2019-20 RESEARCH & MANAGEMENT REPORT

Bird Conservation & Management

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Maine Department of Inland Fisheries and Wildlife protects and manages Maine's fish and wildlife and their habitats, promotes Maine's outdoor heritage, and safely connects people with nature through responsible recreation, sport, and science.

Bird Conservation & Management

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Compiled and edited by Diana Harper and Lauren McPherson

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MEET THE BIRD GROUP

Brad Allen, Wildlife Biologist and Bird Group Leader

Brad oversees bird group activities and budgets and continues to investigate the lives and times of the common eider, focusing currently on a collaborative duckling survival study. Brad also coordinates Department interests in seabird research and management activities.

Erynn Call, Ph.D. Wildlife Biologist

Erynn focuses on the ecology and management of Maine's raptors. Her current research centers on rivers and river-associated birds, including bald eagles and ospreys. An ongoing, but recently modified, citizen science river bird monitoring program will offer a greater understanding of habitat relationships, presence and removal of dams, and the importance of sea-run fishes to raptors. Other work includes review and collaboration on various raptor research and monitoring efforts of industry, universities, federal agencies, and nonprofits organizations.

Danielle D'Auria Wildlife Biologist

Danielle is the Department's species expert on marsh birds, wading birds, common loons, and black terns. Over the past six years, she has also devoted a great deal of effort to heron surveys, heron research, and coordination of a volunteer monitoring program called HERON. Her other field-related duties include marsh bird surveys and research, black tern surveys, and inland seabird surveys.

Adrienne Leppold, Ph.D.
Wildlife Biologist

Adrienne's responsibilities include the development and implementation of programs to assess the status of songbirds in Maine. Adrienne is also tasked with providing technical assistance and advice to the Wildlife Management Section regarding a wide range of bird conservation issues. Adrienne is currently directing the Maine Bird Atlas, a five-year effort partnering community scientists with professional biologists to document the abundance and distribution of all breeding and wintering birds across the entire state. She is also working on two research projects involving rusty blackbirds and Bicknell's thrush.

Kelsey Sullivan
Wildlife Biologist

Kelsey coordinates MDIFW's waterfowl banding programs, surveys, and research to assess the status of game bird populations in Maine. Game bird species that Kelsey is responsible for include ruffed grouse, American woodcock, wild turkeys, waterfowl, and Canada geese. He is Maine's representative on the Atlantic Flyway Council Technical Section.

See the Game Species Conservation & Management section of the report to learn about Game Bird Conservation & Management.

VOLUNTEERS AND PARTNERS

The Bird Group would like to thank the following dedicated individuals who have assisted us with our bird conservation and management tasks over the last year:

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John Brzorad and 1000 Herons
Heron Observation Network volunteers
Maine Peregrine Falcon Program partners and volunteers
Maine River Bird Project volunteers
Private landowners who have granted us access to their property for surveys and monitoring.

BIRD CONSERVATION AND MANAGEMENT UPDATES

Maine Winters are for the Birds!

Adrienne Leppold

When people ask me what my favorite bird is, the simplest reply for me is Chickadee. I have other favorites, of course; but for me, chickadees have a lot to offer. I just can't help but appreciate this bold and fierce creature packaged in such a small, cute body. As if that wasn't enough, even on the stillest, quietest, and bleakest of winter days, chickadees also always seem to be there to remind me I'm never truly alone (I prefer to translate their "deedeedee" calls as a welcome "hello," regardless of the actual intent. Thank goodness for language barriers).

Chickadees, however, are just one of many species that can be found in Maine in winter. As many already know, the Maine Bird Atlas is working to document birds during the breeding season, but there is also a winter companion piece that aims to determine exactly how many species of birds occur in Maine during the winter and where they can be found. A few community science projects contribute to documenting winter bird distribution, including Christmas Bird Count and Project FeederWatch, but the Atlas is the first attempt at creating a statewide understanding of winter birds and building a comprehensive baseline database for future comparisons. In fact, Maine is somewhat pioneering this effort, as we only know of five other states have ever completed or attempted a winter Atlas.

