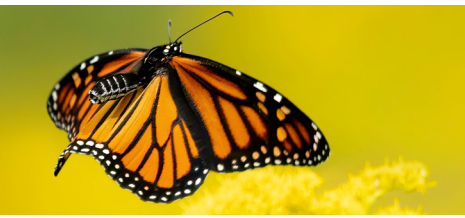


# WILDLINES

New Hampshire Fish and Game's quarterly newsletter of the Nongame and Endangered Wildlife Program



SPRING  
2024

## MANAGING FOR CHANGE

### At-Risk Wildlife Near the "Edge"

New Hampshire is home to several edge-of-range populations, representing the outer extent of their livable habitat. Some of these animals are experiencing climate change impacts sooner than others of their species that aren't living at the edge of their range.

"Through research, we've discovered that spotted turtle sex ratios have been skewed by climate change," said Joshua Megyesy, Nongame Program Wildlife Biologist. Whether a turtle embryo develops as a male or a female depends on the incubation temperature. "As temperatures increase, cold-adapted turtle populations, like those here in New Hampshire, are becoming skewed toward males, producing more male hatchlings. While populations in the southern part of their range are becoming more female dominated," explained Megyesy.

Another example is New Hampshire's official butterfly, the Karner blue, a species that is both culturally and ecologically special. In 15 years, the Karner blue butterflies living at the warmest part of their range (in Indiana) went from being a robust population to undetectable. Other southernmost populations have continued to decline or disappear. These losses and declines often coincided with periods

of drought, and underscore the urgency of the situation for at-risk wildlife.

Biologists across the range of endangered Karner blue butterflies are planning adaptation strategies, such as relocations or reintroductions. Raising butterflies in captivity will allow scientists to manage genetic diversity, which may help animals be more adaptive to environmental changes.

Researchers are also exploring ways to detect new areas of habitat that may become suitable over time. These actions, among others, will be detailed in the revision of the New Hampshire Wildlife Action Plan, the statewide conservation guide, scheduled to be completed in 2025.

When the Wildlife Action Plan was last revised in 2015, there was uncertainty about the extent and severity of the effects

of climate change, but at the time all 27 New Hampshire habitat types and 91 animals listed were facing at least one type of climate-related threat. That number may change as experts weigh these threats and others, while compiling a renewed list of the most critical actions to help New Hampshire wildlife in a changing world. 🐦



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Spotted turtle

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## FIN WHALE

*(Balaenoptera physalus)*



Fin whales have gray bodies with a V-shaped head, a curved fin on their lower back, and can reach 80 feet in length. They are migratory, traveling through the feeding grounds in New England waters. Moving in small groups, fin whales gulp huge amounts of water and use baleen plates to capture schooling fish such as sand lance and herring, as well as krill and squid. Fin whales are federally endangered, so monitoring and recovery are managed by the National Oceanic and Atmospheric Administration (NOAA). The NH Fish and Game Department has a joint agreement with NOAA to help enforce these federal regulations.

**Habitat:** Deep marine waters of all major oceans.

### Threats:

- Mortality from collisions with ships and entanglement in fishing gear.
- The potential of reduced prey abundance (herring) from overfishing.
- Disturbance from increasing ocean noise caused by shipping, drilling or construction, sonar, and other sources.

### Conservation Actions:

- Learn how climate change will affect what fin whales eat in New England waters.
- Support projects that research fishing gear and whale interactions, and disentanglement and outreach efforts.
- NH will continue to enforce ship speed restrictions that help protect whales and encourage ship owners to report whale strikes.

# MEADOWLARKS, SP GRASSLAND CONSE

Places for grasshopper sparrows and eastern meadowlarks to live are disappearing. Habitat is the key to successful breeding: both birds need large grassy expanses where there are plentiful insects to eat and tall grasses to conceal their ground nests. The Nongame and Endangered Wildlife Program is again collaborating with NH Audubon Senior Biologist Pamela Hunt to survey grassland birds.

### Grasshopper Sparrow

As the sun rises over a grassland in the Merrimack Valley, a biologist listens carefully for the insect-like buzzy trill of a grasshopper sparrow. These small birds can be almost impossible to find if they're not actively singing, so the surveyor must be stealthy. This search could take up to 3 hours depending on the size of the grassland, but it's worth the time investment. These surveys are the only way to understand

the grasshopper sparrow's world, and the best way to gauge the current state of the population, which has been declining since the 1960s.

