ATLANTIC PUFFIN AND RAZORBILL MANAGEMENT SYSTEM

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MAINE DEPARTMENT OF INLAND FISHERIES AND WILDLIFE
WILDLIFE RESOURCE ASSESSMENT SECTION
BIRD GROUP

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INTRODUCTION

The purpose of this abbreviated management system is to describe the system Maine Department of Inland Fisheries and Wildlife (MDIFW) biologists use to make Atlantic Puffin and Razorbill management decisions. The Seabird Working Group established two goals and eight objectives for the planning period 2000 – 2015.

MANAGEMENT GOALS AND OBJECTIVES

MDIFW established management goals and objectives for Atlantic Puffins and Razorbills to guide management of these species through 2015. The goal and objectives were developed by a Seabird Working Group comprised of several representatives of the public, and was approved by the Commissioner and the Advisory Council on August 28, 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.

*Current Status***:** *381 pairs in 2000. Increase by 50% = 572 pairs (2006: 790 pairs). We have achieved this objective***.**

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.

Current Status: We have identified and prioritized two sites within the USFWS for the next downeast alcid restoration site. These islands are The Brothers (East) (1st choice) and Libby Island (a.k.a. Little Libby or South Libby Island) (2nd choice). We have also identified alcid sites in mid-coast Maine, but no prioritization has occurred. Potential alcid restoration sites include: Wooden Ball; Large Green Island; Western Egg Rock, Great Duck Island, and Little Duck Island.

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

Current Status: There are four islands, so our objective is six. Preferred Penobscot Bay site has not been determined; potential downeast sites include The Brothers (East) and Libby Island.

Public Outreach Objective: By 2000, develop, expand, and implement, in conjunction with partners, a public outreach plan to promote an understanding and awareness of nesting seabirds, including Atlantic Puffins, in Maine.

Current Status: We received a number of grants and initiated several programs in an effort to make progress towards this objective. These efforts include an Outdoor Heritage Fund Grant ($31.8K); a Seabird Outreach Grant ($15K State Wildlife Grant Program), establishment of the Puffin Place (NAS) in Rockland, and efforts by the Friends of Maine Seabirds Islands. Although efforts are continuing, it is reasonable to assume that work conducted by the National Audubon Society and the U.S. Fish and Wildlife Service is addressing this objective.

Goal: **Increase the number of Razorbills nesting on the coast of Maine, and increase the public's awareness and understanding of Maine's nesting seabirds, including Razorbills.**

Population Objective 1: With partners, develop and implement by 2000 a program to inventory and monitor nesting Razorbill in Maine.

Current Status: This was accomplished in 2006 though the partnership referred to as the Gulf of Maine Seabird Working Group (GOMSWG). Partners inventoried all Razorbill colonies in the Gulf of Maine using a combination of visual estimates from a boat (on small islands where predatory gulls are also nesting) and complete nest counts at major seabird restoration sites.

Population Objective 2: By 2015, increase and then maintain the number of Razorbills nesting in Maine by 50% from 2000 levels using intensive, long-term management.

Current Status: An estimate of the number of nesting Razorbills pairs in 2000 was 350 pairs. An increase of 50% would require an increase of 175 pairs, for a total of 525 pairs by 2015. The 2006 estimated number of nest pairs was 482 (MDIFW and USFWS files). It is important to note that three Razorbill colonies in eastern Maine are not seabird restoration sites, and likely predatory gulls are affecting productivity at these sites.

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

Current Status: Razorbill numbers appear to be improving throughout the Gulf of Maine. This species is breeding at one additional site (Petit Manan Island) and has been observed during the breeding season at the following islands: The Brothers (East), Great Spoon Island, Little Spoon Island, Great Duck Island, and Little Duck Island.

Habitat Objective 2: By 2015, increase the number of islands with nesting populations of Razorbills by 3 over 2000 levels, ensuring these islands are distributed between Penobscot Bay and downeast Maine.

Current Status: There are five nesting islands including Petit Manan Island (2004), therefore our goal is eight islands. Potential nesting islands include:

The Brothers (East); Great Spoon Island, Little Spoon Island; Great Duck Island and possibly others.