Given that local weather conditions and changes in food availability throughout the season can affect the distribution and abundance of winter birds around the state, we have separated the winter season into early (Dec. 14 – Jan. 31) and late (Feb. 1 – March 15) winter survey periods.

From seaducks to snowy owls and from southern Maine specialties like Eastern Bluebird and Yellow-rumped Warbler to irruptive finch species from the north like Crossbills and Evening Grosbeaks, the first couple years of winter Maine Bird Atlas surveys have documented a total of 191 species wintering in the state (two of which are actually chickadees - Boreal and Black-capped).

Black-capped (left) and Boreal (right) Chickadees. Photo by D. Hitchcox.

Last year, both Red and White-winged Crossbills were abundant throughout the state, with breeding observations for these species getting reported as early as mid-January (depending on resources, crossbills can breed year-round).

By tracking changes in occurrence and abundance of winter species, we can monitor species' full annual cycles. Ultimately, this will allow us to better understand and manage widespread and persistent threats to bird populations.

Looking ahead, we expect the 2020-2021 winter to be especially good in Maine for northern seed-eating species forced south due to poor seed crops in the north. Large flocks of Pine Siskins, Purple Finches, and even the rarer Evening Grosbeak are already being reported throughout the state.

So, clean your feeders (congregations of birds at feeders can be breeding grounds for disease), stock up on bird seed for the winter, and starting December 14th, log your winter observations for the Maine Bird Atlas.

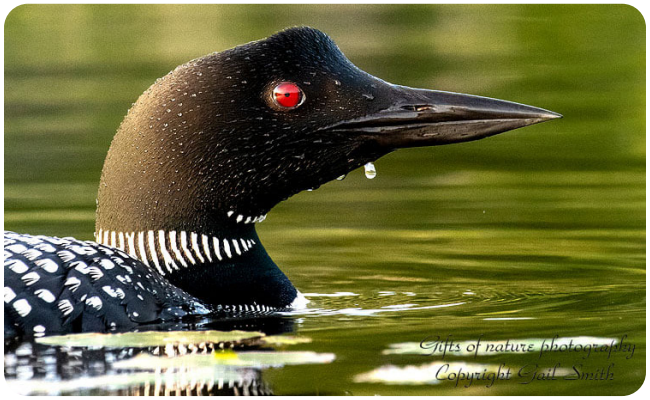
Find more information about the atlas in the Black-capped Chronicle (project newsletter), eBird, or Facebook page, with full details at **maine.gov/birdatlas.**

Male Evening Grosbeaks and Northern Cardinal on feeder. Photo by T. Hoffelder.

Anglers Make the Switch to Lead-Free Tackle – On Us!

The common loon is an unrivaled natural treasure. Not only does it represent the wildness of Maine that attracts so many to live or vacation here, but its dependence on clear, cold water and healthy fish populations also makes the loon an important biological indicator.

While Maine's common loon population is quite robust, a long-term mortality study has shown that lead poisoning from the ingestion of lead fishing tackle is one of the leading causes of death among adults, causing 13-20% of deaths in recent years. These preventable deaths are occurring in adults that are otherwise very healthy with no other ailments (Kneeland 2018).



Adult common loon. Photo by Gail Smith.

Over the years, legislation, educational efforts, and proactive lead tackle exchange programs have worked to reduce lead poisoning in loons and other fish-eating birds. Current Maine state law bans the use and sale of lead sinkers and lead-headed jigs weighing one ounce or less or measuring 2½" or less.

But given the recent mortality data, we have more work to do. Recognizing the need to continue education regarding this issue and to provide opportunities for the public to do the right thing and rid their tackle boxes of lead objects, MDIFW and Maine Audubon launched a lead tackle buyback program in 2020.

Over 43 lbs. of lead fishing tackle have been turned in for vouchers thus far.

Beginning in April, we partnered with participating local retailers to provide anglers who turned in at least one ounce of lead tackle with a $10 voucher to use toward the purchase of non-lead tackle at the same store. Funding provided by the Maine Outdoor Heritage Fund, The Maine Sportsman, and magazine publisher Will Lund will allow the distribution of up to 350 vouchers now through December 2021.

