



MAINE AUDUBON

WINTER 2022/23

# HABITAT

## *Offshore Wind & Wildlife*

IN THE GULF OF MAINE

### INSIDE

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NEW FACES

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WINTER EVENTS

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FIVE THINGS A NATURALIST  
SHOULD DO IN WINTER

# Conservation

## Stream Smart Screen Time

There are many steps in the creation of a Stream Smart crossing, and this fall Maine Audubon is working with partners to release new videos covering two of the most important ones: water control, and streambed and streambank building. Our many training videos are used by municipalities, contractors, and foresters across Maine as they plan and build better road crossings.

Water control is important to protect water quality during construction, to keep equipment and the project running efficiently, and to protect fish and wildlife. We cover timing requirements (most in-stream work is required to be conducted between July 15 and September 30), fish removal (usually done through electrofishing!), how to plan for the unexpected (have enough pumps, hoses, and fuel on hand), and how to

handle both clean and dirty water during construction.

Properly constructed streambeds and streambanks are important for three main reasons: 1) they help protect the structure from scour, 2) they create a natural shape for the stream so there's a water channel even at low flows, and 3) they provide natural passageways for both aquatic and terrestrial wildlife. By controlling water during construction and by building naturally functioning streambeds and streambanks, our Stream Smart crossings enhance habitat for fish and wildlife, allow movement of fish and other aquatic life up and downstream, protect roads and public safety, and let the stream act like a stream.

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More: [maineaudubon.org/streamsmart](http://maineaudubon.org/streamsmart)

## Help Your Local Loons

Credit: Earl Johnson/Maine Audubon



Do you know of a nesting loon pair on your lake that just isn't hatching chicks or abandons their nest year after year? Have you seen lake users getting close to loons and scaring them off their nest, or eggs floating in the water after boats

have sped by? If so, you may be eligible to join a team of volunteers that are being trained to help protect loons and enhance nesting success, including by using artificial nest platforms. To learn more, give us a call at (207) 781-2330 or email us at [loonrestoration@maineaudubon.org](mailto:loonrestoration@maineaudubon.org) and join the Maine Loon Restoration Project!

## Lead Tackle Trade-Ins

Maine's Lead Law bans the use of lead sinkers and jig heads less than 2.5 inches in length or weighing less than 1 ounce. These small lead items are sometimes ingested by loons and then cause rapid and often fatal lead poisoning. Despite updates to the lead law in 2017, loons continue to die from lead tackle. That's why Maine Audubon partnered with Kittery Trading Post to collect lead tackle during Septemberfest this fall. Anglers handed in their old lead tackle in exchange for a \$10 voucher for lead free alternatives. During this event, 46 anglers traded in 20.5 pounds of lead tackle. Several other retailers also offer vouchers in exchange for lead tackle, and Maine Audubon would like to partner with more retailers and organizations to host tackle buyback programs and exchanges. We will target ice fishing derbies this winter to spread awareness about fishing lead free. For more information visit [fishleadfree.org/me](http://fishleadfree.org/me) or contact Laura Williams at [lwilliams@maineaudubon.org](mailto:lwilliams@maineaudubon.org).

*These projects are funded by the U.S. Fish and Wildlife Service on behalf of the Bouchard Barge 120 Buzzards Bay Oil Spill Trustees, and are done in partnership with Maine Lakes, Lakes Environmental Association, and the Penobscot Nation.*



# Education



Third-graders look at fish from the Presumpscot River.

## Taking Students to the River

A chorus of happy shouts could be heard all along the paths at Shaw Park in Gorham for several days in October, as students observed birds and bugs, examined fish, and listened to the roar of the waterfall over Gambo Dam on the Presumpscot River. Maine Audubon worked with Portland Public Schools to host a visit for every third grader in the district (approximately 500 students). Students observed wildlife and habitat at three stations of water—still, flowing, and cascading. After experiencing this site and the impacts of dams, these same students will rear endangered Atlantic Salmon in their classrooms this spring as part of a yearlong unit that blends Wabanaki Studies and STEM.

