

# THE MAINE CHAPTER OF THE WILDLIFE SOCIETY

## THE MAINE WILDLIFER



SPRING 2022

### PRESIDENT'S MESSAGE

*by Sean Campbell*

Greetings, Members. As the new METWS President, I would first like to say that I am honored to be part of such a great group of enthusiastic, knowledgeable, and diverse professionals. When I became a member of the Maine Chapter of the Wildlife Society several years ago and attended my first annual meeting, what impressed me most was observing the breadth of knowledge and the diversity of wildlife research topics, conservation initiatives, and far-reaching impacts the members of this group were having across Maine, the country, and internationally. I saw that after the presentations the members were mingling, exchanging ideas, debating topics, asking questions, forming partnerships, and collaborating on projects. Most notably, they were often laughing and having a good time, which is one important facet of the workplace that is often overlooked. I could tell this was an inspired group of people and I wanted to be around this type of energy.

I recently took a new position as a Regional Wildlife Biologist for Maine Department of Inland Fisheries and Wildlife (MDIFW). As I have progressed through the seasons and my first year with the Department, I have found many similarities to what I first admired about METWS. I have found the staff working together, exchanging ideas, collaborating on projects, being driven by a mission, working towards a greater cause, and, in general, having a good time while often having an overflowing workload and countless jobs to perform. I have found myself having to ask for help on projects and consult with more experienced staff or specialists on certain topics. Whether asking a game warden for clarification on certain wildlife regulations, consulting with a wildlife rehabber on how to help a concerned citizen best handle an injured bird, collaborating with staff and seeking guidance for comments on Natural Resource Protection Act (NRPA) applications, or working with staff for my first-time counting winter ticks on moose, I have found all the staff very willing and enthusiastic to help and coach me up to speed. In my new position, I have spent hours in vain researching a topic and searching for the right answer, only to find that when I decide to reach out and call the right

person, they often point me in the right direction within a few minutes. The ability to ask for help, work with others, network, and collaborate on projects are all skills that are critical to wildlife professionals; and these can all be developed and improved upon as a member and working with METWS.

Over the next year, I hope all of us in METWS place an emphasis on improving these interpersonal skills and continue to foster an environment where we can all grow and improve our communication and networking on an individual and professional level. One of the ways as a chapter we are hoping to achieve this goal is by reinvigorating our social events throughout the state, specifically our "Biologists and Beverages" nights. These monthly events provide a relaxed atmosphere for our members to mingle and get to know one another outside of work, meetings, and conferences. After a couple of years of primarily interacting with one another through Teams and Zoom meetings, I know I am looking forward to some face-to-face time. We are also encouraging our membership to bring new or prospective members to these events in hopes of expanding our membership and increasing each of our

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networks. There has also been great enthusiasm among our newer members and student chapters. We hope that by increasing the opportunities to meet with these individuals, we will reciprocate the positive energy and emphasize the importance of membership. In the year to come, as our membership and networks grow and we cultivate our

personal and professional development, we will be better equipped to realize the mission of the chapter: "...to enhance the ability of wildlife professionals to conserve diversity, sustain productivity, and ensure responsible use of wildlife resources for the benefit of society." Let's have some fun along this journey and I hope to see you at the next "Biologists and Beverages" night!



## RECOVERY EFFORTS FOR NEW ENGLAND COTTONTAIL

*by Cory Stearns, Maine Department of Inland Fisheries and Wildlife*

The New England cottontail (NEC) is Maine's only native true rabbit. It historically occurred as far inland as southern Oxford county, Auburn, and Augusta and as far east as Belfast. Since the 1960s, NEC populations have declined, primarily from habitat loss. NEC are an early successional obligate species, relying on shrub thickets and young trees for cover from predators. Thickets were abundant and widespread in the mid-1900s following farm abandonments in the early 1900s, but have now succeeded into older forests with an understory with insufficient stem density to support NEC. Today, NEC are a State Endangered species with an estimated population of about 300 individuals and are known to occur in just 6 towns (Cape Elizabeth, Scarborough, Wells, York, Eliot, and Kittery).