There are fewer than ten sites where grasshopper sparrows consistently nest in New Hampshire, and these are mostly at airports required to maintain low-lying fields for air traffic visibility. For safety, airports are also required to maintain these areas by mowing, and this is a major problem for ground-nesting birds such as the grasshopper sparrow. Biologists work with land managers to delay or rotate mowing schedules until August when baby birds are flying and able to escape danger.

For reasons not completely understood, many nesting sites are used by the grasshopper sparrow for just one year and then never recolonized. Sites that are consistently occupied year after year are critical to find, representing the core of the state's population and more stable habitat conditions. "Populations fluctuate naturally from year to year," explained Hunt, "so we look intentionally at long-term trends which reflect a more accurate picture of true increases or decreases over time."



*Grasshopper sparrow on a milkweed plant.*

# ARROWS, AND ERVATION

## Eastern Meadowlark

At a different site, biologists listen for the flute-like song of the meadowlark—composed of several consecutive clear whistles—while searching exposed perches for their bright yellow underparts.

The most recent surveys for eastern meadowlark (conducted in 2021) uncovered 16 occupied sites in New Hampshire, generating an estimate of around 20 pairs of birds. This summer, Hunt will lead the search for meadowlarks at around 40 potential sites, reaching each corner of the state.

The information collected will help outline their territories and provide a new estimate of the population size in New Hampshire. It's perfect timing for surveys to resume since both the grasshopper sparrow's and the meadowlark's profiles will be revised in the statewide Wildlife Action Plan. Data about where these birds exist and their current challenges will help determine the most important conservation actions for the next decade.