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*This project was made possible in part by the Institute of Museum and Library Services.*

## Delivering Watershed Education

Up in the Penobscot watershed, it was a busy fall wrapping up a two-year grant from the North American Association for Environmental Education. As a culmination of the “River in My Backyard” program, students at three Bangor elementary schools received watershed education equipment and supplies. These kits include interactive watershed models, supplies for rearing salmon and butterflies, and equipment for engaging students in fieldwork.



## Restoring River Banks

Maine Audubon staff joined teams from U.S. Fish & Wildlife, Atlantic Salmon Federation, Project SHARE, two ecology classes from UMaine Orono, and others along the Narraguagus River near Cherryfield in a project to restore Maine native vegetation to new river structures designed to restore natural flows and river dynamics.



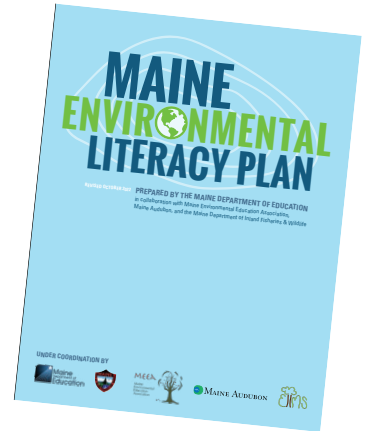


## Planting a Community Space

Maine Audubon staff and teens from our inaugural Sprout Lewiston summer stewardship program worked with leaders at Trinity Church & Jubilee Center Food Pantry and Soup Kitchen in Lewiston to replant the meditation gardens and outdoor events space with Maine native plants. “This is a special place that really makes a difference in people’s lives,” says Andrew Tufts, Program Manager for Bringing Nature Home. “People always stop to enjoy this green space.”

## Cultivating Environmental Literacy

Maine Audubon worked this fall with Maine Environmental Education Association, the Maine Department of Education, and others to revise Maine’s Environmental Literacy Plan, a guidance document we helped create and get adopted in 2010. This revision is critical for aligning Maine’s plan with the federal No Child Left Inside Act of 2021, especially in order for Maine students and communities to benefit from federal support for climate education, outdoor learning, and workforce development. The goals and strategies laid out in the revised plan, when implemented, will greatly advance environmental literacy resulting in increased health and wellness for Maine’s people, lands, and waters.



More: [maineaudubon.org/education](https://maineaudubon.org/education)

## Sanctuaries Art with a Mission

“By painting the sanctuaries during this Brush with Nature event, as artists we are looking closely, asking questions, capturing light, season, and habitat. We are giving nature our attention, we are showing our love for these wild spaces.” Artist Rebekah Lowell, speaking at our September Brush with Nature auction, captured the essence of this plein air painting festival, in which 26 Maine painters created original works of art at Maine Audubon sanctuaries. The art was then auctioned off to benefit Maine Audubon’s programs, and we extend thanks to all the artists, volunteers, staff,



Rebekah Lowell paints at Gilsland Farm Audubon Center for Brush with Nature.

trustees, and supporters who visited the sanctuaries, bid on the art, and who believe in our mission to connect people with wildlife.



# Offshore Wind & Wildlife

## IN THE GULF OF MAINE

### WHAT WE KNOW (AND DON'T KNOW)

**M**ORE THAN A CENTURY of burning fossil fuels has altered the chemical composition of our atmosphere, changing the climate we are accustomed to and throwing the natural world out of balance. Mainers are seeing these changes firsthand, as evidenced by a scientifically-measured +3 degree (F) warming trend in the state since 1895, a growing season which has lengthened by about 16 days since 1950, and a Gulf of Maine that is warming faster than 99% of the world's oceans.

As Maine and the nation look for alternatives to fossil fuels, all renewable energy sources are being explored. The potential for offshore wind energy development in the Gulf of Maine, especially using floating technology, is far greater than any other renewable energy source, with the potential to produce an estimated 156 gigawatts of energy per year—more than 70 times the amount of electricity used by the entire state of Maine.

The opportunity to produce such a large amount of clean, renewable energy locally cannot be ignored, but we must also understand the potential impacts of this new development to wildlife and marine habitats in the region. The Biden Administration has prioritized

offshore wind development to help meet the nation's renewable energy goals, meaning we need to work now in order to ensure that impacts are avoided or mitigated to the greatest extent possible.

