



Putnam Highlands Audubon Society, the local Chapter of National Audubon hopes that Boscobel initiates further studies of the negative effects of using Roundup, a toxic herbicide on its planned meadow restoration project on a 1.8 acre field that sits on its property in Cold Spring/Philipstown. **The field is situated above Audubon’s Constitution Marsh Bird Sanctuary, a designated Audubon Important Bird Area, that is also a New York State Bird Conservation Area, and part of the Hudson River Estuary.**

From **Audubon Magazine, March 15,2022** “The pesticides sprayed on wildlife refuges include controversial chemicals whose impacts on human and environmental health have come into greater focus in recent years. For example, glyphosate, the active ingredient in the widely used herbicide Roundup, [has been linked](#) to higher risk of cancer, birth defects, and a host of other health problems. In 2021, [the EPA found](#) that glyphosate is “likely to adversely affect” 1,676 federally threatened or endangered plants and animals—93 percent of all species evaluated, including 88 birds. “

Glyphosate-based herbicides can affect fish biochemical, physiological, endocrine, and behavioral pathways. Changes in behaviors such as foraging, escaping from predators, and courtship can compromise the survival of species and even communities.

In 1997 the U.S. Fish and Wildlife Service (USFWS) established Key Cave National Wildlife Refuge to protect habitat for the cavefish and the gray bat, both listed as endangered species. Groundwater contamination is among the biggest threats to the cavefish, and one potential source

of that pollution is row-crop agriculture near the cave. “The application of pesticides to these crops may impact the fauna in Key Cave,” the FWS wrote when [it listed the species](#) as endangered in 1988.

Even so, about one-quarter of the 1,060-acre refuge—a designated [Important Bird Area](#) that hosts several avian species in decline, such as Grasshopper Sparrows, Short-eared Owls, Loggerhead Shrikes, and Northern Bobwhites—today is used to grow crops like corn and millet. And despite the acknowledged ecological risks of pesticide contamination, those fields have in recent years been treated with glyphosate, dicamba, and other toxic agricultural chemicals that have been shown to harm wildlife.

In 2020, refuge biologist William Gates alleged, in a complaint to the U.S. Department of the Interior’s Office of the Inspector General, that the way farming was being practiced at Key Cave violated a federal refuge-management law. Interior has not announced any formal response to that complaint.

Key Cave is not alone. Citing concerns about refuges across the country, a pair of advocacy groups in late February formally petitioned the FWS and its parent department, Interior, to ban agricultural pesticides on refuge lands. “The use of harmful agricultural pesticides to grow commercial row crops such as corn and soybeans on national wildlife refuges—the only public lands where wildlife must come first—defeats the objectives of the Refuge System and poses a significant threat to the species that rely on these refuges and the habitats that they provide,” the Center for Biological Diversity and the Center for Food Safety [argue in the petition](#), which also raises concerns about the health impacts on refuge workers and visitors. A spokesperson said the FWS is aware of the petition but declined to answer questions from *Audubon*.

New Study Shows Roundup Kills Bees/Sierra Club *by Austin*

Price/sierra/authors/austin-price

The most widely used herbicide in the world kills honeybees; according to a new report. Glyphosate, an herbicide an ingredient in Monsanto's (now Bayer's) Roundup weed killer, targets enzymes long assumed to be found only in plants. The product is advertised as being innocuous to wildlife. But some bacteria also use this enzyme including a microbiome found in the intestines of most bees. When pollinators come in contact with glyphosate, the chemical reduces this gut bacteria, leaving bees vulnerable to pathogens and premature death.

“the bee itself has no molecular targets from glyphosate,” Nancy Moran, a biologist at the University of Texas and a co-author of the study, told *Environmental Health News* (<https://www.ehn.org/monsanto-herbicide-roundup-hurts-bees-2607605097.html?rebellitem=1#rebellitem1>). But its gut bacteria do have targets. Moran and other scientists liken glyphosate exposure to taking too many antibiotics and upsetting the balance of good bacteria that supports immunity and digestion.

More studies: *Proceedings of the National Academy of Sciences*

Roundup is banned in more than 20 countries because the herbicide has been linked to an increased risk of non-Hodgkin lymphoma and other types of cancer. Arizona: Tucson requires city property to use organic weed control. California: Several cities, including Burbank, Carlsbad, Encinitas, Petaluma, Richmond, Thousand Oaks, and more, have banned or restricted glyphosate use.

Many countries have issued outright bans on glyphosate, imposed restrictions or have issued statements of intention to ban or restrict glyphosate-based herbicides, including Roundup, over health concerns and the evidence uncovered in the [Roundup cancer litigation](#) proving the weed killer's link to cancer.

In July of 2021, Bayer announced that it will stop selling its glyphosate-based Roundup™ herbicides in the United States Lawn & Garden residential market beginning in 2023.

“Effects of the herbicide glyphosate on fish from embryos to adults: a review addressing behavior patterns and mechanisms behind them.