MDIFW has a multi-faceted approach to NEC recovery. We monitor NEC populations via fecal pellet collection surveys in winter and early spring. We participate in a range-wide (ME, NH, MA, CT, RI, and NY) monitoring effort to track NEC populations by surveying all known occupied sites in Maine along with a similar number of vacant patches on a 2-year rotation (i.e., half the sites are surveyed in even years and half the sites in odd years). Over the last 5 years, we have documented an increase in occupancy of NEC in Maine, as the number of occupied sites within the range-wide monitoring program has increased from 21 in the winter of 2017-18 to 27 in the winter of 2020-2021. Additionally, MDIFW surveys other areas to search for unknown populations. These searches have documented several other occupied patches, increasing our total number of known sites to 34. Genetic results from the 2021-2022 survey are still pending, but based on where pellets were collected the number of known occupied sites may increase.

Habitat management is the second aspect of the NEC recovery effort. It is led by the New England Cottontail Restoration Coordinator, who is tasked with recruiting

landowners to conduct habitat management on their lands, and to provide technical assistance by making management recommendations and connecting landowners with contractors and funding mechanisms. MDIFW, Rachel Carson National Wildlife Refuge, Wells National Estuarine Research Reserve, and the National Fish and Wildlife Foundation work together to support the position. Sarah Dudek is the current Coordinator and is based at Rachel Carson NWR. To date, over 1,100 acres have received habitat management to benefit cottontails.

Captive breed/translocation is the third aspect of the recovery effort. The first releases in Maine were in 2017. To date, we've released 77 rabbits, most of which originated from breeding programs at Roger Williams Park Zoo (Providence, RI) and Queens Zoo (NY), but a few came from a breeding pen at Great Bay National Wildlife Refuge (Newington, NH), a colony on Patience Island, RI, and from wild populations in Cape Elizabeth. Most of the rabbits were released at Wells National Estuarine Research Reserve. The NEC population there has become self-sustaining and is one of the best populations in Maine. Rabbits have dispersed to colonize new areas. Five rabbits have been released into existing populations in Cape Elizabeth for genetic support, and in March 2022, 8 rabbits were released at Scarborough Marsh Wildlife Management Area to re-establish a population there. We anticipate releasing additional rabbits at Scarborough Marsh in fall 2022 and in 2023.

For more information on the New England cottontail and MDIFW's recovery efforts visit:

- <https://www.maine.gov/ifw/fish-wildlife/wildlife/species-information/mammals/cottontail-snowshoe-hare.html>
- [www.newenglandcottontail.org](http://www.newenglandcottontail.org)

## BLACK TERN RESEARCH

by Danielle D'Auria, Maine Department of Inland Fisheries and Wildlife

The black tern (*Chlidonias niger*) is the rarest tern in Maine, and nests in just a handful of freshwater marshes in the state. Since 1989, the MDIFW has been monitoring the number of nesting pairs. The population peaked in 2006 with 115 nesting pairs but has since declined to an all-time low of just 30 pairs at three sites in Maine in 2021. This decline is not just occurring in Maine, which is somewhat on the periphery of the black tern's North American range. The black tern has experienced a long-term decline throughout its range, and even in the core of its range in the Prairie Pothole Region of the U.S. and Canada. It is unclear what may be causing the decline. While habitat loss and degradation have occurred, the available breeding habitat does not appear to be a primary limiting factor. In areas where survival and productivity have been studied, estimated vital rates fall far below those required to maintain a stable population.

To better understand the return rates of Maine's black terns to their breeding wetlands, MDIFW began color banding adults last summer. Each adult has a unique color band combination on one of its legs and a silver metal U.S. Geological Survey (USGS) band on the other leg. In addition, to contribute to a larger migratory connectivity project in partnership with the University of Saskatchewan, MDIFW also equipped five adults with geolocators which were attached to a plastic leg band. The geolocators have a light sensor and use changes in ambient light levels to estimate the times of sunrise and sunset, from which latitude and longitude can be calculated. The derived locations will shed light on where the birds go during migration, identify areas of mixing of different sub-populations, highlight important stopover and overwintering locations, and potentially discover priority conservation issues at these sites.

Over the next few years, MDIFW will continue to color band adults and re-sight color-banded adults to look at return rates, and hope to deploy additional geolocators. MDIFW will also need to recapture those marked with geolocators in order to obtain the data from the miniature devices. If you spot a black tern with color bands or a geocator, please be sure to report your observation to the Bird Banding Laboratory, and email [danielle.dauria@maine.gov](mailto:danielle.dauria@maine.gov) with the color band combination, location, and date.



