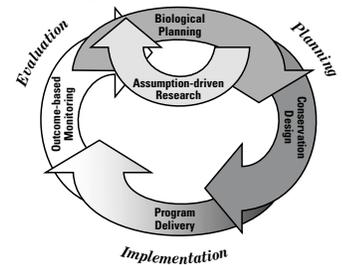


Strategic Conservation in Action

Strategic Habitat Conservation (SHC) in Region 5



One in a series of examples of ongoing work consistent with the SHC approach

Maine Coastal Islands National Wildlife Refuge protects and manages six coastal islands – Eastern Brothers, Petit Manan, Metinic, Seal, Pond and Matinicus Rock – primarily to benefit nesting Arctic, roseate and common terns and alcids (Atlantic puffins, razorbills, common murrelets and black guillemots).

One of the most successful management strategies in recovering Arctic, roseate and common tern populations is to prevent large gulls such as herring and great black-backed gulls from nesting on the managed seabird islands. Initially, laughing gulls were allowed to coexist on the islands because they were not adversely affecting the terns, they had relatively limited distribution in Maine, and they are listed as a species of special concern by Maine Department of Inland Fisheries and Wildlife.

When the refuge's comprehensive conservation plan was finalized, we did not have the benefit of regional or ecoregional population objectives for laughing gulls. The management approach the refuge took to balance the laughing gull population with Bird Conservation Region seabird objectives was to limit laughing gull nesting distribution while also trying to decrease productivity.

Initially, the laughing gulls capitalized on the absence of large gulls and coexisted with the terns. However, as laughing gull populations grew, the gulls began to exclude terns from preferred breeding habitat, preyed

directly on tern eggs and chicks, and stole food from the terns. The refuge initiated nest destruction efforts in 2001, but despite destroying 4,452 laughing gull nests in seven years, the laughing gull colony grew by 41 percent (an average of 6.8 percent/year).

Evaluation of seabird colony data and the projected population trends of the laughing gulls suggested the need to add new strategies to effectively reduce and maintain the laughing

gull population at a level that would not adversely affect population and productivity objectives for common, Arctic and roseate terns.

Biological Planning

The Mid-Atlantic/New England/Maritimes Working Group, a regional partnership of organizations and individuals working to facilitate waterbird conservation, developed the 2008 Mid-Atlantic New England Waterbird Plan. This plan evaluated the current status and distribution of waterbirds throughout the region. It determined that the Maine population of laughing gulls represents 2 percent of the population breeding within the Atlantic Northern Forest and New England Mid-Atlantic Bird Conservation Regions. The plan also provided information essential to re-evaluate specific management on refuge islands and incorporate work with partners to meet population objectives on seabird nesting islands in Maine.



Laughing gull

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Roseate tern

Conservation Design

To know how many birds can be removed without impacting the Mid-Atlantic New England Waterbird Plan population targets, the region's Migratory Bird Program used the potential biological removal¹ analytical tool developed by U.S. Geological Survey scientists to evaluate the effects of authorized take to achieve population objectives². This method helped the refuge and our partners determine the cumulative impacts over a broad geographic area of removing laughing gulls. The Slade formula³ was also used to estimate a maximum population growth rate. With the information derived from these two methods, we determined that we could reduce the number of gulls in the Gulf of Maine to 1,450 pairs by 2012 without impacting the regional laughing gull population.

Conservation Delivery

The potential biological removal approach identified the level of cumulative take that is sustainable given a certain amount of risk. To reach the specific management objectives for each of the islands, Maine Coastal Islands National Wildlife Refuge worked with National Audubon Seabird Restoration Program, Maine Department of Inland Fisheries and Wildlife and our Migratory Bird Program to determine how many gulls needed to be removed to achieve the Gulf of Maine Regional Tern Plan⁴ and Roseate Tern Recovery Plan⁵ productivity targets.

Monitoring

The refuge has been monitoring tern and laughing gull nest density with a standardized monitoring approach used by all the partners in the Gulf of Maine. This standardized methodology provides the essential benefit of evaluating results on a landscape scale rather than that of individual managed islands. The data is compiled, evaluated and distributed to all seabird managers in the Gulf of Maine. The refuge and its partners will continue this effective monitoring approach to evaluate the adult laughing gull mortality strategy on and off refuge lands.

Research

To further explore the relationship between vegetation management and the effects on seabird colonies, the refuge conducted an adaptive management consultation with U.S. Geological Survey to determine the effects of mowing, burning and grazing on the structure of seabird nesting habitat. A three-year adaptive management study has been initiated that will address many of our informational needs, including how we may be able to decrease suitable laughing gull habitat while managing for terns. This adaptive framework will keep adding new information to continuing planning and implementation efforts while evaluating new and more successful measures to meet our seabird objectives.

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¹PBR; Wade 1998, Runge, et al. 2004

²Runge, et al. In review

³Slade, et al. 1998

⁴USFWS 2002

⁵USFWS 1998