

Though hard to spot, the ovenbird is one of the most commonly heard warblers in New Hampshire.



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Wonderful

WOOD WARBLERS

WATCH FOR THESE LIVELY GEMS
OF WOODS AND SHRUBS | BY
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In May, a small olive-brown bird struts along the forest floor, probing leaves in search of beetles, caterpillars, ants and other insects. Then, quickly and unnoticed, she enters her domed nest, woven from leaves, fine hairs and soft stems and grasses. Up close, you might spot the orange patch and black stripes on her head. More likely, you will hear her mate, the male ovenbird, perched mid-story in a canopy tree; his emphatic song rises to a crescendo: TEA-cher, TEA-cher, TEA-cher.

The ovenbird is just one of 26 species of warblers that nest in New Hampshire. Sparrow-sized or smaller, most have colorful plumage with some combination of yellows, blues, oranges, greens, reds, grays or black. Warblers are active, moving quickly to capture insects from bark, buds and leaves using various tactics: glean, chase, probe, sally, hang, reach or flutter. Their songs vary, too, from thin high-pitched notes to buzzy trills, complex warbling notes or whistles. It is these collective features that make warblers a favorite among birders.

Warbler Watching

“When I’m listening to the songs of the wood warblers, I forget about everything else, including biting insects,” says Mark Suomala, bird guide, naturalist and nature tour leader. “Seemingly small and fragile, warblers spend spring and summer days flitting from branch to branch, foraging, courting, defending territories and dodging predators. We are fortunate to have these amazing warblers in our woods.”

Wood warblers, as they are called, are all migratory. They spend fewer than four months here to breed before flying south in late summer or fall to spend winters in the southern U.S., Mexico, West Indies, or Central or South America. They fly north in spring on southerly winds, often moving in flocks of mixed species. Spring migration, from late April to late May, is prime warbler-watching time, when males are singing and in colorful breeding plumage. Warblers are most active when their primary food source, insects, are most active – just after sunrise, before sundown, and after a rain.

Warblers can be hard to see as they move quickly overhead within a leafy canopy or in a dense shrub thicket. Even without a clear visual,

you can often identify a warbler based on its behavior and habitat, and certainly its song. The black-and-white warbler creeps along tree trunks probing for insects, much like a nuthatch, the male singing a high-pitched *weeseee, weeseee, weeseee*. Palm and prairie warblers are tail bobbers, as is the Louisiana waterthrush, which sings a musical jumble and teeters along wooded streambanks.

One species is a favorite of N.H. Fish and Game nongame biologist Emily Preston. “Years ago, when I was just learning birdsong, I was in an old field of wildflowers, grasses and shrubs,” recounts Preston. “I kept hearing a lovely ascending series of *zee zee zee zee zee*. Finally, after doggedly searching the field, I found its maker at the top of a small tree, a prairie warbler with its bright yellow color and two lines of dark dots along its sides. I’ve never forgotten that song.”

Fluctuating Numbers

Bird populations are dynamic. Natural fluctuations from year to year are normal, the result of bad weather, abundant caterpillars, or an increase in fall acorn crops that lead to more predators in spring, such as chipmunks and red squirrels. Population increases or decreases over time may tell us whether species are in trouble. According to Dr. Pamela Hunt, an avian conservation biologist at NH Audubon and author of *The State of New Hampshire’s Birds*, more than half of our warbler species are in decline. The reasons vary by species and habitat, but consistent threats include: loss of shrub, mature spruce-fir and wetland habitats; fragmenting of forests from subdivisions and roads; and challenges during migration and on wintering grounds.

U.S. Forest Service researchers at the Bartlett Experimental Forest in Bartlett, New Hampshire, study how forest management affects wildlife and their habitats. Studies have shown that regenerating clearcuts (15 to 20 acres) and patch cuts (3 to 5 acres) are beneficial to a suite of songbirds, including chestnut-sided warbler, common yellowthroat and mourning warbler, that depend on brushy or young forest habitat.

“We are particularly interested in these young forest species,” says Chris Costello, U.S. Forest Service biologist, “because these birds are showing the most drastic declines in the Northeast.” Her favorite: the mourning warbler.