While nearly all other offshore wind turbines on earth are hammered—"fixed"—into the seabed, the depth of the Gulf of Maine requires turbines to be floated into the water and connected to the seabed by long anchor lines. The physics of floating offshore wind theoretically allows turbines to be much larger than terrestrial or fixed-bottom offshore turbines, potentially up to 500 feet tall. The developing technology, combined with gaps in knowledge of how wildlife use the Gulf, pose questions about environmental impacts both above and below water.

Maine Audubon is working with state, regional, and federal partners to understand the latest science on the potential effects of floating offshore wind on wildlife in the Gulf of Maine, and to apply this information to proposed developments. Here's what we know, and don't know, so far.

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*For references cited in this article, please visit:*  
[maineaudubon.org/OSW](https://maineaudubon.org/OSW)

# Above Water

Millions of migratory birds—warblers, vireos, tanagers, ducks, shorebirds, raptors, and more—along with three bat species, pass over and around the Gulf of Maine every year between breeding grounds in the north and wintering grounds farther south.



**THE SCIENCE SO FAR:** Though there is much variation by species and in different weather conditions, overall mean flight altitudes for migrating birds is typically well above projected height of the turbine

blades (Dokter 2021). Research also shows that most migrants tend to concentrate inland and along the coast rather than over the Gulf. Migratory bats are also known to migrate across the Gulf, most often in fall and in calm conditions (Peterson 2016). Factors such as lighting, wind turbine characteristics, turbine spacing, and proximity to high-use areas may affect the likelihood of attraction or avoidance of turbines (SEER, Summer 2022).



## MIGRATORY BIRDS & BATS



**WHAT WE DON'T KNOW:** The exact migratory paths or heights of all the species moving over the Gulf, or what atmospheric conditions may bring them down closer to turbines.

# Below Water

Maine is famous for its fisheries, which are the backbone of our coastal economy and also an important food source for wildlife.



**THE SCIENCE SO FAR:** Studies have shown that electromagnetic field effects from undersea cables have little or no impact on fish (Kimley et al. 2017; Dunlop et al. 2016), or on American Lobster (Hutchison et al. 2018). A seven-year study of the

fixed-bottom Block Island Wind Farm in Rhode Island found either no impact from turbines or a positive effect on fish schooling around turbine structures (Wilbur et al. 2022). In 2021, the state of Maine enacted a ban on offshore wind development in state waters—three nautical miles offshore—where approximately 75 percent of lobster fishing occurs. Offshore wind areas may act as de facto marine protected areas, creating refuges for some marine species, increasing local species abundances and/or acting as an attractant, and generating spillover effects to increase populations in adjacent areas (Wilhelmsson and Langhamer, 2014).

## FISH & LOBSTER



**WHAT WE DON'T KNOW:** How fish populations in deeper water may be impacted by the presence of turbines; and how fish will interact with deepwater cable anchors yet to be designed.





## SEABIRDS

The Gulf of Maine is a haven for seabirds in all seasons. Thousands of individuals nest on near-shore islands in the Gulf during the summer, and hunt for fish and other foods throughout the Gulf. Dozens of seabird species move through the Gulf of Maine area during migration seasons as well.



**WHAT WE DON'T KNOW:** How every species in the Gulf will react to turbines; exactly where seabirds are when they're away from their breeding islands, especially during migration; and to what extent the lessons from Europe are transferable to the Gulf of Maine.



**THE SCIENCE SO FAR:** Fixed-bottom wind farms in Europe's North Sea help us understand a variety of effects; seabirds may be displaced by the arrays and move into new areas, or change their movements to avoid turbines; they may collide with turbines or blades; or they may be attracted to new sources of food or roosting opportunities at turbines (Vanerman et al. 2015). Birds of different species and ages react differently. In Europe, studies indicate that loons and gannets showed varying levels of displacement; many species, including shearwaters, alcids, and terns, showed inconsistent displacement; and cormorants and gulls showed attraction (Dierschke et al. 2016). In the Gulf of Maine, studies indicate that most breeding seabird species typically forage within 30 miles of their colonies, but spread throughout the Gulf in other seasons (Welch 2022). Research suggests cormorants and alcids may be sensitive to underwater construction noise (Hansen 2020, Johansen 2016).



