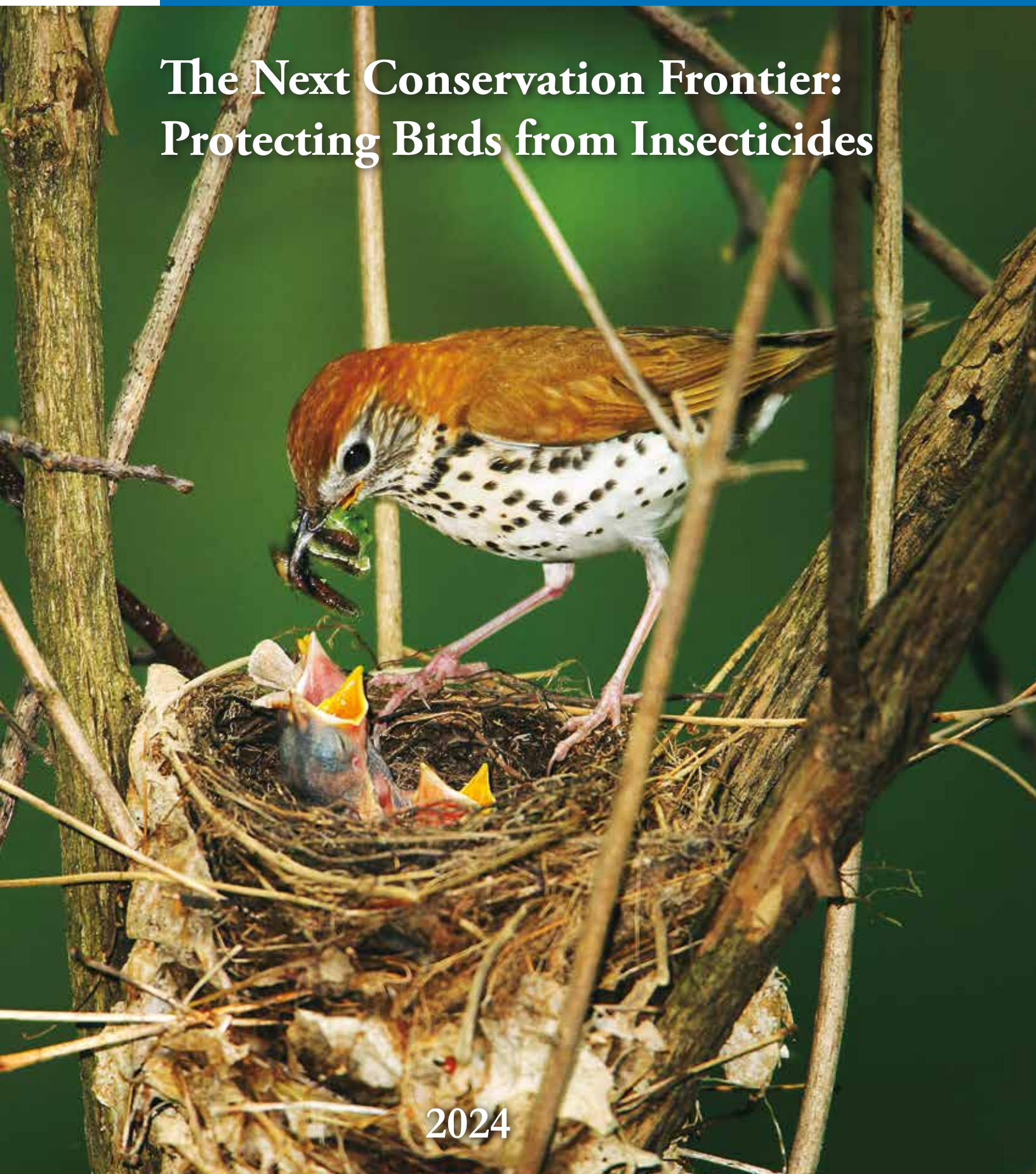
THE CONNECTICUT Audubon SOCIETY

Connecticut State of the Birds

The Next Conservation Frontier: Protecting Birds from Insecticides



2024

The Next Conservation Frontier: Protecting Birds from Insecticides

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Connecticut State of the Birds

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Bobolink
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Table of Contents

INTRODUCTION

From the Age of DDT to the Age of Neonics

The population of Barn Swallows has fallen an estimated 25-38 percent since the 1970s.

PAUL J. FUSCO

We've been in a situation like this before, and many of you remember it: the bad old days of DDT. Sprayed across wetlands starting after World War II, DDT killed mosquitoes and other insects—in the 1940s, '50s, '60s, and into the '70s.

During those years, the Bald Eagle population plummeted. So did the number of Peregrine Falcons. As for Ospreys, by the 1970s there were only about 10 nests in all of Connecticut. Those birds ate prey that had been contaminated with DDT, which interfered with the birds' ability to lay eggs hard enough to withstand incubation. Generation after generation failed to replace itself, and the populations fell.

DDT was banned in 1972 and is mostly gone. But now we are in the age of neonics.

Neonics—short for neonicotinoid pesticides—are spread on lawns and fairways to kill insects. Used as a coating on seeds, neonics keep crops like corn pest-free. Or so say the sales pitches from the agri-chemical giants. What they don't say is that neonics are 7,000 times more toxic than DDT.

What's the risk? Eastern Bluebirds and American Robins routinely fly from perches near their nests to pluck caterpillars from the grass to carry to their babies. One pair of chickadees raising babies in spring needs 6,000 to 9,000 caterpillars.

Neonics kill caterpillars.

Neonics kill bumble bees, squash bees, and mason bees. They kill monarch butterflies, swallowtail butterflies, and hummingbird moths. They kill click beetles and ground beetles. They kill lightning bugs. Over the last 50 years, North America has seen almost 30 percent of its bird population vanish. There are 3 billion fewer birds here now than there were in 1970.

Those two phenomena—vanishing insects and vanishing birds—are directly related.

We are worried about the birds whose populations are falling dramatically. But we're also worried about the birds that still seem to be OK.

Connecticut residents don't want to find out in 30 years that the bird population has fallen by 30 percent again and that one of the causes was pesticides. We want to bring birds back, but to do that we also have to make sure that common species that haven't yet declined very far are protected.

Waiting to halt the use of a poison until we notice that it's killing an animal is a bad way to decide on pesticide use. The expense and effort of bringing birds back from the brink justifies intervention before the worst effects are known.

The goal of this *Connecticut State of the Birds* report is to persuade officials and residents to stop using neonics. Experts from Connecticut Audubon, American Bird Conservancy, the Natural Resources Defense Council, the Xerces Society, and Connecticut Pesticide Reform, as well as some of the region's and country's best bird conservationists, make the case that the health of Connecticut and of Connecticut's birds depends on it.

You'll find their arguments and reasoning in the report's four main articles. They also highlight six common birds that may be at risk throughout the region. The report closes with Connecticut Audubon's recommendations. We hope you enjoy it. Mostly we hope it inspires you to action.

* * * *

Neonicotinoid Pesticides Are Killing Birds In Meadows, Marshes, Yards, Golf Courses

by Hardy Kern

When we hear "for the birds," we think of someone talking about something useless. Not worthwhile. Unnecessary. And yet for many of us, our lives have been lived for the birds. The Connecticut Audubon Society performs some of the most cutting-edge conservation and land stewardship anywhere in the country, and more than 400 species have been recorded inside your borders. And yet, something is happening in the same area which is very much not for the birds: the use of neonicotinoid insecticides.

Since 1970, North America has experienced a loss of 3 billion birds owing to a variety of factors, including window collisions, invasive species, and habitat loss. However, the most silent, and possibly most torturous, killer is not as well known: pesticides. Estimates put annual bird deaths from pesticides between 65 and 72 million, but this does not tell the whole story.

Those estimates account for only direct death from acute toxicity, meaning that a bird was exposed to enough pesticide in a single sitting to kill it. It does not account for birds that become lethargic, immobile, or lost and may then fall prey to other species. It does not account for birds that fly into stationary objects when their wings will not work correctly. It certainly does not account for the generational impacts of pesticides: birds that cannot find enough insects to feed a full brood of chicks, cannot keep enough weight on to successfully migrate and continue their lifecycle, or birds that produce fewer sperm, smaller eggs, and unhealthy chicks.

A study published in 2023 named agricultural intensification, specifically pesticide and fertilizer use, as the biggest driver of bird declines in Europe over the last 50 years. Other papers have shown that in the United States, neonics are correlated with declines in bird biodiversity for grassland and insect-eating species. Prominent toxicologists have even shown that the overall toxicity of a pesticide is a better indicator of grassland bird declines than increasing the amount of farmland alone, meaning that if you want to understand why certain birds are declining you must examine the chemicals being used.

