



Maine Coastal Islands National Wildlife Refuges

2014 Program Highlights

Visitor Center adds Several New Exhibits with Friends Help

The Friends of Maine's Seabird Islands (Friends) have been busy raising funds to acquire several exhibits to outfit the Maine Coastal Islands Visitor Center in Rockland. The exhibits include panels describing the historic exploitation of birds and refuge research equipment and methods, which includes a hands-on bird banding display. Another displays over 100 photographs highlighting refuge islands, habitats, wildlife and the people doing the work of the refuge. These projects were funded by the John Sage Foundation, the Maine Community Foundation, and the National Fish and Wildlife Foundation.

The Friends also raised money to produce a 15 minute orientation film which features stunning HD aerial photography of the coast, islands, and seabirds and is shown on demand in the theatre. Funding for this project was provided by grants from NLT Foundation and the National Fish and Wildlife Foundation.



Photo Display of Islands, Wildlife, and Habitats



Giant Coastal Wall Map Attracts Visitors Attention

The Quimby Family Foundation provided funding for a multi-year effort to create a giant 23-foot long map depicting the coast of Maine and most of its 4,600 islands. The map was created by FWS GIS expert Rick Schaufler and Refuge Biologist Michael Langlois. Aerial photos were stitched together in GIS and then converted to Adobe Illustrator so the graphic designer could print something so large!



Panel Exhibit on Historic Exploitation of Birds

On-Land Island Exhibit Installed at Visitor Center

The refuge's 61st island isn't a real one. A primary goal of the refuge's visitor center is to try to bring the island experience to those visitors who may never actually get out to one of the refuge's wild islands. We have made a giant step forward by installing an "on-land island" on the playground. When completed, the island will illustrate the different habitats that various seabirds prefer—cobble and short grass for terns, and crevices in rock jumbles for the alcids.

The Friends of Maine Seabird Islands secured funding from an anonymous donor, and hired Kearny and Associates and Third Dimension, both from Virginia, to design and construct the island. Built to fit in an existing hole in the rubber playground, it was assembled in 44 pieces of steel framework covered with fiberglass-embedded cement. The 300 pound pieces were craned over the hedge and fence and then bolted together. The island is surrounded by 11 tons of blue rubber mulch (recycled 1,467 tires) to provide safety and simulate water. There is also a dory, island house, and a couple of observation blinds to complete the experience. Final finish work will be completed in the spring.



Island Exhibit Nears Completion

Refuge Acquires 60th Island Protecting Seabird Habitat

The refuge recently added Mahoney Island to its holdings as its 60th island. Mahoney is located in Blue Hill Bay just off Naskeag Point in Brooklin, Maine. This island was identified as a high priority for purchase in the refuge's Comprehensive Conservation Plan. The island's seven acres supports five species of breeding seabirds. The most recent survey, completed in 2008, revealed that 18 black guillemot, 50 common eider, 28 double-crested cormorant, 11 great-black-backed gull, and 100 herring gull pairs nested on Mahoney Island. Many migratory shorebirds also utilize the intertidal habitat surrounding the island during migration.



Mahoney Island, Brooklin—photo by Maine Coast Heritage Trust

Tern Habitat Enhancement Project Creates Safer Nesting Sites

Refuge staff and volunteers completed a common tern habitat enhancement project this spring on Ship Island in Tremont. Although the island hosts over 400 pairs of common terns, the nesting area was restricted to a very narrow band of beach and low vegetation that remains exposed at high tide. In past seasons, storm tides have wiped out half the nests. In an effort to create safer nesting habitat, the refuge obtained permits to create an artificial over-wash area behind the berm.

Areas were mowed and landscape fabric laid to discourage plants from re-invading the area. Due to limitations on what equipment could be transported by boat to the island, people-power was used to shovel sand and gravel from the intertidal into two mechanized wheel barrows (borrowed from Acadia National Park) and an ATV with trailer to move it to the two upland areas. We then covered the landscape fabric with at least 6" of sand and gravel. The newly created nesting areas measured 25m x 10m and 11.5m x 4m. Both areas were used by nesting terns and they produced chicks. We documented a peak count of six nests in the small area and 30 nests in the large area.



Spreading sand and gravel in newly created tern habitat



James Fortier inspects the completed project



Refuge staff and volunteers loading mechanized wheel barrows

Beach Cleanup Effort Removes 8680 Pounds of Lobster Gear

Maine Coastal Islands National Wildlife Refuge staff and volunteers removed more than 60 cubic yards of debris weighing 8680 lbs. from the shores of Petit Manan Point this fall. Most of this debris consisted of crushed metal lobster traps, broken Styrofoam buoys, and plastic oil and drink containers.



