

FEASIBILITY STATEMENTS FOR ATLANTIC PUFFIN GOALS AND OBJECTIVES

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July 11, 2001

Goal: Increase the number of Atlantic Puffins nesting on the coast of Maine, and increase the publics' awareness and understanding of Maine's nesting seabirds, including Atlantic Puffins.

Population Objective: Through intensive, long-term management, increase and then maintain the number of Atlantic Puffins nesting in Maine by 50% from 2000 levels by 2015.

Desirability: Atlantic Puffin colonies in the Gulf of Maine form the southern edge of this species' breeding distribution. Alcid populations are presumed to fluctuate in the long term with variations in their food supply caused by climatic changes. In addition to this fluctuation, nesting colonies in Maine have a very tenuous viability due to limited numbers of nesting pairs. Increasing the number of Atlantic Puffins nesting in Maine will enhance the stability of the state's breeding population.

Feasibility: Breeding populations of Atlantic Puffins on Maine islands have increased from 125 pairs on 1 island in 1977 to 348 pairs on 4 islands in 1999 (178% increase in 22 years). Translocation, attraction, and gull control techniques have been used to successfully restore breeding populations of puffins on Maine islands. However, maintenance of puffin breeding colonies on the Maine coast depends on continual management to maintain habitat, reduce harassment and predation by gulls, and limit human disturbance of nesting colonies. Even though this objective is feasible, it will be a very costly program. Increasing the number of puffins on existing sites will require a long-term financial commitment by the Department.

Capability of Habitat: During the 1800s, the nesting population of Atlantic Puffins in Maine declined markedly due primarily to over exploitation by humans and human occupation of nesting islands. Protection efforts since the early 1900s prevented further loss of nesting colonies; however, recolonization of former breeding sites has been very slow. In 1973, puffins were recorded nesting on only 2 islands off Maine's coast (Matinicus Rock and Machias Seal Island). Potential nesting habitat needs protection from disturbance from gulls and humans to be suitable for puffin breeding colonies.

Possible Consequences: Larger colonies will increase the stability of Maine's breeding population of Atlantic Puffins, reducing its vulnerability to decline or extirpation due to catastrophic events. Increasing the number of nesting pairs will

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require continual protection of nesting populations by reducing or eliminating gull populations and restricting human visitation on puffin nesting islands. There may be public resistance to these management approaches. Additionally, to continue to enhance population growth, a better understanding of life history and habitat requirements of Atlantic Puffins may be needed (e.g., winter ranges, use of foraging habitat during breeding season, nesting habitat partitioning among seabird species, chick provisioning studies, predation, and survival of chicks to maturity).

Habitat Objective 1: By 2005, identify and prioritize sites with suitable nesting habitat for Atlantic Puffins and cultivate a relationship with partners and landowners to facilitate management.

Desirability: Human disturbance may increase the vulnerability of nesting puffins to predation or reduce productivity of nesting colonies. Harassment and predation by gulls can inhibit Atlantic Puffins from recolonizing former breeding areas and reduce or eliminate existing colonies. Management of Atlantic Puffins in Maine involves protecting nesting islands; especially islands not currently protected that potentially could support nesting puffins.

Feasibility: In the past, federal, state, and private conservation agencies have acquired and/or managed islands for nesting puffins in Maine. Puffin populations have been restored to 3 former nesting islands through the cooperative management of private, state, and federal conservation agencies. With the mutual goal of securing the presence of puffins in Maine, these cooperative management relationships should continue to be cultivated. The financial responsibilities of puffin management will also need to be borne by the Department in conjunction with its partners.

Capability of Habitat: All current nesting islands for puffins off the coast of Maine are owned or under management authority of a conservation agency. Conservation ownership of Atlantic Puffin nesting islands aids in protecting habitat. Nesting islands for Atlantic Puffins can be protected as Significant Wildlife Habitat (NRPA), Essential Habitat (Maine's Endangered Species Act), and as P-FW or P-RP zones (LURC). 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 puffins 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 human-related disturbance).

Habitat Objective 2: By 2015, increase the number of islands with nesting populations of Atlantic Puffins by 2 from 2000 levels (4 islands), with one site located in Penobscot Bay and the second site in downeast Maine.

Desirability: Increasing the number and distribution of nesting colonies of Atlantic Puffins in Maine will decrease the vulnerability of this population to catastrophic events.

Feasibility: During the last 2 decades, Atlantic Puffin breeding populations have been restored to 3 former nesting islands in Maine due to intensive management utilizing translocation, attraction, and gull control techniques. However, maintenance of existing and creation of new breeding colonies depends on continued habitat protection from disturbance and degradation; otherwise gulls will take over habitat, new areas will not be colonized, and disturbance from visiting public will increase. Establishing new puffin colonies will require attraction techniques, with the on-site presence of researchers throughout the summer. This intensive and long-term management approach will be very costly, requiring a stable financial commitment by the Department.

Capability of Habitat: Historically, Atlantic Puffins were recorded nesting on at least 7 of Maine's coastal islands. By the early 1900s, puffins were nesting on only 2 islands off Maine's coast. Harassment and predation by gulls can inhibit Atlantic Puffins from recolonizing former breeding areas. Human disturbance on nesting islands may increase puffins' vulnerability to predators or reduce the colony's productivity. Atlantic Puffins are colonial nesters; attraction techniques may be needed to lure prospecting birds to potential nesting sites.

Possible Consequences: Increasing the number of breeding colonies will increase the stability of Maine's breeding population of Atlantic Puffins, reducing its vulnerability to decline or extirpation due to catastrophic events. To improve habitat suitability, gull populations on potential nesting islands for Atlantic Puffins will need to be reduced or eliminated; additionally, human visitation will need to be restricted on puffin nesting islands. There may be public resistance to these management approaches.

Outreach Objective: By 2002, develop, expand, and implement, in conjunction with partners, an outreach plan to promote an understanding and awareness of nesting seabirds, including Atlantic Puffins, in Maine.

Desirability: Atlantic Puffins are charismatic birds that are important to Maine's tourism industry. However, the puffin's breeding population in Maine is vulnerable because they nest on only a few islands. There is a need for outreach activities to promote an awareness and understanding of this nesting seabird (including its habitat requirements, vulnerability to human disturbance, and the need for gull control).

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Feasibility: Department biologists and Information and Education staff, in conjunction with interested partners, can meet this objective. The U.S. Fish and Wildlife Service and National Audubon Society have already made significant contributions to this effort. The Department needs to increase its level of assistance to these partners, as well as provide some financial support.

Capability of Habitat: Not applicable.

Possible Consequences: Human disturbance of critical Atlantic Puffin 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 puffin habitat and management needs. This awareness also may increase the public's understanding and acceptance of management tools that will be used. Currently, most tourists are able to observe puffins via tour boats, in which they do not go ashore on puffin islands (only a limited number go ashore daily on Machias Seal Island).