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

Current Status: We have received a number of grants and have initiated several programs in an effort to make progress towards this objective. These efforts include an Outdoor Heritage Fund Grant ($31.8K); a Seabird Outreach Grant ($15K State Wildlife Grant Program), establishment of the Puffin Place (NAS) in Rockland and efforts by the Friends of Maine Seabirds Islands. Although efforts are continuing, it is reasonable to assume that work conducted by the National Audubon Society and the U.S. Fish and Wildlife Service is addressing this objective

ASSUMPTIONS

1. USFWS and NAS alcid restoration projects will continue through the planning period.
2. Some level of population monitoring will occur through the planning period, particularly on the intensively-managed seabird islands.
3. Significant efforts to attain management goals and objectives will require additional staff time and considerable financial resources.
4. Additional State Wildlife Grant and Section 6 funds will be necessary for MDIFW to partner with USFWS and NAS on additional alcid restoration sites.
5. Nesting colonies consist of discrete nesting islands and current nesting colonies are relatively few, and have been historically. Hence, these few sites will always remain vulnerable to catastrophic events. In Maine, alcid populations are limited in their nesting habitat but not in the other habitats (i.e. foraging, brood-rearing, wintering) necessary for a viable population. The Endangered and Threatened listing criterion of small “fragmented populations” modestly applies to these migratory birds, but they are free to use the entire Gulf of Maine and beyond, which they do. Prior banding studies show that Maine birds are a portion of a larger meta-population that utilizes several important offshore islands in Maine and in the entire Gulf of Maine.
6. The Canadian Wildlife Service Machias manages Seal Island, the largest alcid colony in the Gulf of Maine, which is only 18 miles off the coast of Maine. Alcids on this island are currently experiencing high productivity. It is reasonable to assume that once theses birds reach maturity, they may investigate Maine islands in search of suitable nesting space.

MDIFW has made little progress on Atlantic Puffin and Razorbill management since development of the assessment, and approval of the goals and objectives, because of limited personnel and financial constraints. Current management of these alcids in Maine consists primarily of collaborating with conservation partners to monitor

populations using the best techniques appropriate to each site. MDIFW lacks the capacity to address these management objectives without additional funds. A logical place to look for monies appropriate for Atlantic Puffin and Razorbill management is the State Wildlife Grant fund. Both the Atlantic Puffin and Razorbill, two state-listed Threatened Species are CWCS Species of Greatest Conservation Need (SGCN).

CURRENT (2006) POPULATION STATUS

Populations of both species have improved since 2000, and individuals are prospecting additional sites on islands along the Maine coast. Currently, all existing Atlantic Puffin and Razorbill nesting islands are in conservation ownership by either the U.S. Fish and Wildlife Service (USFWS) or MDIFW. Additional breeding colonies, and improved population sizes on existing nesting islands, will aid in increasing the viability of these populations at the southern terminus of both species' range.

The demand to conserve rare fauna and the ecosystems they depend on, especially species listed as Threatened or Endangered, is declared in Maine's Endangered Species Act. Accordingly, MDIFW is charged to preserve the diversity of wildlife in the state.

REGULATORY AUTHORITY

The Migratory Bird Treaty Act of 1918, and subsequent amendments authorizing the implementation of the various Conventions, provide regulatory authority for the protection and management of the Atlantic Puffin and Razorbill resource in the United States. Current management of Atlantic Puffins and Razorbills in Maine is the joint responsibility of the USFWS and MDIFW. The National Audubon Society (NAS) also plays a major role in alcid management in Maine. In fact, in 1973, NAS began the restoration process in Maine by transplanting two-week-old puffin chicks from Great Island, Newfoundland to Eastern Egg Rock.

MANAGEMENT DECISION PROCESS

Management decisions primarily address the goal of increasing populations of Atlantic puffins and Razorbills through monitoring (surveys and censuses) and management. Most improvements in alcid numbers are occurring at existing seabird restoration sites. USFWS has gone through a process to determine the most likely alcid restoration site in eastern Maine, looking primarily at The Brothers (East) and Libby Island. A number of variables are factored into this decision process such as: historical use by alcids, suitable habitat, land ownership, status of potential alcid predators at the site (i.e. large gulls, mink, peregrine falcons), need for predator control, presence of other factors that are potentially problematic (i.e. existing aquaculture facilities), and housing logistics.

CRITERIA FOR DE-LISTING

Alcid populations in Maine have always fundamentally rare and potentially tenuous because of the limited distribution of colonies (and suitable habitat) at the southern terminus of their ranges on the Atlantic coast. Atlantic Puffins are listed as Threatened in Maine, because 100% of the relatively small nesting population is found at fewer than five discrete, somewhat fragmented sites. All of these sites are intensively managed seabird restoration sites where Atlantic Puffin management is a priority. Ninety-nine percent of Maine's nesting Razorbills occur at only four sites. Unlike the puffin colonies, three of these four Razorbill colonies are on islands not intensively managed. One notable exception is Matinicus Rock where half of Maine's nesting Razorbill population resides. These relatively small nesting populations qualify as somewhat "fragmented," but this is debatable as interchange with other populations in the Gulf of Maine is occurring. De-listing of either species should occur when:

1. >600 nesting pairs on Maine Islands, and
2. Population trend has been stable or increasing the last ten years, and
3. Nesting occurs on >8 islands, and
4. Nesting islands are distributed…..
5. At least 6 islands are under conservation ownership and are managed for the species
6.