How Neonics Work

The word "neonicotinoid" means "new nicotine-related chemical." Neonics, as they are called, slide into the nicotinic acetylcholine receptor in a neuron and inhibit the production of acetylcholinesterase inhibitors. Translation? They fool the neuron and lock it into the "on" position, causing it to fire continuously. Affected organisms (birds, bees, butterflies, and pests alike) then experience convulsions, organ failure, and death. Birds may thrash, vomit, become confused, or lose the ability to fly and hide. If the effects do wear off, it can take as long as 11 days. If you are a male bird, you may not produce sperm. If you are a female bird, you may produce fewer eggs.

Seed Treatments

The most commonly used form of neonics across the country is in seed treatments: coatings applied to many major crops which act as an insurance measure against early-season pests. Seed treatments were supposed to take the place of other uses (sprays, injections, soil drenches), but a 2015 paper published in the journal *Environmental Science & Technology* shows that this never happened.

Because of loopholes in federal law, neonics applied as seed coatings are not tracked, regulated, or registered like other pesticides. A single corn kernel with a neonic coating is lethal to a songbird. One-fifth of a corn seed with a neonic coating can impair migration abilities, with the same being said of just five canola seeds (which are the size of pinheads), according to a 2018 study published in the journal *Ecotoxicology*. Birds visiting farm fields eat many times more than that in a single day.

These seed coatings were initially thought to be repellent; if birds eat a few and get sick, they will never eat one again. If only. Field studies show birds and mammals

Eastern Kingbird

Bobolinks

Black and White Warbler

PAUL J. FUSCO (3)

alike flock to piles of spilled seed on farms, meaning that animals may load up on seeds when available in large amounts. An American Bird Conservancy analysis based on some amazing laboratory and field experiments done by ecotoxicologists found that a bird can eat enough seeds to constitute a lethal dose before it ever feels ill.

Once a seed is planted, the coating sloughs off into the soil and leaches into groundwater, rivers, lakes, and streams where it continues to do its job of killing invertebrates. Work in the Netherlands found that bird declines were best explained by the use of neonicotinoids in a given area, but not due to direct toxicity. Instead, the water pollution led to a collapse of local non-pest insects and therefore a decline in bird species.

Prey Loss

The groups of birds hit hardest over the last 50 years are aerial insectivores. This category of birds—Chimney Swifts, Barn Swallows, Eastern Kingbirds, Common Nighthawks, and others—have suffered a 32 percent decline. Even worse, grassland birds such as Bobolinks and Eastern Meadowlarks, which are native to Connecticut, and Dickcissels and Chestnut-collared Longspurs, which are birds of the Great Plains, have declined by 53 percent. The major commonality between these two groups is what they eat—bugs. In fact, 96 percent of all terrestrial birds rely on insects for at least part of the year, which also happens to be the percent of species currently in decline. The high fat and protein content of insects makes them the perfect snacks for bouncing baby birds. Unpublished data from Delaware found that many birds prefer feeding their chicks caterpillars because of their high concentrations of protein, fat, and carotenoids. Unfortunately, these are precisely the same types of insects targeted by those wishing to protect lawns, golf courses and other enterprises that maintain lots of outdoor turf, which in Connecticut are probably the greatest users of neonics.

Though insects do pose a threat to turf grass, neonics are far from the only products that can be used to curb their presence outdoors. Dozens, if not hundreds, of less-damaging products and methods exist to address insects we find unpleasant or dangerous.

There are even reports that birds finding a dearth of insects to feed chicks turn to less nutritious food sources, such as seeds. In some cases, these seeds themselves may be covered in insecticides. Fewer bugs means fewer birds. It is truly that simple.

What's a Birder to do?

Connecticut has already done more than most states to address neonicotinoids and protect its birds and biodiversity, but there is a clear path forward. We need more guardrails around the uses of these insidious insecticides. Golf courses and other outdoor applicators can be pushed to avoid using neonicotinoids, or to deploy them only when absolutely necessary. States near Connecticut have enacted bans on neonic-coated seeds and outdoor applications.

States have taken many different approaches to curbing their use of neonics. In Connecticut, a coalition including the

Continued on page 5

A single corn kernel with a neonic coating is lethal to a songbird. Connecticut has 25,000 acres of cornfields.

PAUL J. FUSCO (5)

Dickcissel

Barn Swallow

Eastern Meadowlark

Caterpillars are targets of pesticides and protein-rich food for birds.

The birds shown on pages 2 & 3 include several that are common in Connecticut. All are vulnerable to the effects of neonics.

Eastern Bluebird

By Allison Black

The Eastern Bluebird (*Sialia sialis*), a symbol of beauty and resilience in North America (and notably the state bird of our neighbor, New York), faces growing concerns regarding its population dynamics, particularly due to the indirect effects of neonicotinoids on its primary food source.

Small and vibrant, with vocalizations that range from a murmur to an insistent song, Eastern Bluebirds predominantly feed on insects, including beetles, ants, and caterpillars, and other arthropods, such as grasshoppers, spiders, sowbugs, and earthworms.These invertebrates form the cornerstone of their diet, especially during the breeding season when the nutritional needs of their nestlings are highest. Neonics pose a significant threat to the abundance and diversity of this food source and therefore to Eastern Bluebirds.

Studies have shown that decreased prey availability can lead to lower reproductive success and higher juvenile mortality rates among insectivorous birds. Birds of the World, the online bird encyclopedia maintained by the Cornell Lab of Ornithology, says of Eastern Bluebirds"... many anecdotal reports claim pesticide-caused deaths of nestlings, perhaps because adults differentially forage on pesticide-weakened insects, thereby increasing toxic load on nestlings … Some anecdotal reports suggest that direct ingestion of pesticide-loaded insects have caused death of adult bluebirds."

So far, neonics seem not to have caused large-scale problems for Eastern Bluebirds. The International Union for the Conservation of Nature (often referred to as simply the IUCN) gives their conservation status as "least concern." But it's easy to imagine that the continued use of neonics could change that, and waiting until the population of a species falls far enough to be noticeable is a dangerous, expensive, and inefficient way of carrying out conservation work.

This is particularly concerning for bluebirds, which nest in fields and along lawns and golf courses that might be heavy users of neonics.

Bluebirds have already faced challenges from habitat loss and competition with invasive species, and overcome those. Just a few decades ago, Eastern Bluebird populations were dropping. The trees in which they found holes for nesting were being pruned or felled; pastures and orchards were allowed to grow into woodlots or were turned into housing developments. Fewer nest sites meant fewer nests, and fewer bluebirds.

Remarkably, throughout the Eastern Bluebird's range (in general, open land east of the Rockies) conservation organizations and people who loved birds began building, buying, and putting up nest boxes. That's the reason we still see so many bluebird boxes across Connecticut. The boxes replaced the tree cavities, and the bluebird population rebounded.

Like many species, the Eastern Bluebird is resilient if given the chance. Continuing to threaten it with the use of neonics increases the odds that the population rebound of recent decades might be reversed and these glorious songbirds will again be a rarity on Connecticut's landscape.

Allison Black is secretary of the Board of Directors of the Connecticut Ornithological Association. She is a seabird observer for the National Oceanic and Atmospheric Administration, and has been a presenter in Connecticut Audubon's Young, Gifted & Wild About Birds series. Tom Andersen contributed to this article.

PAUL J. FUSCO (2)

PAUL J. FUSCO (4)

Habitat loss is a continuing conservation issue in Connecticut, and is probably the biggest cause of declining bird populations nationwide. This hillside was covered by woodland including large old trees that were used by two juvenile Bald Eagles until the woodland was clearcut to make room for a development.

Population Declines

The 30 percent drop in North America's bird population is not history. It's a current event. Each year the number of birds that hatch and fledge is smaller than the number of birds that die. Here are the most important causes of annual bird deaths, in addition to pesticides.

Feral and Outdoor Cats: An analysis by Peter P. Marra showed that free-roaming cats kill 1.3 billion to 4 billion birds each year in North Amereica. Marra, a former Connecticut Audubon field staff member, is the dean of Earth Commons, Georgetown University's institute for the Environment and Sustainability; he is the former director of the Smithsonian Migratory Bird Center.

Window Collision: A 2024 study by the NYC Bird Alliance, the American Bird Conservancy, and researchers at Fordham and Stony Brook universities estimated that well over 1 billion birds a year are killed in building collisions in the U.S., making it the second biggest cause of bird mortality.