*Black tern with metal leg band on its right leg and two color bands (orange over yellow) on its left leg. MDIFW photo.*



*Black tern with geocator attached to yellow plastic band. Photo by Don Lyons.*



## U.S. FISH AND WILDLIFE SERVICE PARTNERS FOR FISH AND WILDLIFE PROGRAM: VOLUNTARY HABITAT RESTORATION MATTERS

*by Hannah Mullally, U.S. Fish and Wildlife Service*

The U.S. Fish and Wildlife Service's Partners for Fish and Wildlife Program provides technical and financial assistance to private landowners and federally recognized tribes to restore and enhance fish and wildlife habitat on their property. All Partners projects are voluntary and custom-designed to meet landowners' needs. Participating landowners retain all property rights and are not required to allow public access.

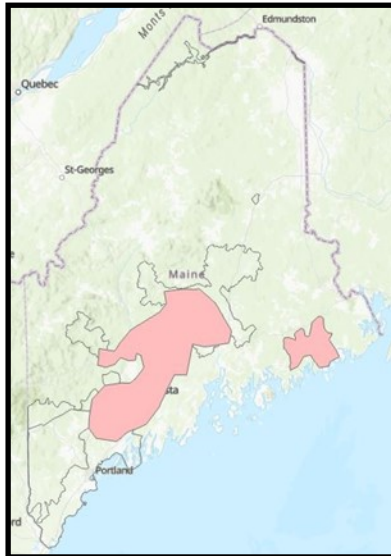
With approximately 95% of land in Maine privately owned, Maine landowners are in a unique position to make major impacts on wildlife habitat restoration and conservation. In Maine, six Partners focus areas have been identified to target specific habitats or species. Properties or projects outside of these focus area may still be able to receive assistance. Contact Maine Field Office biologist Hannah Mullally for more information and to discuss project opportunities: hannah\_mullally@fws.gov, (207) 405-4349.

### Northeast Turtles



Efforts in this focus area will be centered on conservation and restoration of habitat for state endangered Blanding's turtle and box turtle, state threatened spotted turtle, and wood turtle. Activities in this area will include wetland and vernal pool conservation, turtle nesting habitat restoration, and riparian restoration.

### Native Pollinators



Focus species are the federally endangered rusty patched bumble bee and federal candidate monarch butterfly. Priority actions in this location are implementing integrated pest management to minimize focus species' exposure to pesticide applications and establish native vegetation to support pollinators throughout the year.

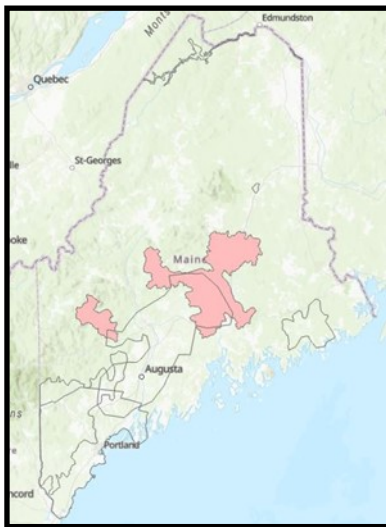
### Northeast Highlands



The Northeastern Highlands Focus Area contains a high diversity of habitats with numerous rare species and natural communities. The focus species is the small whorled pogonia, a federally threatened orchid that occurs in mixed-deciduous or mixed-deciduous/coniferous forest in second - or third-growth successional stages of at least 75 years old.

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*U.S. Fish and Wildlife Service Partners for Fish and Wildlife Program: Voluntary Habitat Restoration Matters, Continued***Crystal Bog**

This area comprises the only known occurrence of eastern prairie fringed orchid in Maine. Activities in this area will include prescribed burning in the dormant season, restoration of hydrology, and invasive species removal.

**Diadromous Fish**

This focus area includes portions of the Penobscot and Sandy River watersheds. The focal species are federally endangered Atlantic salmon and alewife. Projects in this area will include restoration of riparian habitat, aquatic connectivity, and assistance with watershed restoration plans.

**St. John River**

This location hosts the only known population of the federally endangered Furbish's lousewort, which is the focal species for the area. Priority activities in this focus area will be restoring riparian buffers and removing invasive species.