PERMIT REVIEW GUIDELINES

Today, the Migratory Bird Treaty Act of 1918, and subsequent amendments, provides protection for Atlantic Puffins and Razorbills. The above agreement prohibits hunting (including market hunting) of these birds. In Maine, seabird nesting islands or habitats of Endangered and Threatened wildlife may be designated as Significant Wildlife Habitat under the Natural Resources Protection Act (NRPA) of 1988, with regulatory oversight by the Maine Department of Environmental Protection (DEP). This legislation recognizes that Significant Wildlife Habitat is a state natural resource that needs to be protected. MDIFW is responsible for defining and mapping these habitats for protection under this law. Under NRPA, no person may perform any activity listed in subsection 2 without first obtaining a permit from DEP. Aquaculture activities are exempt from this provision.

Another group with an important role in seabird island regulations is the Maine Land Use Regulation Commission (LURC). LURC administers land use planning and zoning responsibilities and thus has regulatory authority over land use planning, zoning, and development activities on a few of these alcid colonies under zones referred to as LURC P-FW Sub-districts in its Comprehensive Plan (Section 10.16,C gives special consideration to seabird islands considered essential to the maintenance of seabird populations).

In summary, MDIFW or USFWS own all islands along the coast of Maine with nesting Atlantic Puffins or Razorbills, these agencies or their conservation partners manage them. The "missions" of these agencies are to enhance these resources, so activities

requiring a permit (NRPA; LURC P-FW) on these islands are generally addressed by siting and timing constraints. The goal is to minimize the impact on vegetation and nesting birds and to conduct activities outside the nesting season.

Part II: Atlantic Puffin and Razorbill Data Base

Atlantic Puffin and Razorbill Data Collection Summary

Population Monitoring

A number of census techniques used to estimate nesting Atlantic Puffin and Razorbill populations and their trends have been tested in Maine, with varying levels of success. Which technique to use, or combination of techniques, depends on the objectives of the project, the desired reliability, and available money, time, and personnel. The following description of census techniques is from Nettleship, 1976 (*Census techniques for seabirds of arctic and eastern Canada*. Occassional Paper No. 25. Canadian Wildlife Service).

> *"Alcids are a difficult group to census with precision. In general, the number of birds present at a colony varies within very wide limits with time of day, between days, and weather conditions. Atlantic Puffins and Razorbills usually nest in scattered pairs, on rock ledges, in crevices, under boulders, or in burrows in the ground. Birds on ledges are easily observed and counted but birds nesting in other habitats are often not visible from a distance."*

On managed seabird sites (i.e. Matinicus Rock, Seal Island, Eastern Egg Rock, and Petit Manan Island) where predatory gulls are not an issue, a direct count of the number of nesting pairs is accomplished by systematically searching the areas for incubating birds, eggs, or chicks.

Direct counts of birds on the nesting area, or nearby, are conducted from a boat when breeding sites are more inaccessible, as on Old Man Island, Pulpit Rock, and Freeman Rock. Although such counts are inadequate to assess the precise number of breeding pairs, they provide a rough index of numbers, especially if the counting procedure is standardized for time of day, phase of breeding cycle, and weather conditions.

Databases

The **Seabird Island Database** (MS Access application), located in Bangor with WRAS on the Bangor GIS server (Brm-fgb1svgissv), is accessible in Bangor, Augusta, and in the Regions. This application enables the viewer to browse/edit/query data in four tables; Island Seabird Census, Seabird Nesting Island, Island Registry, and Seabird List.

Island Seabird Census (ICDATA table) contains census data for island-nesting seabirds, wading birds, and some waterfowl. The baseline for this database is Carl Korschgen's 1976-77 coast-wide inventory data. The database primarily contains annual surveys by MDIFW. However, it also includes inventory data and observations form a variety of reliable sources (e.g. National Audubon Society, Maine Audubon Society, U.S. Fish and Wildlife Service, College of the Atlantic, Gulf of Maine Seabird

Working Group participants, etc. This database currently contains 8,940 records. **Seabird Nesting Island** (SNI table) is a yearly summary of Island Census. For each island tracked in SNI, there is a record with the best estimate of nesting population for noted census year. This database includes 623 records. **Island Registry** (ISLDREG table) contains descriptive information for islands in the coast of Maine. Individual island identifiers (island registry numbers) provide links to ME-GIS layers. This table contains 5,638 records. Lastly, **Seabird List** contains alpha codes and common and scientific names for birds referenced in Island Seabird Census. This table contains 55 records.