Habitat Loss and Degradation: Land development and wetland destruction and damage result in an untold number of bird deaths and cause lasting changes to bird habitat. "Scientists have identified that habitat loss is the biggest overall driver of bird declines," according to the American Bird Conservancy.

Feral and outdoor house cats kill 1.3 billion to 4 billion birds each year in North America.

Continued from page 3

Connecticut Audubon Society and American Bird Conservancy is working to reduce neonic use through a little-used state pesticide classification known as permit use. Chemicals in this category must have express permission from state officials to be used before deployment, putting their use under a microscope and increasing the likelihood that they will be part of a pest management plan only when absolutely necessary. It may sound like a small solution, but in the world of pesticide reform it would be a huge win for birds, people, and ecosystems.

In the meantime, keep enjoying nature. Keep avoiding pesticides at home and keep talking to friends, neighbors, relatives, and legislators. There will be more opportunities to engage and more laws to support in the coming months. Until then, we need to retake the phrase "for the birds." It no longer means futile. It means our actions are justified in order to protect nature's most amazing assets: birds, biodiversity, and our connection with nature.

* * * *

Hardy Kern is Director of Government Relations at American Bird Conservancy. Hardy primarily works on policy solutions to pesticide reduction, protecting public lands for wildlife, and the Endangered Species Act. A frequent visitor to Hartford, he loves exploring New England with his wife and their two dogs. He is an avid birder, wildlife advocate, and native plant gardener. He is a graduate of The Ohio State University and Kent State University and lives in Columbus, Ohio.

For information on sources for this article and other articles, please visit ctaudubon.org/sources.

The Dangers of a Potent Pesticide Used on an Unprecedented Scale

by Dan Raichel

More than 60 years ago, Rachel Carson planted the seed of the modern environmental movement when she asked us in *Silent Spring* to imagine a world where reckless pesticide use had silenced all birdsong. Thanks to her grim warning, that world never came to pass, as DDT and other dangerous pesticides were banned or restricted.

But mounting evidence shows that a relatively newer class of pesticides—neonicotinoids or "neonics"—are increasingly hollowing out our natural world on a scale perhaps not seen since *Silent Spring* was published. Connecticut was an early leader in restricting neonic use, in 2016, but as the science grows more damning, neighboring states have gone further in targeting the needless uses responsible for most neonic pollution.

What Are Neonics, and What Were the Early Concerns?

Like DDT, neonics are neurotoxic insecticides—pesticides designed to kill insects by attacking their nerves. Neonics have some distinct characteristics, however, that make them especially destructive for ecosystems.

To start, they are among the most potent insecticides ever created—thousands of times more harmful to insects than DDT. At the Natural Resources Defense Council, we calculated that one square-foot of lawn treated at rates approved by the U.S. Environmental Protection Agency can contain enough neonics to kill a million bees.

Neonics are also particularly good at contaminating entire ecosystems. Among the first "systemic" insecticides, neonics purposely permeate plants, making every part—roots, leaves, pollen, nectar—toxic to insects. That enabled new ways of using the pesticides, including applying them as a thin coating on crop seeds, which the plants are intended to soak up through their roots as they grow.

The big problem is that typically only about 2-5 percent of these neonic coatings make it into the target plant, leaving the other 95-plus percent to persist in the soil for years, as reported in 2017 in the journal *PloS ONE*. From there, rain, irrigation, or lawn watering easily carry the pesticides long distances, where they contaminate soil, get picked up by wild plants, and pollute water.

Among the world's most widely-used insecticides—applied to hundreds of millions of acres nationwide—neonics continue to build up in our environment year-over-year, spreading out with each rainfall. They've become ubiquitous contaminants in large areas of the country.

Bees became the canaries in the coalmine when honeybee colonies started dying at unheard-of rates, just as neonic seed coatings became widely adopted on corn and soybean seeds nationwide. Thanks to Herculean breeding efforts of beekeepers, the number of colonies has remained stable. But colony losses continue at record rates—with last year being the second-worst ever for losses—raising concerns about the sustainability of the current system, and what these mass losses are telling us about the broader health of our environment.

The situation is even more dire for the nation's 4,000-plus species of native wild bees, many of which are also in decline, but almost none of which have the benefit of an industry dedicated to ensuring their survival. Here too, the continued disappearance of bees is only the tip of the iceberg for larger harms neonics inflict on our ecosystems.

What Does Recent Science Say About Neonics' Broad Harms, Including to Birds?

While the dangers of incredibly potent insecticides deployed on an unprecedented scale and permeating our environment may be self-evident, increasingly science and analysis confirm that neonics

PAUL J. FUSCO (3)

Pesticides such as neonics are likely contrbutors to the 30 percent drop in bird populations. Hairy Woodpeckers, Eastern Meadowlarks, and Field Sparrows are all vulnerable.

PAUL J. FUSCO (3)

Neonics were the leading factor linked to the decline of butterflies.

are bad news for more than just bees.

During summer 2024, a first-of-its-kind study that made nationwide news looked at the period when neonic use first skyrocketed and found that the pesticides were the number-one factor linked to the disappearance of Midwestern butterflies, monarchs in particular. The finding comes after the EPA's own analysis found neonics were likely driving 200-plus threatened and endangered species toward extinction—birds, butterflies, and bees among them.

For birds specifically, research published in the journal *Nature Sustainability* links neonics to mass losses of bird biodiversity—making them likely significant contributors to the 30 percent bird losses we've seen over the past 50 years. The impacts are two-fold.

Insect-eating birds (i.e., most birds) have been the hardest hit, according to a 2021 study by Douglas Tallamy and W. Gregory Shriver. Chickadees, Downy Woodpeckers, Hairy Woodpeckers, Bobolinks, and Wilson's Warblers need 6,000-9,000 caterpillars to feed their nestlings, and adult birds continue to feed their young for weeks after fledging. Another study, published in the journal *Nature*, links even miniscule concentrations of neonics in the environment with significant losses. The likely explanation is simple: for birds that rely on eating insects to live, fewer bugs means fewer birds. And with neonics having made U.S. agriculture an estimated 48 times more harmful to insects since their introduction, they are a lead suspect in broader insect declines sometimes dubbed an "insect apocalypse."

Neonics also harm birds directly. Birds eat neonic-coated seeds at planting time, and just one such seed has enough active ingredients to kill a small songbird, according to the American Bird Conservancy. Even at levels that don't kill outright, neonics can harm birds' immune systems, fertility, and navigation, and cause rapid weight loss during migration—reducing their chances of survival.

Studies also link neonics to the collapse of fisheries and to higher rates of birth defects and stillbirth in deer; at the same time, neonics have become ubiquitous in their bodies. A recent study by the Beckman Institute at the University of Illinois Urbana/Champaign also found neonics in the bodies of over 95 percent of pregnant women tested across the country. And while more research is needed, studies already link neonics to malformations of the developing heart and brain and autism-like symptoms in children exposed in the womb, and reduced sperm and testosterone levels in adults.

Farmers can help by planting seeds that are not coated with neonics.

Neonics are linked to birth defects in deer.

What's Been Done About Neonic Pollution?

Europe acted first, partially banning the three main neonic chemicals in 2013 to protect bees, and expanding the ban in 2018 to nearly all outdoor uses. Canada followed, with Québec and Ontario enacting policies that have nearly eliminated the largest sources of neonic pollution.

In the U.S., with the EPA long asleep at the wheel, Connecticut and Maryland led the way in 2016 by restricting outdoor neonic use to certified professionals (Connecticut also prohibited neonic applications during bloom and to certain trees). Since then, over a half dozen states have followed.

Unfortunately, the largest neonic uses remain unaddressed by

Continued on page 10

Chimney Swift

by Pamela Hunt

PAUL J. FUSCO (2)

What would we call the Chimney Swift if early ornithologists had encountered it away from colonial villages? It certainly didn't nest in chimneys prior to European settlement, instead using hollow trees in mature forests. As chimneys became more common the swifts adapted quickly and may even have increased.

Unfortunately, since the mid-1960s, when standardized bird monitoring started, their population has steadily declined—usually by 50 percent or more—across their entire range. These declines have led the International Union for the Conservation of Nature to rank the species as "Near Threatened," Canada to list it as "Threatened," and several states to consider it a "Species of Greatest Conservation Need."

Why might a bird so comfortable coexisting with people be in such sharp decline? One potentially fruitful area of research was the very structures for which it is named. Fewer new houses have traditional fireplaces, and even if they do, their exterior chimneys may not be the masonry ones needed by swifts. Chimneys are increasingly capped, lined, or outright removed, none of which is compatible with swift nesting. Add to this the danger posed by cleaning chimneys during the breeding season and you have a whole gauntlet of threats facing urban and suburban swifts.