## WHALES & OTHER MARINE MAMMALS

Several species of whales, porpoise, seal, and other marine mammals live in the Gulf of Maine, including the critically endangered Northern Right Whale.



**WHAT WE DON'T KNOW:** Exactly where in the Gulf marine mammals are in all seasons, and how they use the habitat; the effects of underwater noise on each species of cetacean and seals, and how the impact may vary between construction and operation phases; how new vessel traffic patterns may impact marine mammals; and what effect, if any, electromagnetic fields associated with floating offshore wind arrays have on marine mammals



**THE SCIENCE SO FAR:** Marine mammals can detect and respond to electromagnetic fields, but there is no evidence of negative impact (Copping et al. 2016). Marine mammals are sensitive to underwater noise, and some species have displayed altered behavior during the construction of fixed-bottom turbines (Brandt et al. 2011). However, underwater construction noise associated with floating turbines is expected to be significantly less than fixed-bottom turbines (Amaral et al. 2020). Whales are not threatened by underwater cables securing floating turbines, as the cables are too large and taut to cause entanglement, but there is a potential risk for secondary entanglements (SEER, Winter 2022). Secondary entanglements are where marine debris, such as lost fishing gear, becomes caught on the cables and marine mammals or other species become entangled in the debris.

# *What We Must Do*



*Illustration for representational purposes only; not to scale.*





## 1 MIGRATORY BIRDS AND BATS

- ✓ **Continue to improve our understanding of trans-Gulf bird and bat migration** and the factors that contribute to the risk of collision, including with the use of state-of-the-art collision detection technology.
- ✓ **Incorporate new information and technologies** related to harm reduction into existing and future wind arrays.
- ✓ **Mitigate collision risk** as much as possible by reducing lighting and other measures.
- ✓ **Compensate for impacts to migratory birds and bats** that cannot be reasonably avoided or adequately minimized.

## 2 SEABIRDS

- ✓ **Get better spatial data for where, when, and how seabirds use the Gulf.** A federally-funded aerial survey set to begin in the winter of 2022-23 will help fill these knowledge gaps.
- ✓ **Ensure turbines are sited to the extent possible away from breeding, feeding, and migratory areas** used by Gulf seabirds.
- ✓ **Research, develop, and eventually require state-of-the-art mitigation** to reduce collision threat.
- ✓ **Compensate for impacts to seabirds** that cannot be reasonably avoided or adequately minimized.

## 3 WHALES AND OTHER MARINE MAMMALS

- ✓ **Continue to study how marine mammals use the Gulf of Maine.**
- ✓ **Limit the acoustic impacts of offshore wind** to the extent possible, and **avoid construction during breeding and calving seasons.**
- ✓ **Continue to study the potential impacts of electromagnetic fields** on Gulf marine mammals.
- ✓ **Identify methods for underwater cables to be regularly cleaned** of debris to prevent secondary entanglement.
- ✓ **Consider other mitigation measures**, including vessel speed restrictions.
- ✓ **Compensate for impacts to marine mammals** that cannot be reasonably avoided or adequately minimized.

## 4 FISH AND LOBSTER

- ✓ **Require monitoring of the impacts of turbine anchors and cables** on deepwater fish populations.
- ✓ **Work with the fishing industry** to understand and mitigate its concerns.
- ✓ **Compensate for impacts to fisheries** that cannot be reasonably avoided or adequately minimized.

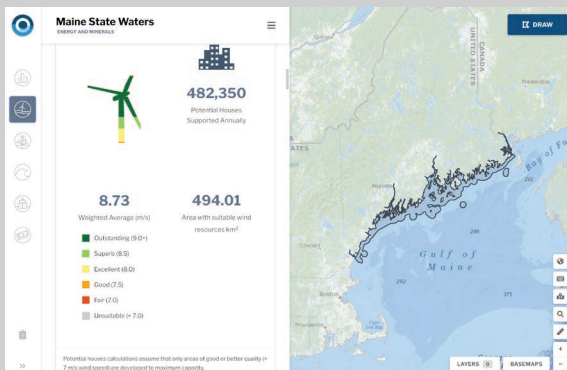
# ADVOCATING FOR *Offshore Wind & Wildlife*