The use of agrochemicals has grown in recent years following the increase in agricultural productivity, to eliminate weeds that can compromise crop yields. The intensive use of these products combined with the lack of treatment of agricultural wastewater is causing contamination of the natural environments, especially the aquatics. Glyphosate [N-(phosphonomethyl) glycine] is the most commonly used herbicide in agriculture worldwide. Studies have shown that this compound is toxic to a variety of fish species at the concentrations of environmental relevance. Glyphosate-based herbicides can affect fish biochemical, physiological, endocrine, and behavioral pathways. Changes in behaviors such as foraging, escaping from predators, and courtship can compromise the survival of species and even communities. The behavior patterns of fish has been shown to be a sensitive tool for risk assessment. In this sense, this review summarizes and discusses the toxic effects of glyphosate and its formulations on the behavior of fish in different life stages. Additionally, behavioral impairments were associated with other negative effects of glyphosate such as energy imbalance, stress responses, AChE inhibition, and physiological and endocrine disturbances, which are evidenced and described in the literature.” *Graphical abstract. Aquat Toxicol*

2022 Oct;251:106281. doi: 10.1016/j.aquatox.2022.106281. Epub 2022 Aug 27..

Included here is an article by Graham Cox, former Staff member of Audubon New York State, of which PHAS is a Chapter. Graham is currently *A Board Member of the Pelican Island Audubon Society.*

“The Florida Fish and Wildlife Conservation Commission is conducting five hearings across Florida for public comment on suspending the use of aquatic-herbicide treatment on state waters and wetlands. Pelican Island Audubon Society has urged FWC to make this ban permanent as an example to other water-management entities, all regular users of herbicides, including Roundup.

At the FWC hearing in Okeechobee on Feb. 7, I reviewed overwhelming scientific evidence, including the March 2015 conclusions of the World Health Organization and its International Agency for Research on Cancer, that glyphosate — the principle ingredient of Roundup — is a "probable human carcinogen" and, most likely, a cause of non-Hodgkin's Lymphoma.

The Audubon Society urged FWC to carefully read a recently published book by Carey Gillam titled "Whitewash." It outlines the political response and pressures FWC may expect from agrochemical industrial giants, Monsanto in particular, for questioning their claims glyphosate is a safe product that is not carcinogenic.

More: [FWC Roundup ban a step in the right direction](#)

Pelican Island Audubon Society's interest in the harm caused by Roundup/glyphosate began with concern for the health of the Indian River Lagoon, the sink for all pollutants detected in its tributary canals and rivers such as the St. Sebastian and St. Lucie. Herbicides and pesticides, including glyphosate, have been identified as “contaminants of emerging concern” in the Lagoon Council's 2018 draft comprehensive conservation and management plan.

Lagoon pollutants, in addition to nitrogen and phosphorous, include pesticides and herbicides that stimulate algal blooms and appear in necropsies of the bodies of dolphins and manatees. The Audubon Society has told the Lagoon Council that one single step that can be taken immediately to reduce pollution of the lagoon is simply to stop spraying Roundup and other toxic chemicals on the wetlands, canals and rivers that drain into the lagoon.

The subtitle of Gillam's book is "The story of a weed killer, cancer and the corruption of science," which tells all. Gillam documents the science, research and conclusions that link a multitude of human diseases with the wholesale application of thousands of tons per year of herbicides, particularly glyphosate, on our fields, orchards, wetlands and waterways, as well as on roadsides and utility rights of way.

It documents the tragedy — to our farmers, farm workers and our food — of vigorously promoting Roundup-Ready crops and the development of genetically modified organisms, all in the name of corporate profit and at the expense of human and environmental health.

It is unfortunate that the developers and salesmen of glyphosate have hidden their data under the pretense of trade secrets. They have bullied good scientists to cover their deceptions. They have influenced and bullied the regulatory agencies, including the EPA, FDA and USDA, so that the regulators repeat the same deceptions as the agrochemical corporations.

The widespread, indiscriminate use of Roundup has led to what we might expect — depleted soil fertility and, at the same time, mutations in the weeds so that, for example, farmers in Iowa are now faced with new problems: how to restore soil fertility while reclaiming their fields from monster weeds.

Since scientists with the World Health Organization/International Agency for Research on Cancer concluded that glyphosate is a probable carcinogen, the controversy has raged across North and South America and Europe. In Europe, the human and ecological damage has been taken seriously. Tolerance limits have been set and Roundup-Ready and GMO crops restricted or banned. In Italy, spraying Roundup® in public spaces — playgrounds, school yards, parks — has been banned altogether.

"The United States should follow their example. "

In Summation

Putnam Highland Audubon Society concludes that the use of Glyphosate to restore a meadow that is adjacent and sits above an Audubon Important Bird Area and New York Bird Conservation Area deserves further research on the possibilities of negative environmental effects to various organisms and wildlife and adjacent Audubon Sanctuary lands.

In their Application to the Town Conservation Board by Boscobel there was no mention of the proximity to the Sanctuary or its protective status.

We pose the following questions for starters:

What are the concentrations of glyphosate being proposed?

What is the time frame, schedule? How will it be dispensed?

Is there any possibility of it entering the marsh through groundwater or through seepage or runoff?

Have you considered new research that shows glyphosate is also taken up into algae as well as other plants, and its half-life is 41-99 days?

Has new research on this subject been considered? What are the monitoring plans for the above?

We submit these comments for your consideration. While we support meadow restorations doing so without adding more herbicides to our environment and possibly harming habitats of special concern should be a goal. It would also serve as a wonderful education opportunity for Boscobel to showcase to the many gardeners that come to visit and learn gardening.

With respect,

Connie Mayer, Conservation Chair

Putnam Highlands Audubon Society