However, studies looking at chimney availability have usually found more potential nest sites than there are birds to use them, and so attention has turned to the possible role of food supply. Swifts feed entirely on flying insects captured high in the air column, and declines in this prey base are often invoked as a threat to this and other aerial insectivores.

One study in Canada investigated changes in swift diet by analyzing several feet of guano (representing 48 years of swift use) in a roosting chimney. Researchers documented a shift from beetles to true bugs (a category that includes leafhoppers, cicadas, aphids, and 80,000 other species but not ants, bees, and butterflies). This shift occurred around the time of the introduction of DDT, suggesting that the pesticide altered insect communities in a significant way. Although proportions of these two insect groups started to return to pre-DDT levels after the pesticide was banned in the U.S. and Canada, swift populations continued to decline.

It's possible that swifts are being affected by pesticides or other threats on their South American wintering grounds. In the north, lawn care, golf course management, and agricultural practices are also a concern. Here's where neonicotinoids may enter the picture. While swifts aren't going to be impacted by consuming treated seeds, neonic residue that washes from lawns, golf courses, and farmland into water bodies has the potential to depress aquatic insect populations. These insects are highly nutritious prey for aerial insectivores, so declines in their availability cannot be good for the birds that eat them.

Chimney Swifts are still a common species in many areas. If we want to keep the ones we have, it's important to look more closely at the threats they face and implement conservation actions that benefit them.

* * * *

Pamela Hunt, Ph.D., is New Hampshire Audubon's Senior Biologist for Avian Conservation. Her areas of interest include the conservation of aerial insectivores such as swifts and swallows.

PAUL J. FUSCO

Barn Swallow

by Murry Burgess

A symbol of hope, freedom, and new beginnings in art and literature, Barn Swallows (*Hirundo rustica*) are one of the world's most widespread birds, found on every continent except Antarctica. Their twitters and whirs fill the air as they whirl across the sky feeding, drinking, bathing, and even mating mid-air.

Barn Swallows are small aerial insectivores with steely blue backs, wings, and tails, and a cinnamon-colored forehead and throat. They have rufous bellies and underparts, with males having brighter bellies than females. Perhaps the most distinguishable feature is their long, forked tail. Barn Swallows forage on the wing, swooping across open fields and water to catch flies. Their diet also includes other flying insects such as beetles, bees, wasps, butterflies, and moths.

Barn Swallows return to the same nesting location, often reusing the same nest, year after year. They may nest in solo pairs or in small familial groups. They need a stable, shelf-like structure and a water source to construct cup-shaped nests made of mud and saliva, lined with grass and feathers. Pre-colonization, Barn Swallows nested on the crags of cliffs, rocky overhangs, and caves. Now, they primarily breed in human-made structures such as sheds, porches, carports, bridges, culverts, barns, and stables. The expansion of human settlement across rural areas aided the expansion of Barn Swallows, and in return, Barn Swallows provided excellent pest control for farmers. Historically, Barn Swallows were known to follow behind farm equipment or cattle herds, feeding on flushed insects.

Like many aerial insectivore species, Barn Swallows are experiencing population decline across North America. Their populations have fallen an estimated 25-38 percent since the 1970s. Now Barn Swallow decline coincides with the decline of insects due to heavy pesticide use, including neonicotinoid insecticides, which eliminate insect communities across the Barn Swallow's wintering and nesting grounds. Other modern agricultural practices are harmful to Barn Swallows. The replacement of wooden barns with metal barns and sheet metal roofing creates an environment that is too hot for raising nestlings. Older wooden buildings provide more structural support and shelter for their nests as well as habitat for the insects on which they feed.

Despite global population decline, Barn Swallows are still considered a common species. They are listed as least concern by the *International Union for the Conservation of Nature*, although some places, such as Canadian provinces, have them listed as Special Concern and Vulnerable. In Connecticut, Barn Swallow populations are declining because of environmental contaminants in lawns and golf courses, loss of open-country foraging, and fewer man-made nesting sites.

Conservationists have found success affixing artificial nest cups to newer structures. Barn Swallows can quickly add muddy rims to the top of wooden nest cups to create their desired nest environment. Similarly, the construction of separate wooden structures set aside just for Barn Swallows has helped create nesting habitat. Artificial structures should have horizontal ledges and rough vertical structures to support mud nests, and a sheltered overhang to prevent rain from washing the nests away.

With insect-friendly agricultural and landscaping practices and support through artificial structures, we can bring back hope for a declining species that inspires hope in us.

* * * *

Murry Burgess, Ph.D., is an Assistant Professor at Mississippi State University. Her research focuses on the effects of anthropogenic stressors on wild songbird health and nestling development. She discussed her Barn Swallow research in a 2022 presentation for Connecticut Audubon's Young, Gifted, & Wild About Birds series.

JULIAN HOUGH

Golf course managers can help birds and insects by strictly limiting the use of neonics.

Continued from page 8

these "restricted use" laws—in particular corn, soybean, and wheat seed coatings, and extensive neonic use by the certified applicators hired to treat lawns, gardens, and golf courses. A new crop of state laws has arisen in response, with New Jersey being the first to ban neonics on lawns, gardens, and golf courses (Nevada later followed), and New York and Vermont tackling coated seeds. For seeds, both states borrowed a "verification of need" model, successfully implemented in Québec—where farmers are allowed to use neonic coatings on seeds only if they obtain a "prescription" from a certified agronomist demonstrating that the coatings would target an actual pest need. The program reduced the use of neonic coatings to almost nothing within a few years without associated crop loss or switching to more harmful alternatives—a testament to the fact that most neonic use is not only destructive but unnecessary.

What Can Connecticut Do Now?

In the past several sessions, the Connecticut General Assembly has attempted, without success, to pass additional neonic restrictions. In the upcoming year, state lawmakers will have another chance—and commonsense models from neighboring states and provinces abound. Will state leaders protect Connecticut's birds, bees, and people, or the unsustainable status quo? For everyone's sake, let's hope they make some noise for greater protections. In this case, silence is not golden.

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Dan Raichel is the director of the Natural Resources Defense Council's Pollinators and Pesticides initiative, which focuses on protecting our nation's bee populations from the ever-growing threats to their health and existence—in particular, the use of bee-toxic pesticides. Before joining the Nature Program, Raichel was co-director of NRDC's Community Fracking Defense Project and an advocate for the cleanup of industrial pollution in the New York region. Raichel holds a bachelor's degree in English from Cornell University and a J.D. from Columbia Law School.

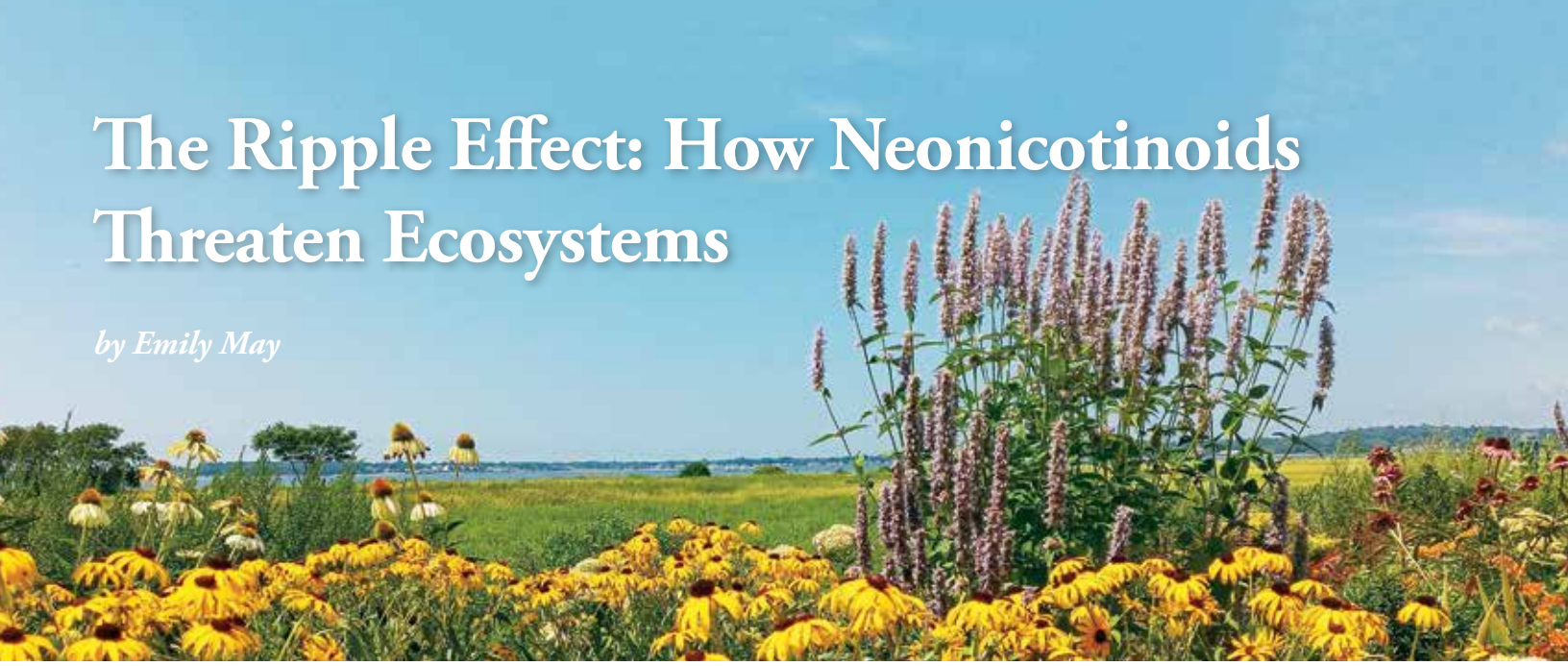
Wilson's Warbler

PAUL J. FUSCO (4)