**UNIVERSITY OF MAINE TWS CLUB UPDATE**

*by Kiley Chen, University of Maine*

The University of Maine's Student Chapter of The Wildlife Society finished the 2021-2022 school year strong with an enjoyable Spring semester! We focused on providing a space for students to apply for summer wildlife jobs during the start of the semester. Then, we repainted bird decoys for the Maine Coastal Islands National Wildlife Refuge. Afterward, we hosted a series of panels with professionals in entomology, herpetology, and environmental and wildlife consulting. In April, we traveled to the fields on campus to go timberdoodling and see the woodcock sky dance up close. Finally, we wrapped up the year by participating in Alpha Delta's oozeball fundraiser event, and proceeds went to the Hirundo Wildlife Refuge.



*Wildlife students repainting bird decoys for the Maine Coastal Islands National Wildlife Refuge*



## 2021 MOOSE HUNT

*by Lee Kantar, Maine Department of Inland Fisheries and Wildlife*

The 2021 moose hunt experienced some ups and downs related to weather. September marked a return to seasonably cool temps that equated to high hunter success. On the opposite end October's bull season was marked by both day and night high temperatures providing little relief or change in the weather to move moose. This played out in typically high September bull success (77%) and atypically

low October bull success across management units (57%). The "traditionally" timed antlerless season at 79% success was on par with 2020 (78%). In addition, this was the initial year of the Adaptive Unit Hunt (4a) that occurred over 3 consecutive weeks with overall success at 50%. Overall during the traditional moose hunts 2,532 moose were harvested providing a 68% statewide success rate.

## PHOTOS BY MAO LIN





## RODENTICIDES IN MAINE FISHER

by Shevenell Webb, Maine Department of Inland Fisheries and Wildlife

The Maine Department of Inland Fisheries and Wildlife is collaborating with partners from multiple states on a large study to better understand the health of the fisher population, including the prevalence of anticoagulant rodenticides (AR), in the Northeast. Rodenticides are commonly used to control rodents across the globe, but the effects of these toxins on other species and their persistence in the environment is not well-understood. AR are likely to accumulate in the liver and work by interfering with Vitamin K activation and preventing blood from clotting. A rodent who ingests the toxins typically dies of internal bleeding, hemorrhaging, or anemia within 4 days to 2 weeks. First-generation anticoagulants were developed before 1970 and are more toxic when feeding occurs over several consecutive days. Second-generation anticoagulants were developed beginning in the 1970s to control rodents that became resistant to the first-generation rodenticides. These

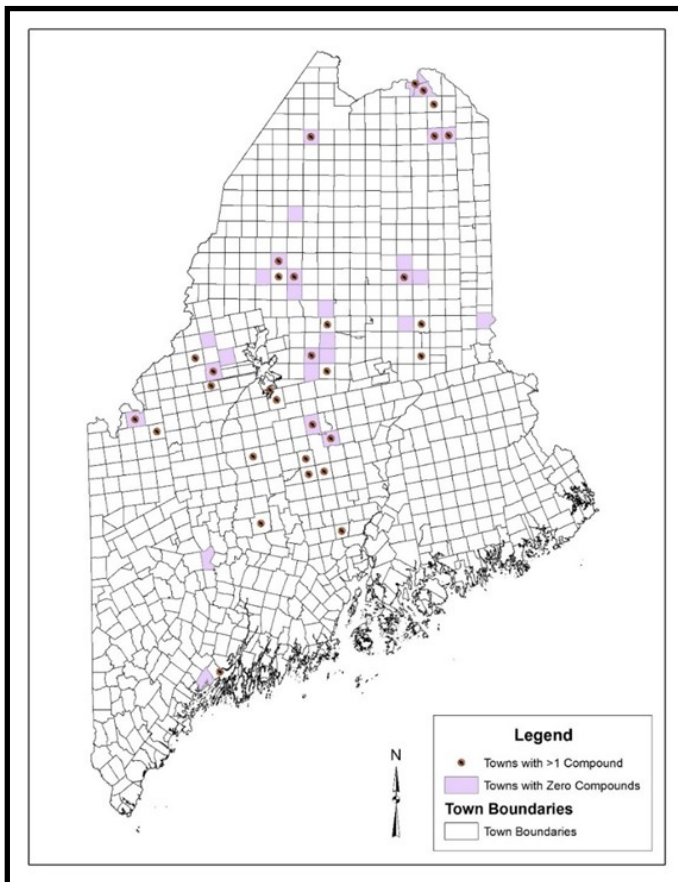


*Bait stations are ubiquitous at schools and businesses to control rodents. Bait stations may be a combination of snap traps and/or bait with small entrance holes to restrict rodents and keep kids and pets safe.*

anticoagulants are more toxic because they can kill rodents after one night of feeding, which increases the potential to harm non-target animals. The second-generation compounds also appear to stay in animal tissue for a long period of time. Due to these factors, the Environmental Protection Agency (EPA) has instituted additional restrictions for these compounds. According to the EPA website, the rodenticide products available for consumers are ready-to-use bait stations that contain a block or paste inside them, while pellets are no longer allowed to be used. Only three compounds are currently registered for the consumer market to control mice and rats. Although the EPA restricts the more potent second-generation products to agricultural contexts and professionals, these products are still widely available to consumers at local hardware stores and online vendors.