Maine Audubon is committed to advocating for wildlife as Maine and the U.S. pursue a clean energy future. We are active on a number of fronts and involved in key processes that will determine where and how floating offshore wind may occur in the Gulf, including:



## SUPPORTING THE PROPOSED GULF OF MAINE FLOATING OFFSHORE WIND RESEARCH ARRAY

The State of Maine is pursuing the development of an up to 12 turbine research array in federal waters off Maine's coast. Information from this array will allow the state, the fishing industry, wildlife advocates, and other stakeholders to better understand the potential impacts of floating offshore wind in the Gulf of Maine. This information will be used to responsibly site and operate future commercial offshore wind projects in the Gulf.



## ENGAGING IN BUREAU OF OCEAN ENERGY MANAGEMENT (BOEM) DECISION MAKING

BOEM is the federal agency that facilitates offshore wind development on the Outer Continental Shelf, including granting leases to wind developers. Locating lease areas in places that avoid areas that are critical to wildlife is the leading mitigation strategy. Maine Audubon has worked for years to encourage BOEM to continue study of wildlife impacts in the Gulf. Most recently we worked with state and national partners to advise BOEM on locations to avoid in the Gulf of Maine, as well as other strategies to minimize impacts to wildlife.



## UTILIZING STATE POLICY LEVERS

The State of Maine can play a key role in guiding offshore wind development in the Gulf, if the right policies are in place and resources are brought to bear. Maine Audubon is advocating for the use of power purchase agreements, for example, to guide best development practices, as well as establishing compensation mechanisms to account for unavoidable impacts. Maine also needs to continue to commit state resources—both money and people-power—to best understand the impact of offshore wind on wildlife

Maine has a unique opportunity to lead in developing well-sited and operated floating offshore wind with the least impact to wildlife and the environment. This opportunity will only be realized with robust advocacy.

*For an online interactive version of this article and for full references cited above, please visit [maineaudubon.org/OSW](http://maineaudubon.org/OSW)*



# New Faces



**MELISSA GALLAGHER**

*Community Engagement  
Coordinator/Educator at  
Fields Pond Audubon Center*

Melissa has been an educator for ten years and is a nature enthusiast who enjoys hiking and outdoor exploration.

She hopes to integrate her work and pastimes by creating outdoor learning experiences for her community. A national board certified teacher in science, she earned her Bachelor of Science degree in chemistry and secondary education certification from Saint Joseph’s University in Philadelphia and her Master of Education degree from Capella University.



**FRANCESCA GUNDRUM**

*Policy Advocate*

Francesca “Ches” Gundrum grew up on a lake in upstate New York where her family owns a small lumber company. Passionate about wildlife conservation, Ches has

worked as a biologist for the Black Mamba Anti-Poaching Unit in South Africa and Allied Whale at the College of the Atlantic, and was a member of Maine Audubon’s 2020 Coastal Birds Crew. Most recently, she worked with Maine Conservation Voters as Communications Manager. Ches holds a B.A. in Environmental Studies from Dartmouth College and received her M.S. in Human Dimensions of Wildlife Ecology from the University of Maine.



**JENNIFER ROWLAND**

*Accounting Specialist*

After moving to New Hampshire for college, Jen fell in love with the mountains, lakes, and coasts of northern New England, and is delighted to now call Maine home.

With a background in agriculture and ecology, Jen worked at Wolfe’s Neck Center for Agriculture & the Environment and Wild Seed Project before joining Maine Audubon in August 2022. She’s excited to put her detail-oriented and systems-thinking natures to work.



**ANDREW TUFTS**

*Program Manager,  
Bringing Nature Home*

Andrew grew up in Topsham and was a junior counselor at Maine Audubon’s Mast Landing summer camp. After completing a degree

in Landscape Architecture from SUNY Environmental Science & Forestry School, he started a full-time gardening business, where one of his favorite projects was creating a heritage apple orchard from scratch. He has worked in the City of Portland planning department and most recently worked as a landscape designer for Sebago Technics. As program manager of “Bringing Nature Home”, he has found an ideal intersection of working with people, plants, and birds.