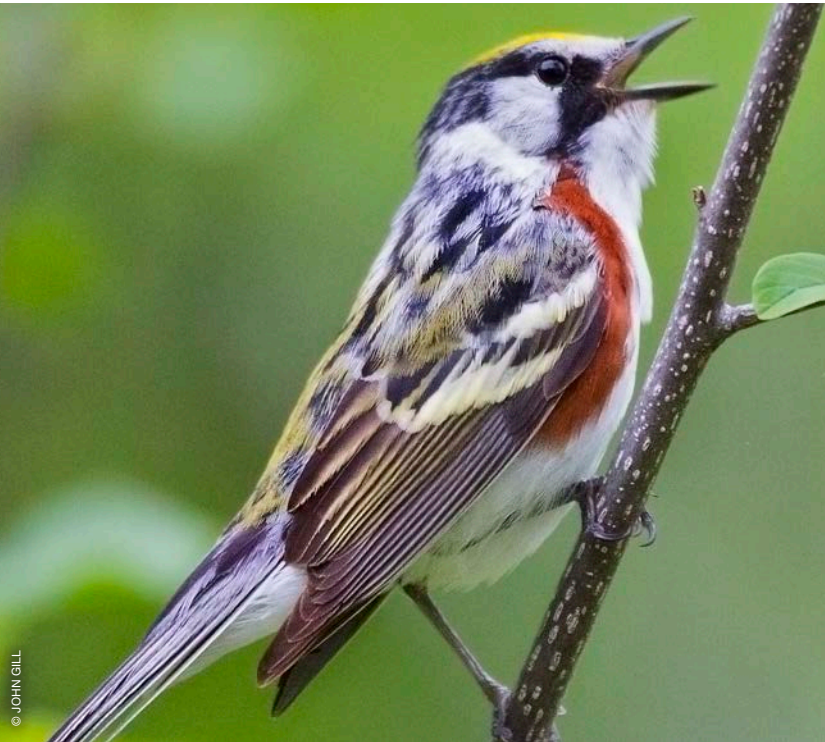
“The mourning warbler is not as common as the other early successional habitat ambassadors,” says Costello. “This bird is elusive, but its loud and distinctive song is a pleasure to hear when it returns to the White Mountains to nest in our clearcuts and patch cuts that are between 2 to 8 years post-harvest.”

Some warbler populations fluctuate with food supply. The bay-breasted, Cape May and Tennessee warblers are spruce budworm specialists. They follow the boom and bust cycle of the spruce budworm, a native insect in northern spruce-fir forests. Budworm larvae feed on the needles and buds of balsam fir and spruce. A major budworm outbreak occurs about every forty years, causing severe defoliation across millions of acres of forests; the last outbreak peaked in the 1970s. Budworms may be bad for timber production, but they are a boon to warblers.

“A potentially major budworm outbreak is building in Quebec and is expected to reach Maine within the decade,” says Hunt.

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Regenerating clear cuts and patch cuts have proven beneficial to many warbler species. This young forest habitat is ideal for warblers like the common yellowthroat (top), chestnut-sided (left) and mourning warbler (below).



The Tennessee warbler breeds in boreal forest habitat in early growth areas of dense shrubs and young deciduous trees. It feeds primarily on moth caterpillars, so populations expand when spruce budworm outbreaks occur.



“We are already seeing higher numbers of migrant budworm warblers in New Hampshire.”

As of the time of this writing, a total of seven species of warblers were proposed as “species of greatest conservation need” in the new draft of the New Hampshire Wildlife Action Plan: bay-breasted, blue-winged, Canada, Cape May, cerulean, golden-winged and prairie. N.H. Fish and Game is currently updating the plan, creating a guide for protecting the state’s critical habitats and sustaining wildlife species of conservation concern over the next ten years.

“I’m So Sweet”

My two favorite warblers are the American redstart and black-throated blue. I spent two summers at the Hubbard Brook

Experimental Forest, counting caterpillars, mapping singing male territories and watching pairs bring food to nestlings. The male black-throated blue is striking, with his blue-gray head and back, black face and sides, white breast and belly, and distinct white patch on folded wing. These warblers nest in the forest understory, often in hobblebush, a common shrub with large, roundish leaves and large clusters of white flowers. The male’s lazy and buzzy *zur zur zurr zree* is memorable. The male redstart is equally striking, with a coal-black body and bright orange patches on sides, wings and tail. Always moving, he fans his tail and droops his wings to scare up insects as he flits about the mid-story of a northern hardwood forest.