The various pathways of AR exposure may be feeding directly on the baits, feeding on rodents who have eaten the baits, or other means (e.g., water sources). A predator who ingests poisoned rodents has the potential to bio-accumulate the toxins as more contaminated rodents are eaten over time. Some species, like avian predators, appear particularly sensitive and can die from AR poisoning. Massachusetts has found that raptors have widespread exposure to AR, but reported the first lethal rodenticide poisoning of two bald eagles in 2021. In addition to avian predators, rodenticide

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*Maine study map showing towns where an individual fisher had no anticoagulant rodenticide compound (shaded) or at least 1 compound (circles) detected. Some towns had a mix of individuals that tested negative and some that tested positive for compounds.*

*Rodenticide in Maine Fisher, Continued from page 7*

compounds have been detected in Canada lynx, bobcat, red fox, gray fox, river otter, and fisher in the Northeast. Lethal concentrations are not well understood and appear to vary widely within and among species.

During the fall and winter of 2020/21, the Department worked with trappers to collect 110 fisher carcasses from 49 towns in Maine. Early results indicate 53% of the Maine fisher tested positive for at least 1 rodenticide compound (see map). Four of 11 rodenticide compounds tested were detected in the livers of Maine fisher, with Brodifacoum and Bromadiolone (second-generation anticoagulants with long half-lives) being the most common. Most of the positive fisher had 1 or 2 compounds, while 4 fishers had 3 compounds, and 1 fisher had trace amounts of 4 compounds. Twenty-six of the 46 males (57%) and 30 of the 60 females (50%) had at least 1 compound. Fishers with rodenticides were detected throughout the state and it appears that fisher living in remote areas are still getting exposed. Some towns had a mix of individuals that tested negative and some that tested positive for AR compounds. Compared to New York and Vermont, fisher levels appear to be much lower in Maine, with 79% and 90% of the fisher sampled having 1 or more rodenticide compounds in those states, respectively. Age, reproductive tracts, and testes from fisher will be examined in relation to rodenticide levels by SUNY ESF.

More study is necessary to better understand AR exposure pathways, rates for fisher and other species, and what levels

would be harmful to individuals or populations. Given the widespread availability of rodenticides to consumers, increased outreach is needed on integrated pest management to prevent or minimize rodent issues and promote better alternatives to poisons (e.g., snap traps).



*Although the EPA restricts the more potent second-generation products to agricultural contexts and professionals, these products are still widely available to consumers at local hardware stores and online vendors.*

## JANUARY 2022 MOOSE GPS COLLARING

*by Lee Kantar, Maine Department of Inland Fisheries and Wildlife*

Native Range Wildlife Capture collared 70 ~8-month-old calves across Wildlife Management District (WMD) 4. This is the 3rd year operating in WMD 4 to assess survival rates to 1 year old and compare these rates to WMD 2 and 8.

In addition, the University of Maine at Orono under the leadership of Dr. Pauline Kamath is continuing to analyze blood parameters of moose and blood parasites. Dr. Kamath and her students Alaina Woods (PhD candidate) and Annie Oviedo (Master's Candidate) were on-site for the week to receive and spin blood as well as prepare slides.

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Of the 70 moose the F:M ratio was 30:40. Average weight across all calves was 402 pounds. The biggest calf was a 525 - pound female (verified by teeth)! The lowest weight was 320 pounds. Winter tick numbers were higher, total counts rump + shoulder averaged around 49 ticks, than moose at harvest (24 ticks-across all management units). Last year at capture, calves averaged 38.7 ticks combined on rump and shoulder. This number is above the threshold expected to result in greater than 50% mortality of calves by spring.