**LAURA WILLIAMS**

*Wildlife Biologist and  
Conservation Assistant*

Laura Williams received her B.S. in Wildlife Conservation from Unity College in Maine. Her extensive wildlife fieldwork experience

includes living in Alaska where she worked on a chainsaw crew and then as a crew lead where she studied bats, songbirds, and shorebirds in remote areas. Since moving back to Maine, Laura has worked on MDIFW’s Deer Crew capturing, collaring, and releasing deer. More recently she was the coordinator for Maine’s Hunters for the Hungry Program, helping hunters share their harvest with local food pantries.



**KELLY ZAHN**

*Development Database Assistant*

Kelly has a long history of working in development, including time at Sea Education Association (Woods Hole, MA) and Make-A-Wish of Greater Boston, and professes to

love donor database software. She and her family moved to Freeport in 2018 to be closer to nature.



# Winter Events

Full event listings, prices, and registration: [maineaudubon.org/events](http://maineaudubon.org/events)

## Gilsland Farm Audubon Center

### FALMOUTH/GREATER PORTLAND

- BI-MONTHLY** **Beginners Bird Walks**  
Dec. 4, 17; Jan. 8, 21; Feb. 5, 25;  
10 am–12 pm  
For those who are new to birding.
- MONTHLY** **Winter Seed Sowing**  
Saturday, Dec. 10, Jan. 7, 9 am - 12 pm  
An in-person hands-on “Bringing Nature Home” workshop.
- MONTHLY** **Winter Plant Walks**  
Sundays, Dec. 18, Jan. 22, Feb. 26;  
10 am–12 pm  
A one-mile walk for all skill levels.
- MONTHLY** **Owling Nights**  
Thursdays, Jan. 5, Feb. 9; 7–9 pm  
Join us for a moonlit walk to look and listen for owls in the woods of Gilsland Farm.
- MONTHLY** **Read & Ramble**  
Fridays, Jan. 6, Feb. 3, Mar. 3; 10–10:30 am or 11–11:30 am  
An outdoor storytime and self-guided walk for children ages 2-5 and their grown-ups.
- WEEKLY** **Family Fun at Gilsland Farm**  
Wednesdays, Jan. 11–Feb. 15;  
9:30–10:30 am OR 10:45–11:45 am  
Young children and their grown-ups are invited to explore nature together.



**FEB 16** **Winter Wildlife Mingle**  
Thursday, Feb. 16, 6:30 pm  
An interactive and informative evening up close with live wildlife ambassadors and the experts at the Center for Wildlife who rehabilitate and care for them.  
*Indoor and outdoor components; 21+ only (beer, wine, and snacks provided)*

**FEB 11** **“Bringing Nature Home” Design Workshop**  
Saturday, Feb. 11, 9 am–3 pm  
Learn the fundamentals of ecological garden design & draft a masterplan for your space.

**FEB 18** **Winter Carnival**  
Saturday, Feb. 18, 10 am–2 pm  
Our annual celebration of winter weather and wildlife, featuring tracking activities, snow science and art, snowshoeing, and more!  
*This event made possible by L.L.Bean.*

# Fields Pond Audubon Center

## HOLDEN/GREATER BANGOR

DEC  
9  
&  
16

### Double Discount Days at Fields Pond

Fridays, Dec. 9 & 16, 10 am–6 pm  
Shop for the holidays and support Maine Audubon. Maine Audubon members get a 20% double discount!

DEC  
17

### Winter Seed Sowing

Saturday, Dec. 17, 9 am–12 pm  
An in-person hands-on “Bringing Nature Home” workshop

JAN  
10

### Exploring Seasonal Landscapes at Fields Pond

Tuesday, Jan. 10, 9:30–11:30 am  
Join Valerie Wallace, local artist and art teacher,

to paint a landscape inspired by the gorgeous Fields Pond scenery! All materials will be provided. For ages 12+

MONTHLY

### Read & Ramble

Fridays, Jan. 13, Feb. 10, Mar. 10;  
11–11:30 am

An outdoor storytime and self-guided walk for children ages 2-5 and their grown-ups.