Thus far, we have ongoing partnerships with three retailers — Dag's Bait Shop in Auburn, Indian Hill Trading Post in Greenville, and BackWoods Bait and Tackle in Chesterville — and we hope to add more to the list.

Retailers may also choose to join the partnership by holding one-time events during which they encourage attendees to turn at least an ounce of lead tackle in exchange for a $10 voucher. This proved to be extremely successful at Kittery Trading Post's Septemberfest, during which they collected 41 pounds of lead tackle and issued 71 vouchers. Considering each individual was only required to turn in a minimum of an ounce (thus 71 ounces or 4.4 lbs), this event really helped to Get the Lead Out!

In addition to the lead tackle buyback program, MDIFW is continuing to investigate the occurrence of lead poisoning in loons by collecting dead loons and conducting necropsies to determine the cause of death. From 1990-2017, lead poisoning was the overall leading cause of death, accounting for 25% of 480 collected adults (Grade et al. 2019). Prior to the implementation of the 2002 limited lead tackle ban (1990-2002) lead poisoning accounted for 32% of adult deaths (Gallo 2013). Over the period of 2003-2016 which follows the 2002 ban, and that spans the introduction of Fish Lead Free outreach in 2013, lead poisoning was found to be responsible for approximately 21% of common loon deaths (MacDonald 2018). The good news is that the percentage of adult common loon deaths due to lead poisoning has decreased each year from 2016-2018, from 19.2% in 2016 to 15.0% in 2017, and 13.0% in 2018 (Kneeland 2019). We just finished up the necropsies for 28 adults collected in 2019 and found that lead poisoning accounted for 18%, trauma accounted for 29%, and fungal respiratory disease accounted for 21%. We plan to continue necropsies through 2022 and hope that lead poisoning will continue to decrease over time as less and less lead is being used by anglers.

You can help us understand and reduce lead poisoning in loons by:

- Turning in your lead tackle to a participating retailer. Check **fishleadfree.org/me** for the most recent list of participating retailers, as well as a list of retailers who sell lead-free alternatives (make sure to check with these retailers to be sure they are open for business).
- Making sure you and your friends know the law: the use and sale of lead sinkers and lead-headed jigs weighing one ounce or less or measuring 2½" or less is prohibited.
- Reporting any dead loons found to MDIFW or Maine Audubon.

MDIFW contractor, Brooke MacDonald, conducts a necropsy on an adult loon.

This project was funded by the Maine Outdoor Heritage Fund, State Wildlife Grants, Maine Birder Band funds, The Maine Sportsman, and magazine publisher Will Lund.

Literature Cited

Gallo, S. 2013. Maine Loon Mortality: 1987-2012. Maine Audubon, Falmouth, Maine.

Grade, T., Campbell, P., Cooley, T., Kneeland, M., Leslie, E., MacDonald, B., Melotti, J., Okeoniewski, J., Parmley, J., Perry, C., Vogel, H., Pokras, M. (2019). "Lead Poisoning Associated with Ingestion of Fishing Gear." Ambio 48(9); 1023-1038.

Kneeland, M. 2019. Lead Poisoning in Maine' s Common Loons: Sources and Prevalence. Maine Outdoor Heritage Fund Final Report.

MacDonald, B. S. 2018. Lead Poisoning in Maine's Common Loons: Examining Biological and Social Dimensions. MSc Thesis. The University of Maine. Orono, ME. USA.

Maine's Peregrine Falcon Program

Erynn Call

History of Recovery

In the 1960s, the peregrine falcon had vanished from the continental United States. This was due to widespread use of the pesticide DDT, which caused eggshells to thin and subsequently crush under an incubating adult's weight. After the peregrine was listed as federally endangered in 1970, recovery efforts began. These included a ban on DDT as well as captive breeding and reintroduction programs. This approach was successful, and peregrines were federally delisted in 1999.

However, despite meeting recovery criteria at the Federal level, some eastern states including Maine still had concerns, and include peregrines on their state endangered and threatened species lists.