Because of their seed-eating habits and their varied habitats, sparrows such as these Grasshopper, White-crowned, and Swamp Sparrows, as well as Wilson's Warblers, are vulnerable to neonics.

The Ripple Effect: How Neonicotinoids Threaten Ecosystems

by Emily May



Neonics were the most common pesticides found in honey bee-collected pollen in Connecticut, but the impact of these potent insecticides extends far beyond pollinators.

Pollinators face greater challenges from pesticides than they did 30 years ago. Even though the total use of insecticides by weight has declined, the toxicity of the environment for insects has increased exponentially. This increase has largely been driven by highly toxic neonicotinoid insecticides, or "neonics," which are now the most widely used class of insecticides in the United States.

The story of neonics often begins with bees—the hard-working insects that are critical to our food supply. And rightfully so: a bee can be killed by a vanishingly small amount of a neonicotinoid insecticide in its diet. A lethal dose for an adult honey bee is 15,000 times smaller than a grain of salt!

Neonicotinoids are used widely in all landscapes, including in crop fields, on golf courses and lawns, and in tree injections to combat invasive insect pests like the spotted lanternfly and emerald ash borer. A 2013 study published in the journal PLOS One showed that imidacloprid, a neonic insecticide, was the most common of the 60 pesticides found in honey bee-collected pollen at five sites across Connecticut.

But it's clear that the impact of these potent insecticides extends far beyond pollinators. Pesticides do not stay where they are applied; these chemicals can seep into the soil, contaminating groundwater, or be carried into waterways through runoff. Systemic pesticides like neonicotinoids can be taken up into plants, contaminating leaves and stems as well as pollen and nectar. This widespread and complex environmental contamination affects a diverse array of organisms.

Beyond Bees: The Broader Toll of Neonicotinoids on Wildlife

Neonicotinoids and other pesticides are not just a bee problem; they are a problem for entire ecosystems, affecting soil health, water quality, and the intricate web of life that sustains birds, fish, and us.

Continued on page 14

To protect bees, Europe banned all outdoor uses of neonics in 2018.

ALL PHOTOS: JULIAN R. HOUGH

Neonics are a key cause of the decline of monarch butterflies.

Neonics like imidacloprid can easily flow into waterways. Aquatic insects are more susceptible to lower concentrations for a long time than to higher concentrations for a short time.

Neonics in the Norwalk River

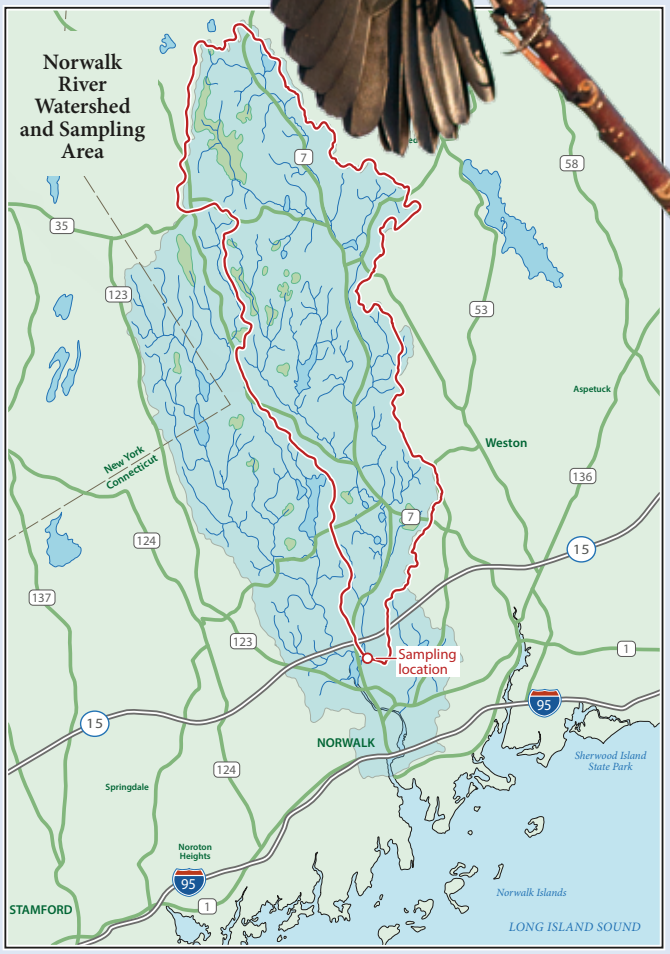
One of the more common neonicotinoids is a compound called imidacloprid, which is used on lawns and golf courses in suburban areas. It's water soluble, so it easily runs off into streams and lakes.

For the past decade, imidacloprid levels in the Norwalk River have consistently been above the U.S. Environmental Protection Agency's "benchmark" for aquatic insects such as mayflies and stoneflies.

What does that mean? "Benchmark" refers to standards or reference points used for comparison and evaluation. Specifically, they are toxicity values derived from scientific studies that the EPA used to assess the potential risk pesticides pose to freshwater organisms.

In determining how to protect aquatic insects from pesticides, EPA set an imidacloprid benchmark of less than 0.01 micrograms per liter of water. That's a tiny amount—about 600,000 times smaller than a typical grain of salt.

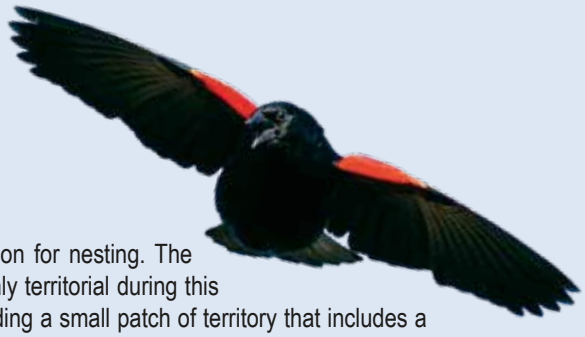
Aquatic insects are more susceptible to lower concentrations for a long time than to higher concentrations for a short time. From 2013 through 2023, imidacloprid concentrations in the Norwalk River, as measured just south of the Merritt Parkway, exceeded the EPA benchmark every month, according to the U.S. Geological Survey. In all, 127 out of 257 samples were 0.01 or higher. The problem was worse in summer. On average during July, 97 percent of the samples were above the benchmark. In August, 85 percent were above and in June, 67 percent.



MAP BY PATRICK J. LYNCH

Red-winged Blackbird

by Andy Griswold



The Red-winged Blackbird *(Agelaius phoeniceus)* is a striking bird commonly found in North America. Males are easily recognizable by their glossy black plumage and the bright red and yellow shoulder patches, known as epaulettes. These patches are particularly prominent when the bird is in flight or displaying during territorial or courtship behaviors. The female is more cryptically colored, with brown streaky plumage that helps her blend into marsh vegetation. Her coloration provides effective camouflage when she is incubating eggs or tending to her young.

Because they eat aquatic invertebrates and often forage in agricultural fields, Red-winged Blackbirds can be exposed to neonicotinoids. These chemicals are widely used in agriculture and can persist in the environment, contaminating both the seeds that the birds eat and the insects they prey upon. Chronic exposure can lead to reduced reproductive success and other health issues.