MONTHLY

### Winter Ecology Hikes

Saturdays, Jan. 21, Feb. 25;  
10 am–12 pm

Outdoor learning about winter ecology.

FEB  
3

### Moonlight Snowshoe Walk at Fields Pond

Friday, Feb. 3, 7 pm  
A peaceful winter’s night hike!

FEB  
11

### Winter Fun Day at Fields Pond

Saturday, Feb. 11, 10 am–2 pm  
Indoor and outdoor activities for the whole family.

FEB  
18

### “Bringing Nature Home” Design Workshop

Saturday, Feb. 18, 9 am - 3 pm  
Learn the fundamentals of ecological garden design & draft a masterplan for your space.



DEC  
16

### Welcome Winter Celebration at Fields Pond

Friday, Dec. 16, 4 pm

Starting with a read-aloud of Eve Bunting’s classic story *The Night Tree*, we’ll then create wildlife-friendly ornaments to decorate our own night tree to share with Maine’s winter wildlife.

## Chapter Events

YORK COUNTY AUDUBON | [yorkcountyaudubon.org](http://yorkcountyaudubon.org)

FEB  
21

### All About Loons with Jim Paruk

Tuesday, Feb. 21, 7 pm, online

## More

FEB  
21-24

### Vacation Camp at Gilsland Farm & Fields Pond

Tuesday-Friday, February 21-24  
Details and themes coming soon! Check [maineaudubon.org/camps](http://maineaudubon.org/camps) for updates.

ONGOING

### Online Events

Visit [maineaudubon.org/events](http://maineaudubon.org/events) for online programs from Birding Basics to butterfly research, a Native Plants Short Course, Groundhog Day trivia, and more!



# Naturalist HQ

DOUG HITCHCOX, STAFF NATURALIST

## Five Things a Naturalist Should Do in Winter

### 1. CHRISTMAS BIRD COUNTS

There are more than 30 Christmas Bird Counts (CBCs) in Maine, taking place between December 14 and January 5, and they are a wonderful way to make a meaningful contribution to a long running project. CBCs also have a great history and sense of community around them, making them an excellent opportunity to learn about local birds and meet people who care about them too.

Find one in your area: [maineaudubon.org/birding/christmas-bird-count](http://maineaudubon.org/birding/christmas-bird-count)

### 2. TRAVEL

Okay, shameless plug here: join me in Guatemala this March! While it is cold and snowy in Maine, you could join me and bird guide Jesse Fagan (co-author of *Peterson Field Guide to Birds of Northern Central America*) for ten days of birding and sightseeing in northern Central America. We'll visit Tikal National Park, home of the ancient Mayan ruins, and look for the many birds that are regional specialties, including Yucatan endemics. Then we're off to the Pacific slope and all the birds it has to offer, as well as cultural stops like a tour of Antigua, and some of the best coffee in the world.

More: [maineaudubon.org/birding](http://maineaudubon.org/birding)

### 3. WINTER TRACKING

A fresh snow always reminds me of the final Calvin and Hobbes comic, and especially Hobbes' quote "It's like having a big white sheet of paper to draw on." While we wake to a new "magical world," many nocturnal mammals have already been drawing on it—with their feet. Get out there early and look for signs that

a fox has been trotting along with each step hitting the last, or where a mole emerged at the surface before burrowing back into its subnivean (occurring under the snow) home. You may even get lucky and spot where an owl plunged its feet into the snow, reaching for a rodent or other prey item, leaving wisps of wing tips in the snow.

### 4. STUDY GULLS

Gulls, or "seagulls," are a challenging group of birds to learn, but they shouldn't be. They are everywhere (along the coast), there are only a few species (only three commonly-seen ones in Maine: Herring, Ring-billed, and Great Black-backed), and they are easy to see (bring popcorn if you want them closer; in moderation). They become challenging because you need to learn different ages, or "cycles", but despite the new terminology, it is easier than you probably think. I challenge you, even from the warmth of your car, to visit a parking lot with loafing gulls, and try identifying them this winter.