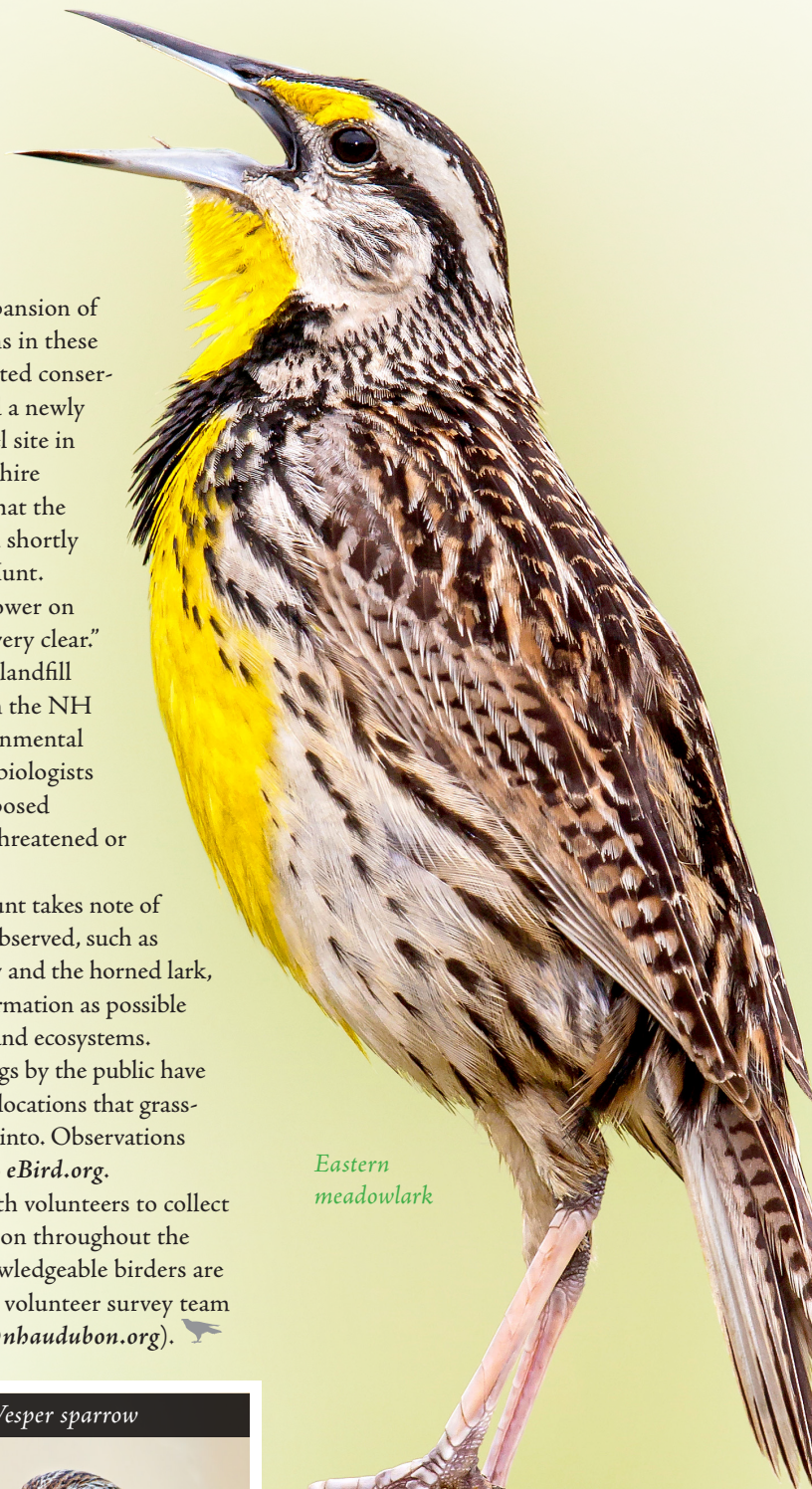
## Birds That Occupy Grassland Habitat

Altogether, 21 bird species rely on large grasslands in New Hampshire, and at least 16 of these populations are decreasing. Landfills serve as grassy habitats and historically have changed little, making for consistent nesting areas. In recent

years, however, the expansion of solar panel installations in these locations has complicated conservation. "We monitored a newly constructed solar panel site in southern New Hampshire recently, and noticed that the bobolinks disappeared shortly thereafter," reported Hunt. "The effects of solar power on grassland birds aren't very clear." Any modification to a landfill requires approval from the NH Department of Environmental Services, which alerts biologists whenever work is proposed within the range of a threatened or endangered species.

During surveys, Hunt takes note of other grassland birds observed, such as the rare vesper sparrow and the horned lark, to gather as much information as possible about the state's grassland ecosystems. Reports of bird sightings by the public have helped document new locations that grassland birds have moved into. Observations should be submitted to [eBird.org](http://eBird.org).

Hunt will work with volunteers to collect this valuable information throughout the summer of 2024. Knowledgeable birders are encouraged to join the volunteer survey team (by contacting [phunt@nhaudubon.org](mailto:phunt@nhaudubon.org)). 🐦



Eastern meadowlark

Bobolink



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Horned lark



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Vesper sparrow



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## APRIL

- The morning cloak butterfly is an early sign of spring, since it is one of the very first butterflies to be seen on sunny spring days.

## MAY

- Although now rare in the state, listen carefully for the bobwhite call (*Ba-bob-white!*) near brushy field edges.

## JUNE

- Horseshoe crabs utilize sandy beaches for spawning, which peaks this month. They are signaled to move toward shore once spring water temperatures exceed 51°F.



# BUTTERFLY SURVEYS


## and Training Opportunities Happening Now

Identifying butterflies can be tricky, fascinating, and potentially addicting. The Butterfly Monitoring Network continues to grow because of this and the important mission of collecting distribution information for the many different butterfly species, helping biologists determine long-term trends. This collaborative effort links experts with “amateur” naturalists; everyone is welcome to participate and be part of this conservation effort.

It starts by taking a walk, perhaps with a camera and a butterfly identification guide. At the center of butterfly conservation

is a new website that hosts tools such as training videos, useful identification information, and helpful blog posts. The site will have all the dates for virtual and in-person trainings, and several are scheduled for March and April this year. Visit

[nbbutterflies.org](http://nbbutterflies.org) to learn more.

Early season butterfly appearances may include mourning cloaks, eastern and gray commas, tortoiseshells, and American ladies. Adults of various species can be seen at different times, such as the skippers, checkerspots, fritillaries, and monarchs that become evident as the summer progresses. 



# WELCOME!

The Nongame and Endangered Wildlife Program welcomes three new members: Patrick Fitzgibbons and Kevin Newton, who will be reviewing projects for impacts on vulnerable wildlife, and Mickayla Johnston, whose primary focus will be the revision of the Wildlife Action Plan. The Nongame Program also thanks Brett Ferry and Kat Wadiak, who have moved into new positions at Fish and Game, wildlife biologist Jill Kilborn, who spent many years stewarding the North Country, as well as Luke Douglas, both of whom have left Fish and Game. A tremendous congratulations and thank you to recent retiree Kim Tuttle, who was a part of a wide array of projects at Fish and Game, dedicating many years to protecting threatened and endangered wildlife.



Patrick Fitzgibbons



Kevin Newton



Mickayla Johnston