In breeding season, which typically spans from early spring to mid-summer, Red-winged Blackbirds are strongly associated with wetlands, marshes, and areas with dense, emergent vegetation such as cattails, reeds, and sedges. These environments provide both food and protection for nesting. The male is highly territorial during this time, defending a small patch of territory that includes a nesting site.Their distinctive call, often described as a "conk-la-ree," is a familiar sound in these environments.

After breeding season, Red-winged Blackbirds expand their habitat range to agricultural fields, meadows, prairies, and open woodlands. During migration and in winter, they often form large flocks that may roost in a variety of habitats, including crop fields and forests.

Red-winged Blackbirds are migratory across most of their range in North America. In the fall, they move from their breeding grounds in Canada and the northern United States to warmer areas in the southern United States, Mexico, and even as far south as Central America. Many of Connecticut's Red-winged Blackbirds will migrate south, although some may remain if the winter is mild and food is abundant. They typically return to their breeding grounds in early spring.

Red-winged Blackbirds are omnivorous. During breeding season, their diet primarily consists of insects and other bugs, which they forage from wetland vegetation and fields. These include beetles, caterpillars, spiders, and other arthropods. Outside the breeding season, their diet shifts towards seeds and grains, including those from crops like corn and rice.

The Red-winged Blackbird is currently listed as "Least Concern" by the International Union for the Conservation of Nature, indicating that it is not at immediate risk of extinction. However, there have been regional declines in population due to habitat loss, particularly the draining of wetlands, and the use of pesticides, including neonicotinoids.

* * * * *

Andrew Griswold has been the director of EcoTravel for Connecticut Audubon since 1996. He graduated as an honor student in biology from Hartwick College, where he studied avian ecology at their biological research station in the Bahamas. He's been a consultant to the Bahamas Ministry of Tourism concerning development of birding tourism in its more remote islands. Andy leads EcoTravel trips to Canada, Texas, South Florida, Brazil, Costa Rica, Cuba, Iceland, and many other unique destinations. Andy lives in Essex, Connecticut.

Eastern Kingbirds eat insects that they catch on the wing.

Continued from page 11

We need to look more carefully at the many other animals suffering from widespread use of neonics and other pesticides.

Monarch butterflies, once common across the Midwest, are now teetering on the edge of extinction. Extensive herbicide use that removed millions of milkweeds from the monarch's Midwestern migratory and breeding range were a primary driver of eastern monarch declines in the 1990s and early 2000s. But a study published this year in PLOS One pinpointed neonics as a critical factor in their continued decline since the 2000s.

The situation is equally dire for aquatic invertebrates, which form the foundation of the food web for many fish, amphibians, and birds. Neonics are highly toxic to a wide range of stream life even at low concentrations, as we showed in a 2016 Xerces Society report. Another study, in 2021, showed that increasing neonic concentrations in surface water can strongly decrease the abundance and biomass of aquatic insects. Declines in aquatic invertebrates reduce food availability for species like Tree Swallows and Barn Swallow, flycatchers such as Eastern Kingbirds, and warblers such as American Redstarts and Yellow Warblers.

The U.S. Environmental Protection Agency sets benchmark values for pesticides in water that are intended to represent levels below which pesticides are not expected to harm aquatic life. Surface water sampling by the U.S. Geological Survey in the Norwalk River over the past decade has routinely detected imidacloprid, a neonic commonly used in agriculture and on lawns and turf, at levels that exceed the EPA's benchmark for chronic impacts to freshwater invertebrates.

Neonics tend to be more lethal at low concentrations when insects are exposed over long periods of time; for example, research published in *Environmental Toxicology and Chemistry* found that the mayfly *Cloeon dipterum* is 800 times more sensitive to imidacloprid when exposed for 28 days than when exposed for only 2-4 days. The increased sensitivity of aquatic insects with long-term exposure makes the frequent presence of neonics in Connecticut rivers particularly concerning.

The Cascading Effects on the Food Web

The loss of invertebrates does not occur in a vacuum; it sends shockwaves through food webs. Birds that rely on insects for food, particularly during breeding season, are struggling to find enough to eat. Studies published in *Nature* and *Nature Sustainability* have linked neonic use to significant declines in bird populations and biodiversity in Europe and the United States, with sharper rates of decline for grassland and insect-eating birds. The population of Eastern Meadowlark, a grassland species, has declined by about 75 percent since the 1960s; Common Nighthawks, part of the group of birds known as aerial insectivores, have declined by 48 to 58 percent.

Neonicotinoids and other pesticides also disrupt aquatic and soil food webs. Loss of aquatic invertebrates from agricultural neonic use has led to the collapse of commercial fisheries in Japan, according to a study in the journal *Science*. Meanwhile, neonic seed coatings have been found to travel through soil food chains. In soybeans, neonic-laden slugs accumulate enough of the pesticide to harm predatory beetles. Without beetles keeping them in check, slug populations increased sharply. These pesticides can also disrupt populations of many soil-dwelling invertebrates, such as earthworms, ground beetles, nematodes, ants, and

The Common Nighthawk population has declined by 48 to 58 percent.

Barn Swallows rely on aquatic insects.

Inland wetlands and their aquatic life are prone to contamination.

springtails, all of which play crucial roles in maintaining soil and ecosystem health: breaking down organic matter, aerating and maintaining soil structure, and eating pest insects and weed seeds. These soil-dwelling invertebrates are also components of the diets of many common birds such as Blue Jays, Northern Flickers, and Song Sparrows, raising concerns about their long-term population stability.

Declines in insect populations can disrupt plant-pollinator relationships, which are essential for the reproduction of many plants. As insects disappear, so do the plants that depend on them.

Connecticut's Opportunity to Lead

The good news is that success is possible. Europe's partial ban on neonics has led to improvements in bee health. Similarly, Québec's strict regulations have drastically reduced neonic inputs without negatively impacting crop yields.

Northern Flickers eat invertebrates they find on the ground.

Connecticut has already passed legislation to classify neonictinoids as "restricted use," limiting their application to certified professionals and removing them from retail sale. However, this legislation has not resolved the problem of neonic contamination across the state, as neonics continue to be routinely detected in surface water samples at levels that pose chronic harm to aquatic life. Significant neonicotinoid use continues through professional landscaping, municipal groundskeeping, pest control, farmers, and other certified applicators. Turf and grass areas, maintained primarily for aesthetic rather than economic reasons, cover more land than agricultural fields in the state. Ongoing use in non-essential landscapes underscores the need for stronger policies to address the most significant sources of neonic pollution and better protect the state's natural resources.

Public awareness and grassroots advocacy have been instrumental in driving policy change in the Northeast and other regions. In Connecticut, increased public engagement could play a critical role in pushing for stronger pesticide regulations. Educating citizens about the risks of neonics and encouraging them to advocate for change can help ensure that the state's leaders take the necessary steps to protect our environment.

There are many ways to get involved, from supporting local legislation to participating in citizen science projects that monitor pesticide impacts. The people of Connecticut can make a difference in the fight to protect our natural world. The time to act is now, before the ripple effects on bees, butterflies, soil and aquatic invertebrates, birds, and other wildlife become too great to reverse. Connecticut has the opportunity to be a leader in combating this threat, but it must act decisively. By adopting stronger policies and engaging the public in the effort, the state can protect its natural heritage for future generations.

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Emily May is a pollinator conservation biologist in the Pesticide Program of the Xerces Society for Invertebrate Conservation. A former Connecticut resident, she now lives in Vermont.

Connecticut's Pesticide Future

by Bill Hobbs

ALL PHOTOS: JULIAN R. HOUGH

Pesticides are among the causes of the 30 percent population decline in North American birds since 1970. Common Grackles have declined by 50 to 78 percent.

For many years, the full impact of pesticides on our lives and on the environment has not been known. Individuals and communities have thought pesticides were an easy way to eradicate bugs and pests of many kinds. However, based on recent research, dangerous chemicals, called neonicotinoids or "neonics," have been linked to slowly wiping out insects, adversely impacting birds, tainting residential drinking water, and getting into the human food supply.

In 2025, the Connecticut Pesticide Reform (CPR), a group of community leaders and accomplished professionals, will address the important issue of pesticides and ask the Connecticut General Assembly to pass a law that will reduce neonics in our environment and help make Connecticut a healthier place to live, work, and play.

A prime goal of a new law will be to dramatically lower the use of neonics on lawns and golf courses, and to reduce farmers' reliance on neonic-coated seeds, especially for corn. Currently, neonics are a restricted use pesticide in Connecticut, which means only licensed applicators—landscapers and golf course operators, generally—can use them; neonics are not available for purchase by individuals.

An additional focus for 2025 will be to make it easier for the public to find and review the data on neonic use that pesticide applicators submit to Connecticut state officials. Certified pesticide applicators in Connecticut now file annual documentation that outlines the amount of pesticides being used, but applicators do not have to report where they're applying the pesticides, and the information is hard for the public to find and make sense of.