## AN UPDATE FROM MAINE'S PIPING PLOVER RECOVERY PROGRAM

by Laura Minich Zitske, *Maine Audubon Society* & Brad Zitske, *Maine Department of Inland Fisheries and Wildlife*

One possible headline for a story about the 2021 Piping Plover season could be “Endangered Birds Break Records on Maine Beaches in 2021.” That wouldn’t be wrong, and yes, there would be much to celebrate. More Piping Plover pairs than ever before fledged chicks. In 2020, 98 plover pairs fledged 199 chicks. This year, 125 plover pairs fledged 213 chicks!

But that headline might lead people to think that success is a given, and that Piping Plovers are on a steady rise. According to Maine Audubon Coastal Bird Program Director Laura Minich Zitske, that’s why records and numbers can be misleading. “The good news is that 125 Piping Plover pairs in Maine raising over 200 chicks to the point where they can fly is a tremendous feat,” she says. “But 125 pairs are still not a lot for the entire state of Maine.”

And Maine’s plovers are critical to the overall success of the species. There are approximately 2,000 pairs along the Atlantic coast, from the Carolinas to Canada. Plovers nesting in the Canadian and the mid-Atlantic part of the range are having low productivity and declining. Plovers that breed in the New England states are seeing better success rates, so the whole population depends on these little six-inch-high shorebirds to produce lots of chicks in Maine. With intense and unpredictable hurricanes in wintering areas like the southern U.S., Bahamas, and Caribbean, it may be more essential than ever that our beaches fledge enough young.

And while they did produce this last summer, some beaches were extremely productive (plovers at Popham Beach State Park and Seawall Beach fledged at least 58 chicks alone!) while other sites had complete or near-complete failures.

It is easy for beaches with few pairs to have extreme success/failure rates—another factor that can result in misleading statistics. At Parsons Beach in Kennebunk, there were only two pairs this summer, only one pair laid eggs that hatched, and none of the chicks made it. So, Parsons Beach birds had a productivity rate of zero. Half Mile, at Reid State Park in Georgetown, however, also had two pairs. Both pairs hatched and fledged all chicks, four chicks per pair, so their productivity rate was a whopping 4 chicks per pair.

Grouping beaches together into regions, trends do emerge. At the Saco Bay beaches (Ferry Beach in Saco, through the beaches in Old Orchard, up to Pine Point in Scarborough), plovers did not do well. Looking at those beaches all

together, this year the average productivity was a grim .786 chicks fledged per pair. Our “northern” beaches, in Phippsburg and Georgetown, on the other hand, were exceptionally successful this year. The 29 pairs on these beaches fledged 70 chicks to flying, for an incredible 2.31 chicks fledged per pair.

What’s behind these trends? It is tempting to think that the northern beaches will always do better because the state parks (like Reid and Popham) are protected, and Seawall Beach is a (literal) hike in, so has little human disturbance. And you’d think that crowds at places like Old Orchard Beach are bad for plovers. But it’s not always the case, so conclusions are hard to draw. Some years, protected park beaches fail (for instance, in 2017 Popham Beach State Park had six pairs but no chicks fledged), and some years, busy beaches like Old Orchard are very successful; in 2015, OOB had 9 pairs and fledged 17 chicks!

As Zitske always likes to remind people, healthy plovers also mean healthy beaches. She says, “When we protect the Piping Plover, it’s not just the plovers we protect. Protecting a federally threatened species such as Piping Plovers means not only protecting the birds themselves, but also safeguarding the habitat they need. Healthy beaches for plovers, in turn, benefit a suite of other species, including human visitors.”

So what do the numbers really tell us? Every beach is important to help with plover recovery and support a healthy population. Every beach has good and bad years depending on weather, predators, and human disturbance.

Here we are in 2022 and the numbers of nesting Piping Plovers are high again – perhaps not unexpected given the numbers of fledged birds off our beaches in 2021. The weekly update provided by the hard-working Maine Audubon plover crew on May 13 estimates there are an incredible 137 nesting pairs with at least 80 active nests already! We don’t know yet how our nesting birds will fare from predation, busy tourist seasons approaching, or any of the unforeseen challenges they face daily. One thing we do know is that every beach needs our help to make sure that the birds have the space they need to do their thing. Thankfully, the Coastal Birds Program has a robust network of hundreds of volunteers, municipal partners, state and federal biologists, and private landowners working together to protect these special birds.



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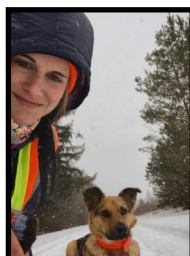
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