### 5. GO OWLING

I guarantee it won't be as easy to find an owl as it is to find a gull, but going owling in the winter is a load of fun, even if you don't hear or see one. Great Horned Owls are looking for mates by December so you'll hear their low "Who's awake, me too" songs in the evening. And Northern Saw-whet Owls will often respond to an imitation of their calls, a loud single whistle repeated as "toot-toot-toot..." like a truck backing up. Do some homework to find the habitats they like ([allaboutbirds.org](http://allaboutbirds.org) is great) and see if you can find or hear one!



# The Naturalist's Winter Almanac

## December

**7** **EVENING GROSBEAK** populations are increasing thanks to Spruce Budworm. Look for these large yellow finches at your feeders this winter.

**14** First day of the final year of the Winter Bird Atlas. Learn more at [maine.gov/birdatlas](http://maine.gov/birdatlas).



Photo: Arthur Haines

**18** **PARTRIDGEBERRY** (*Mitchella repens*) can hold its bright red fruit well into the winter.

**21** **HAPPY WINTER SOLSTICE!** It only gets brighter from here!

**30** The first sighting of the **STELLER'S SEA-EAGLE** in Maine was on this date last year. Have you seen it?



Photo: Zachary Holderby

## January

**1** Set a nature-focused New Year's Resolution! Pick a new park to visit, or try to see 100 species of birds this year.



Photo: Fyn Kynd

**6** Coastal Maine has the largest wintering population of **RED-NECKED GREBES** in the U.S. Reid State Park is a great place to see them in large numbers.

**8** **WHITE-TAILED DEER** bucks are shedding their antlers.

**15** Winter is a good time to cut **BROWNTAIL MOTH** nests from trees. More: [maine.gov/dacf/knockoutbtm](http://maine.gov/dacf/knockoutbtm)



Photo: Ryan Poplin

**20** **SEA URCHINS** are getting ready to spawn, which is why they are in season: so you can eat their gonads!



**EVENING GROSBEAK**

Photo: Doug Hitchcox

## February

**2** **RED-WINGED BLACKBIRDS** were previously only a summer resident in Maine, but now overwinter in small numbers.



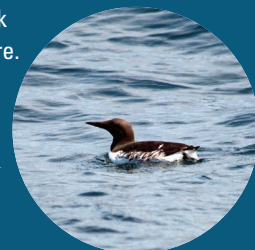
Photo: John Mosses, Jr./USGS-NBII

**5** Seeing any **BEECH TREES** with dead leaves? Botanists call this retaining of plant organs marcescence. Say that five times fast!

**10** One of the most commonly encountered insects in Maine during the winter is the **WESTERN CONIFER SEED BUG**. They've spread east and increase their survival rates by sneaking indoors when it gets cold.

**15** Warmer days means sap will begin flowing—get your spiles and buckets ready.

**17** Thick-billed **MURRES** and **DOVEKIES** are the only Atlantic alcids (cousins to puffins) that don't nest in Maine. Now is the best time to look for them offshore.





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A turbine at the five-turbine Block Island Wind Farm, off the coast of Rhode Island, the first offshore wind array in America

COVER PHOTO BY NICK LUND

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## HABITAT

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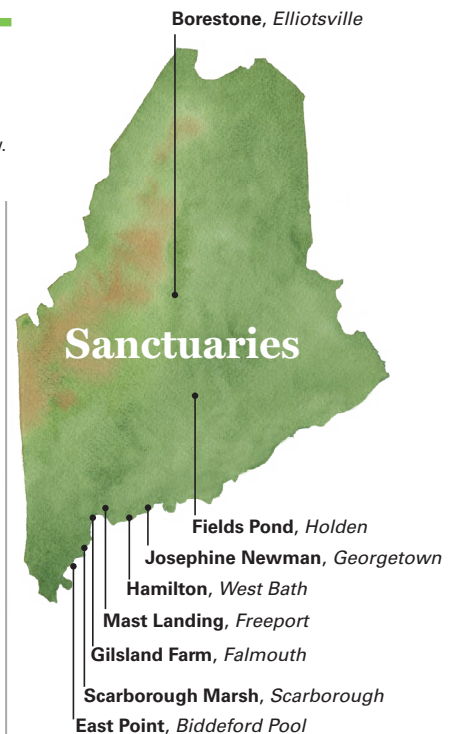
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