The peregrines currently listed as endangered species in Maine are a genetic mix of the many birds from the captive breeding program. These birds were identified only by species because of the mix of subspecies and races from around the world. In Maine, a total of 144 birds were released from 1984 to 1997. This reintroduced population breeds within the state and generally does not migrate.

In contrast, the Tundra subspecies does not breed in Maine but does migrate and travels through in April and May, and mid-September through October. It was federally delisted in 1994, is not currently state listed, and their numbers continue to increase.

The American subspecies was historically found in Maine before disappearing completely from the state due to DDT.

The recovery of peregrines in Maine and the entire Northeast has been promising. Maine biologists documented the first post-recovery nest in 1987; and by 2002 documented at least 15 breeding pairs.

Biologists placed colored leg bands with unique letter-number combinations on young peregrines, enabling observers to identify and "re-sight" them using a spotting scope, and to document long-range movements of individuals between states.

Photo by Peter Green.

Partnerships

Monitoring of pairs during the breeding season is key to documenting and managing the recovery of peregrines, but it has been difficult to achieve on a comprehensive statewide level. Challenging access to some nest sites and the overall time required to monitor these have resulted in a patchwork of information on breeding peregrines.

To address this, and to gain a better picture of how these falcons are faring in the state, MDIFW through the Maine Peregrine Program recently coordinated a broad collaborative effort. Contributors included MDIFW biologists, Acadia National Park (National Park Service), U.S. Fish and Wildlife Service, Baxter State Park, Grafton Notch State Park, Camden State Park, Mount Kineo State Park, White Mountain National Forest, Maine State Parks, Bureau of Public Lands, Maine Department of Transportation, USDA Wildlife Services, N.H. Audubon, numerous citizen scientists, recreational birders and photographers, rock climbers, Avian Haven Rehabilitation Center, University of Maine – Orono, Dragon Cement Products, ND Paper, Sappi North America, Lane Construction, Crooker Construction, Bath Iron Works, and Central Maine Power Company.

MDIFW also worked with The Little Egg Foundation, a nonprofit that focuses on providing support to wildlife managers. One of their efforts is a software platform called NestStory, which allows citizen scientists to enter their survey data and then organizes it for wildlife biologists. This has created huge efficiencies in our statewide **data** entry and management process, allow our team to spend more time in the field and less at a desk.

Current Status

During the 2019 and 2020 breeding seasons (mid-March through mid-August), we monitored peregrines using a standard survey protocol. We will complete a similar effort in 2021 and will base future years of monitoring on a plan that is currently under development. This long-range strategic plan will include goals to attain stable peregrine populations in Maine and contribute to metapopulation stability throughout the Northeast.

TABLE. 1. RECENT MAINE PEREGRINE FALCON BREEDING SEASON MONITORING RESULTS.

	2019	2020
TERRITORIAL PAIRS	38	37
NESTING PAIRS	23	29
SUCCESSFUL NESTS	20	26
CHICKS	53	62
FLEDGLINGS[a]	49	49
FLEDGLINGS IN FLIGHT	15	25
PRODUCTIVITY[b]	1.29	1.32

[a] *Chicks surviving to ≥ 28 days*
[b] *Fledglings per territorial pair*

How to Help

You can join the effort to support Maine's peregrine falcons in the following ways:

- Report single peregrine observations during the breeding season (March 15 – Aug 15) to Maine eBird and/or contact **erynn.call@maine.gov** to get involved in repeated visits to specific breeding sites as part the statewide monitoring effort.
- Help build better nests. Urban breeding peregrine pairs often benefit from improved nest structure through placement of a nest tray or box filled with gravel. If you (or your local birding/conservation chapter) would like to help usher this process along in partnership with MDIFW and private business owners, please contact **erynn.call@maine.gov.**
- Donate to the The Little Egg Foundation, Maine Birder Band, or the Chickadee Check-off.

Illustration by Michael Boardman.

Population Monitoring and Management of Piping Plovers in Maine

R. Bradford Allen

The piping plover is designated as an Endangered Species under Maine's Endangered Species Act and a Threatened Species under the federal Endangered Species Act.