Connecticut does not restrict the use of neonic-coated seeds, but New York and Vermont have taken steps to reduce their use.

What Are Neonics And Why Should We Care?

Called the new DDT, the group of pesticides known as neonics are synthetic, neurotoxic chemicals used to control insects and other invertebrates on lawns, gardens, golf courses, farm crops, and in flea and tick pet treatments. It is estimated 50 percent of today's wheat, corn, and soybean seeds are coated with these chemicals. And studies show that one seed can kill a ground-feeding songbird, like a Common Grackle, American Robin, or White-throated Sparrow.

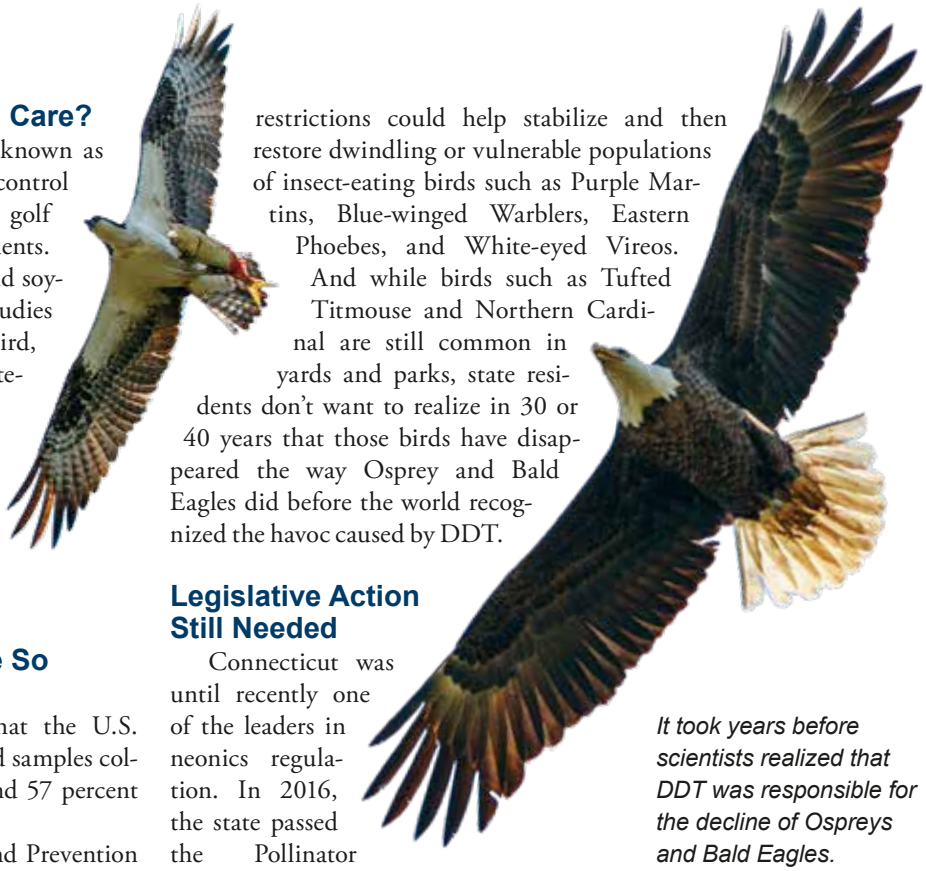
Declines in bees, moths, and other invertebrates have been linked to neonics in many studies compiled by Cornell University and others. The estimated loss of some three billion birds in North America in the last five decades has also been attributed, in part, to these chemicals.

Why Do Scientists Believe Neonics Are So Dangerous?

The Connecticut Pesticide Reform reports that the U.S. Department of Agriculture found 63 percent of food samples collected in the U.S. contained at least one neonic, and 57 percent contained more than one in 2014.

In addition, the Centers for Disease Control and Prevention found neonics in 50 percent of the population tested, with the highest concentration found in children. Neonics are water soluble, and the United States Geological Survey found them in over 50 percent of American waterways, including Connecticut rivers. Chronic, worrisome levels were detected year-round during a decade of testing in the Norwalk River, the watershed of which includes Ridgefield, Redding, Wilton, and Norwalk.

The Connecticut Audubon Society argues that bringing birds back from the 30 percent population decline requires strong, local action on many fronts, including protecting and restoring habitats and reducing the number of birds killed when they fly into windows and buildings—two of the largest causes of bird deaths. Pesticides represent a third major cause of bird deaths. Neonics restrictions could help stabilize and then restore dwindling or vulnerable populations of insect-eating birds such as Purple Martins, Blue-winged Warblers, Eastern Phoebes, and White-eyed Vireos. And while birds such as Tufted Titmouse and Northern Cardinal are still common in yards and parks, state residents don't want to realize in 30 or 40 years that those birds have disappeared the way Osprey and Bald Eagles did before the world recognized the havoc caused by DDT.



It took years before scientists realized that DDT was responsible for the decline of Ospreys and Bald Eagles.

Legislative Action Still Needed

Connecticut was until recently one of the leaders in neonics regulation. In 2016, the state passed the Pollinator Protection Act, which classified neonics as "restricted use." This meant these products could not be purchased in retail stores; only certified applicators were allowed to buy and use them.

Then, in 2022, Connecticut legislators passed Senate Bill 120, banning chlorpyrifos, a neurotoxin pesticide used to control pests on foliage and some soil-borne insects. However, two subsequent attempts to strengthen neonics regulations failed. SB 963 in 2023 passed out of committee but didn't get called for a vote in the Senate, while SB 190 never made it out of committee or received a vote in 2024.

Continued on page 20

Pesticide-free pollinator gardens can be a refuge for insects.

Where Neonics Are Likely Being Used in Connecticut

Neonics are used on lawns by landscapers and on fairways by golf course managers; farmers plant seed corn coated with neonics.

The state of Connecticut does not keep easy-to-access records on the amount of neonics being used in the state or what they are being used on. However, here are the approximate number of acres for turf grass in general, golf courses, and corn:

- Turf grass: 300,000 acres
- Golf courses: between 8,500 and 25,500 acres.
- Corn: 24,000 acres

Connecticut has approximately 170 golf courses, of about 50 to 150 acres. So the total acreage devoted to golf courses in Connecticut is likely to be between 8,500 and 25,500 acres.

According to the Changing Landscape project by the Center for Land Use Education and Research (CLEAR) at the University of Connecticut, turf grass covered approximately 300,000 acres square in Connecticut as of 2006. This includes lawns, parks, cemeteries, sports fields, and golf courses.

According to the most recent U.S. Department of Agriculture data, approximately 24,000 acres of corn are planted yearly in Connecticut.

American Robin *by Milan Bull*

Probably the best known of all American birds, the American Robin is a popular and cheerful songster all across the U.S. Most may spend the winter months in the Southern U.S. and Mexico, but many robins are year-round residents in nearly every state.

Robins are so numerous that the International Union for the Conservation of Nature doesn't even assign them a conservation status. But because they are active invertebrate feeders on farms and lawns, they are susceptible to any of the chemicals landowners may apply, including neonicotinoids. In *Silent Spring*, Rachel Carson wrote about an acute die-off of robins in Michigan in 1954 that turned out to be caused by eating earthworms doused with DDT. Long term exposure to pesticides may impact future populations.

Depending on food availability, thousands of American Robins spend the winter in Connecticut every year. Most of us don't notice them, since they mostly forage in wooded areas that offer winter fruit and berries, spending less time on the ground.

We are most familiar with robins as they patrol lawns and fields in spring and summer, pulling earthworms from the ground. Like many other thrushes, however, they eat a wide variety of fruit such as dogwood berries, holly, winterberry, and others, especially in the winter months when earthworms are generally unavailable. These large, rufous-breasted thrushes are among the most active singers in the spring, when their spirited, rhythmic whistles are well known to nearly everyone but in reality are understood by no one. Their call notes may express suspicion, interrogation, alarm, and caution. Indeed, few of our birds have a more extended vocabulary.

Robins are very often closely associated with people's yards, nesting in the lower branches of trees (often hidden below overhanging leaves), but also in eaves, gutters, and light fixtures. The nest is built by the female with a cup-shaped structure of grass and twigs, lined with fine grasses, sometimes with moss and other materials, then fortified with mud. Usually she lays 3–5 sky blue eggs, which hatch in about 12–14 days. Unlike some other songbirds, robins can produce as many as three broods per year; however, only about 40 percent of the nests are successful.