Refuge staff unloading the 26' PackCat

In the early spring, refuge staff, other Service personnel from nearby offices and volunteers collected the scattered debris into piles where the grass would not be able to grow through and completely lock in the wire lobster traps. Due to the refuge's busy summer season, we were unable to devote time to get the material into boats and off-loaded into on-shore dumpsters until fall. Refuge staff have become much more proactive in island and shoreline cleanups in the past several years, but the job is pretty overwhelming.



Staff and volunteers celebrate 2nd full dumpster



....and another trailer full

Refuge Island Structures Receive Much Needed Attention

Given the extreme weather conditions that the offshore islands experience there is a constant need to attend to refuge buildings and associated structures. This year, refuge staff and contractors, completed the following projects:

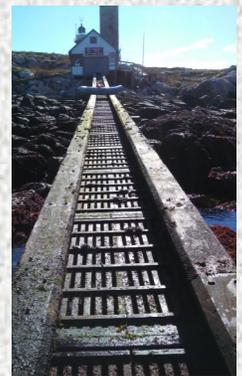
Petit Manan Boathouse - Refuge maintenance staff made numerous trips to complete scraping, priming, and repainting the boathouse. In addition they re-glazed numerous windows and re-shingled the roof cap.



Libby Island Generator Building - Despite treacherous landing conditions due to the loss of the boat ramp, refuge maintenance staff persevered in giving the generator building a fresh coat of paint. They also installed a new sign for the island.



Matinicus Rock Boat Ramp - Prock Marine was contracted to repair the 180 foot long boat ramp which is critical to safe landing at this remote island 26 miles offshore. Eight years of winter storms had severed numerous steel anchors to the granite and broken out 22' of decking and a section of the rail. The island hosts both a thriving seabird colony and also a seasonal research crew from National Audubon Society for fifteen weeks.



Metinic Island Cabin - The Penobscot Company was contracted to replace the Metinic Island cabin roof. The existing cedar roof was replaced with a composite recycled shingle called Enviroshake. The hope is that this product will outlast our cedar roofs which have only been lasting 15 years in the extreme offshore conditions.





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Refuge Vision:

“With the help of our conservation partners, at Maine Coastal Islands National Wildlife Refuge we will apply sound, scientific principles and adaptive management strategies to sustain the long-term health and integrity of coastal Maine habitats; expand community outreach and environmental education and interpretive programs; and, stimulate visitors to embrace stewardship of natural resources.

We envision the future Refuge Complex epitomizing the mission of the National Wildlife Refuge System; conserving in perpetuity an incredibly rich tapestry of coastal islands, intertidal estuaries, freshwater wetlands, maritime forests and open fields; and, enabling nesting and migrating seabirds, and other wildlife of conservation concern in the Gulf of Maine, to thrive here.”

Using Nanotags to Document Seabird Foraging Behavior

This year was the second year of a research effort to better understand the feeding habits of common and Arctic terns. By attaching small 1.6 gram nanotags to the birds back we can monitor the amount of time the terns spend feeding, the direction the birds are going to find prey, and when possible the location of prime foraging habitat. In 2014 we tagged terns on Seal, Matinicus Rock and Metinic Islands and monitored their movements from receiving stations positioned on six offshore islands.



Tag attachment on tern

Preliminary data shows common terns average forage flight lasted 83 minutes, they spent 9.5 hours/day feeding, and they may be traveling more than 40 km on a single foraging trip. Arctic terns appear to be flying much further with average forage flights lasting 138 minutes, they spent 14 hours/day feeding, and they may be traveling more than 80 km to find food.



Receiving station with antennae array

Seabird Productivity Rebounds with Bounty of Fish

After many years of poor forage fish availability and poor seabird survival, in 2014 food was abundant for seabirds at the seven restoration islands staffed by seasonal refuge interns. We consider it a productive year when terns produce 1 chick/pair. This year nearly all colonies exceeded this standard with Metinic Island common terns raising the most at 1.8 chicks/pair.



Common tern with herring

Puffins also did well this year after a tough year in 2013. At Seal Island 84% of burrows were occupied by incubating adults, compared to just 68% in 2013. Seventy-five percent of the puffins fledged chicks this year compared to just 10 % in 2013. Energy rich herring, hake, and sand lance are critical to sustaining these seabirds.



Puffin with bill full of sand lance