The Maine Department of Inland Fisheries and Wildlife (MDIFW) supports Maine Audubon (MA) in a piping plover recovery program that involves negotiating landowner agreements, coordinating with municipalities and partners, erecting and moving fences around nesting areas, conducting public outreach, training volunteers, and ultimately monitoring and managing these endangered birds on 25 public and private beaches.

While MA is the face of the program, MDIFW regional biologists oversee and work cooperatively with a larger team that includes USFWS refuge and endangered species staff, managers at Maine's state-owned public beaches, USDA Wildlife Services, certain municipal staff, and hundreds of volunteers. Without a doubt, this plover recovery program is one of the most hands-on bird conservation projects in the state, and it has paid off.

Due to the intense management teamwork on our beaches, Maine's plover population has increased in size and distribution in recent years and our plovers have exhibited high productivity compared with those in other Atlantic coast states.

How the Program Works

Biologists and law enforcement work together strategically on monitoring and outreach. With plovers now nesting at a record 22 sites, we are developing relationships with individual communities to enhance their long-term commitments to monitoring and outreach, including increased education and law enforcement patrols on the beaches. This type of community conservation engagement reduces the risk of localized losses, but it also requires continued funding.

Whenever landowners will allow it, we use stake-and-twine fencing and nest exclosures to protect eggs and incubating adults from predators. USDA - APHIS Wildlife Services contractors also conduct predation management at sites with chronic predation problems.

We also work closely with the USFWS - Maine Field Office and other state and federal agencies on beach nourishment and other policies that influence the dynamic nature of beach ecosystems. Previous attempts to diminish management scope and intensity resulted in short term setbacks in numbers and breeding success.

2020: New Challenges, Unprecedented Success

The COVID-19 pandemic brought its challenges to the program in 2020, with social distancing policies requiring biologists and beach monitors to modify how they carpool, train volunteers, monitor birds, manage nests, and deal with beachgoers.

On some beaches, early spring closures allowed birds to select nesting sites unhindered by beachgoers; but unfortunately, some of those sites saw high foot traffic when the beaches opened back up. With the pandemic sparking a renewed public interest in open spaces and fresh air, beachgoer numbers surged over the summer. In response, MA biologist Francesca Gundrum and her colleagues reached out to birding communities for support, developed new educational materials, and connected with the public via TV interviews and news articles.

New Records

Despite intense recreational use of their finite sand beach habitats, Maine's plovers achieved record nesting and chick production numbers in 2019 (89 nesting pairs, 175 fledglings); and in 2020, they set an even higher standard. According to MA Coastal Birds Program coordinator Laura Minich-Zitske and her team of biologists, Maine beaches hosted a new record of 98 nesting pairs who fledged 199 chicks – nearly two per pair. This productivity level has only been seen once in the past 25 years and is well above the 1.5 chicks/pair threshold needed to sustain the population.

Other 2020 season highlights from Minich-Zitske include:

- 14 piping plovers nested on Popham Beach this year – the most we have ever had on one beach.
- Ogunquit Beach fledged an incredible 30 chicks – the most of any beach since monitoring began in 1981.
- A record high of four beaches fledged over 20 chicks.
- Parsons Beach, Goose Rocks, and Ram Island Farm all saw fledging numbers that haven't been recorded in over a decade.

Minich-Zitske attributes this year's success to the collective and intensive management effort, plus a little bit of luck. Despite some strange weather, only one plover nest was over-washed this year. Past storm tides during the nesting season have had devastating results.

Looking Ahead

Despite improvements in Maine's piping plover populations, we still have work to do. In 2021, we will keep working cooperatively with neighboring states and provinces, whose local efforts work in concert with ours, to implement the USFWS Atlantic Coast Recovery Plan. Given the program's recent strategic emphasis on local awareness and participation, we will continue to increase public education and offer MDIFW Warden Service patrol support to the local volunteers who monitor plovers and notify beach users of restricted activities. We thank MA for taking the lead and pulling off a fantastic season in 2020, and look forward to continued success.

MDIFW again utilized Pittman - Robertson funds to support these efforts this year.