools that will be used.