The parents pluck earthworms and other invertebrates from the ground and carry them to the nest to feed the young. If the area has recently been treated, this can also be an efficient delivery system for neonics. Robins are a familiar and abundant bird now. It took us decades to recognize that DDT was killing Bald Eagles and Ospreys. It's not impossible to imagine discovering in a few decades that neonics are decimating robins.

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Milan Bull is Senior Director of Science and Conservation for the Connecticut Audubon Society *and was the founding editor of Connecticut State of the Birds. He is a member of the Conservation Advisory Council to Connecticut's Department of Energy and Environmental Protection, and was a founding director of the Connecticut Ornithological Association.*

Bobolink *by Ken Elkins*

The Bobolink *(Dolichonyx oryzivorus)* is a migratory bird with a unique appearance and a distinctive, melodious song. Bobolinks used to be commonly found in grasslands, hayfields, and meadows across Connecticut, but their population has been declining in recent years because of habitat loss and pesticide use. Bobolinks eat both insects and seeds, which makes neonicotinoids a particular threat.

They nest on the ground and thrive in a mix of tall, native grasses and wildflowers that provide food and cover. Ideal habitats for Bobolinks are those with limited human interference, where grasses are allowed to grow tall and remain undisturbed, especially during the breeding season, which typically runs from late May through early July.

Bobolinks are medium-sized, about 6-8 inches long with a wingspan of approximately 10-11 inches. The males are particularly striking during breeding season: black plumage on their underparts, white back, and a yellow patch on the back of the head, giving them a reversed "tuxedo" appearance. This makes the male Bobolink easily recognizable when it's perched on a fence post or flying over a meadow. Females and non-breeding males are less conspicuous, exhibiting a warm, buffy brown color with streaks. This coloration provides excellent camouflage.

Even more remarkable than the male Bobolink's plumage is its song. Often described as bubbly, cheerful, and complex, the song is a series of warbling notes that sound mechanical. This intricate melody is often likened to the sound of a music box or typewriter, with a rapid succession of high-pitched notes that cascade and tumble in a series of trills, buzzes, and chirps. Often while singing the males will fly in short bursts above their territory, in a behavior called "skylarking." Both males and females will make their "plink" call notes while perched atop tall grasses. Neonics and other pesticides can have direct toxic effects on the birds themselves. Exposure can result in reduced fertility, impaired motor skills, and weakened immune systems. Bobolinks are indirectly exposed to neonics when they consume contaminated prey, such as grasshoppers or caterpillars.

Exposure can lead to a range of sub-lethal effects as well, including disorientation, reduced immune function, and reproductive problems. By killing insects, neonics deplete an essential food source for Bobolinks, especially during the breeding season when they need to feed their young.

Neonic-coated seeds are also a threat. Seeds are crucial sources of fat reserves for the Bobolink's epic migration—one of the longest of any songbird. Traveling between North America and South American countries such as Argentina, Bolivia, and Paraguay, they cover more than 12,000 miles annually.

To protect Bobolinks in Connecticut, conservationists are promoting habitat preservation and sustainable agricultural practices, including delayed mowing and reduced pesticide use. Stricter regulations on the use of neonics could help immensely. Encouraging the growth of native vegetation can also create safe habitats for these birds. To raise public awareness, there is an annual Bobolink Festival in Durham, a town with important Bobolink habitat. Stronger regulations and efforts to monitor Bobolink populations and encourage responsible land management are crucial to ensuring that these remarkable songsters continue to grace Connecticut's meadows with their presence and their song.

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Ken Elkins is Director of Connecticut Audubon's Coastal Center at Milford Point. He is a former president of the Connecticut Ornithological Association.

How Connecticut's Neighbors Regulate Neonics

A 2016 law in Connecticut restricts the outdoor use of neonicotinoids to certified professionals, including landscapers, golf course managers, and farmers; and imposes no restrictions on the use of coated seeds.

Here's how neighboring states regulate neonics (in all cases, there are exceptions for emergencies and other situations):

New York
A new law bans the outdoor use of neonicotinoids. Starting in 2029, New York will allow the use of treated seeds but only if farmers verify that they are needed.

Rhode Island
The state allows the outdoor use of neonics, but only by certified applicators. It bans the use on plants that are flowering and on basswood trees.

Massachusetts
The state allows neonics to be used on lawns, trees, shrubs, golf courses, and ornamental plants, but only by licensed applicators. Agricultural use is allowed.

Vermont
As of July 1, 2025, Vermont will prohibit the use of neonicotinoid pesticides on ornamental plants. By 2029, coated seeds will be banned.

New Jersey
Allows the use of neonicotinoids only for agriculture; the state requires a license to buy and apply neonics. Neonics are prohibited in home gardens, lawns, landscapes, golf courses, and elsewhere.



Eastern Phoebes, Northern Cardinals, and Purple Martins are examples of common species that would be protected by neonics restrictions before the birds become rare.

Continued from page 17

Louise Washer, a Norwalk resident who now leads the pesticide coalition, said all three bills were supported by CPR and its members. But she said the bills received "strong pushback" from chemical companies and golf course owners and operators. Setbacks like these, Washer said, are not surprising because important bills rarely pass immediately: "They take several years."

In the meantime, some neighboring states have taken stronger action. New York, for example, has outlawed the use of neonicotinoids on lawns, golf courses, and elsewhere outdoors. Starting in 2029, New York will allow the use of treated seeds but only if farmers verify that they are needed. Vermont based its new law on New York's and will also ban neonic-coated seeds starting in 2029; the state has also strictly regulated the use of neonics on outdoor ornamental plants.

What's Next?

CPR has three major working groups focusing on municipalities, education, testing, research, legislative and policy matters, and communications. Washer and her colleagues are seeking more scientific data to build greater awareness and help legislators write and pass a new neonics bill in 2025.

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Bill Hobbs is a contributing writer for Estuary magazine and nature writer for The Times newspapers based in New London. He lives in Stonington.


New York State has banned the outdoor use of neonics, including in parks and in landscaping in general.

The Time to Protect Birds from Insecticides Is Now

ALL PHOTOS: JULIAN R. HOUGH

When the action in Hartford heats up, you can help by speaking out..

The evidence could hardly be more clear that neonicotinoid pesticides are bad for people, bad for birds and pollinators, and bad for rivers and the animals that live in them.

We call on the State of Connecticut to enact a law in 2025 that will reduce neonics in the environment and help make Connecticut a healthier place to live, work, and play.

The new, stronger law should include provisions that lead to a significant reduction in the use of neonics on lawns and golf courses, and a decrease in farmers' reliance on neonic-coated seeds, especially for corn.

There are 3 billion fewer birds than in 1970. Act now to bring them back.

The new law should also require improved public access to data on neonic use. Currently, certified pesticide applicators in Connecticut are required to file annual documentation outlining the amount of pesticides they use. However, they do not have to report where they are applying the pesticides, and the information is not easily accessible, searchable, or understandable to the public.

We can help by avoiding pesticides and creating pollinator gardens.

As recently as 2016, Connecticut was a leader in neonics regulation. It passed the Pollinator Protection Act that year. The act classified neonics as "restricted use," prohibiting their sale in retail stores and allowing only certified applicators to buy and use them.

Since then, New York and Vermont have progressed beyond Connecticut's law. Other nearby states still lag.

By passing a stronger neonics law in 2025, Connecticut can vault itself back among the region's environmental leaders, a position that its residents expect and strongly support.

While we are hopeful of enacting a state law, there are no guarantees. But local governments can take action on their own by banning pesticides on municipal land, as Norwalk and Stamford have done. That would add an extra layer of protection beyond restricting just neonics, and would be a backup in the event of inaction by the State.

When state legislation is introduced, municipalities can help by submitting testimony or letters of support. There are 3 billion fewer birds in North America than in 1970—a 30 percent population decline. The time to protect what remains is now.

Advocate for Birds

You as a Connecticut Audubon member can help by calling on your elected officials to support a stronger neonics law and better environmental laws in general. Scan the QR code to join our coalition of advocates across the state!

To Help, Scan the QR Code And Fill Out the Form.

Thank you!

THE CONNECTICUT Audubon SOCIETY
314 Unquowa Road, Fairfield, CT 06824

EcoTravel *(Essex)* | **Fairfield Nature Center** *(Fairfield)* | **Birdcraft** *(Fairfield)*
Trail Wood *(Hampton)* | **Coastal Center at Milford Point** (*Milford)*
Roger Tory Peterson Estuary Center *(Old Lyme)* | **Center at Pomfret** *(Pomfret)*
Stratford Point *(Stratford)* | **Greater Hartford Area** *(Hartford)* | **Deer Pond Farm** *(Sherman)*