With so many warblers, each unique in color, behavior and habitat niche, it is hard to pick favorites. The male yellow warbler, feathered

SPECIES OF CONSERVATION CONCERN

New Hampshire Fish and Game is in the process of updating the state’s Wildlife Action Plan through 2025. A blueprint for conserving rare wildlife, the draft plan includes seven warblers (pictured) that are considered to be “species of greatest conservation need.” The current plan includes five warblers.

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| 1. Bay-breasted warbler | 5. Cape May warbler |
| 2. Prairie warbler | 6. Golden-winged warbler |
| 3. Cerulean warbler | 7. Canada warbler |
| 4. Blue-winged warbler | |



in an egg-yolk yellow with chestnut breast streaks, sings a lovely *sweet-sweet-sweet-I'm-so-sweet* from shrubby wetlands. From shady, moist thickets bursts forth the *chip, chupety swee-ditchety* of the male Canada warbler; he sports a distinctive black necklace against a yellow throat. Many of the male warblers are well adorned to attract mates, and, unwittingly, birders, too.

The flashes of color, quick movements and memorable songs make warblers a joy to see and study. To get to know these lively gems of woods and shrubs, search out fellow birders for a spring walk. New Hampshire Audubon chapters throughout the state lead spring bird walks for beginners. Visit a local conservation area with shrubs or scattered trees or wetland edges to spot fast-moving warblers in spring. Wooded cemeteries and coastal shores are also

warbler magnets during migration.

Go outside early on a sunny spring morning, just after a rain, binoculars and bird book in hand, and listen and look. If you hear a bird, follow its melody until you see it. Note its features – body colors, streaks, spots or other color patches – and song: a trill, a buzz, or more musical notes. Once you see and hear a warbler, you are much more likely to remember it forever. **W**

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STUDYING SONGBIRDS

New Hampshire is rich in warbler diversity, and equally rich in the researchers who study them. Since 1969, Dr. Richard Holmes (Dartmouth College), and his colleagues and students, have studied forest songbirds at the Hubbard Brook Experimental Forest in Woodstock, N.H. This 40-plus years of research has included seminal work on two warbler species: the black-throated blue warbler and American redstart. In addition to intensive research in northern hardwood forests where they breed, Holmes and others followed the birds to their wintering grounds in Jamaica, recognizing the importance of understanding the full life cycle of these migratory birds.

"I think one of the most impressive stories is the site fidelity and longevity of redstarts and black-throated blues," says Holmes. "Both species are very site faithful, coming back year after year to approximately the same area they occupied in the previous year – at Hubbard Brook and in Jamaica. Some birds banded have lived at least nine years, which means they've made nine round-trip flights to the winter grounds and back, a distance of 1,700 miles each way.

"That's rather remarkable," says Holmes, "when you consider that these birds weigh less than one third of an ounce – especially considering the potential perils they face along the way."

Dr. Hunt of NH Audubon reports a similar story for the blackpoll warbler, which breeds in high-elevation spruce-fir forests. In addition to working with Dr. Holmes on redstarts for her dissertation, Hunt banded blackpolls on Mount Cardigan in 1991, then looked for them in subsequent breeding seasons. (Blackpoll warblers make the longest migration flight of all our warblers.) Two years later, Hunt found one of her banded birds.

"Imagine this bird, fresh out of the nest, flying to South America for the first time. As part of that first flight, she likely made a non-stop three-day crossing, over water, of 1,900 miles from New England to Venezuela," says Hunt. "She made this trip two times, and when I found her in New Hampshire again, she was within 350 feet of

where she was raised. It boggles the mind."

The colorful plumage of many warblers is one reason they fascinate birders, but the colors have a greater purpose. Matt Tarr, Associate Extension Professor and Wildlife Specialist at UNH Cooperative Extension, is studying the effects of invasive shrubs on the shrub-nesting common yellowthroat. The male yellowthroat sports a black mask and bright yellow throat and chest (his "bib").

"Yellowthroats get the yellow bib from the insects they eat, mainly caterpillars and grasshoppers," says Tarr. "Female yellowthroats prefer a mate with a large yellow bib, because that indicates access to abundant food and good health. However, males with large black face masks tend to be dominant over those with smaller masks, and some females prefer the big mask over a large bib." Tarr is still assessing whether a reduction in caterpillars caused by invasive shrubs affects the breeding success of adult yellowthroats or the plumage color of their nestlings.



The black-throated blue warbler (left) and American redstart (bottom) fly 1,700 miles to spend winters in Jamaica. Each spring they return to the same area in New Hampshire to breed.

