FINGER LAKES
REGIONAL
WATERSHED ALLIANCE

Senator Rachel May
198 State St.
Suite 803
Albany, NY 12247

RE: Birds and Bees Protection Act

April 21, 2023

Dear Senator May,

The Finger Lakes Regional Watershed Alliance (FLRWA) was established in 2010 to share beneficial information among its eleven associated lakes and to give common voice when issues of deep concern to lake waters and watersheds arise. This is one of those issues.

Our Political Education Committee met with you on March 17, 2023, to discuss the value of water quality in the Finger Lakes. During that meeting, we also discussed the Birds and Bees Protection Act, being proposed as Senate bill S1856. This act proposes to amend the NYS Environmental Conservation Law to provide regulations on the use of neonicotinoid insecticides.

Our committee has reviewed scores of scientific studies on neonicotinoid insecticides, with a focus on understanding the benefits and costs of these compounds to the economy and the environment. Our purpose was to reach an informed opinion about the proposed legislation.

This letter and enclosed addendum are the result of our extensive research. On April 17, 2023, the FLRWA Board of Directors voted to support the passage of the Birds and Bees Protection Act, and to encourage you to vote in favor of it. We believe this important legislation will help protect the health of our watersheds for future generations. Thank you for considering our opinion on this proposed legislation.

FLRWA is mindful of difficulties this legislation could impose on farmers who use seeds coated with neonicotinoid insecticides. Recognizing the adoption of this legislation will require a big shift in the way the agricultural community farms their land, we are also encouraging our representatives to consider supporting farmers by connecting them with the resources they will need to implement a transition to noncoated seeds. There are alternatives that have proven to be effective and economically feasible.

Thank you for your efforts and concern in protecting the environmental and economic resources of our state. It is a wonderful area in which to live, and it must be protected, not only for ourselves but for future generations as well.

Sincerely,

Margaret G. Creamer

Margie Creamer
Chair, Finger Lakes Regional Watershed Alliance

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The Argument for Banning Neonicotinoids as Outlined in the Birds and Bees Protection Act

At the time of their development in the 1990s and early 2000s, neonicotinoids were viewed as a welcome replacement for the much more toxic and environmentally dangerous organophosphates, carbamates, and organochlorine insecticides. Neonicotinoids have recognizable and irresistible benefits. They are systemic toxins, which means they are transported into all plant tissues and provide protection against a wide array of insect pests, a fact which can lead to a reduction in the number of insecticide applications in fields facing intense pest pressure. At reasonable concentrations, they target mainly insects and related taxa, and they are largely safe for many other species, including humans. Had they been used judiciously as one component of an integrated pest management (IPM) strategy, there would be no need to ban their use except under conditions where there are no other options readily available.

Instead, neonicotinoid-coated seeds were sold to farmers as an insurance policy against the possibility that their crops might become infested, even if that possibility was remote. Several national and international studies, including a very comprehensive report published in 2020 by a team of scientists at Cornell University, demonstrate that the economic benefits of corn and soybean seed coats are minimal at best, and are often beneficial only when a field endures high pressure from several pest species.[1,2] That is not typical of New York farm fields. While they may protect a farm against an unanticipated insect attack, their benefits as an insurance policy against these relatively rare occurrences are grossly outweighed by the clear and unrelenting damage they inflict on the environment. There are occasions when neonicotinoid insecticides are the only course of action against invasive pests, like the spotted lantern fly and the hemlock woolly adelgid, which attack fruit and forest trees. This bill will not prohibit the use of these insecticides under emergency circumstances.

Point 1: Prophylactic seed and turf/ornamental plant treatments with neonicotinoid insecticides in the absence of an integrated pest management strategy is an economically and environmentally unsound practice.

There are significant negative outcomes from the use of neonicotinoids in insect control. One is that non-target species (not insect pests) are adversely affected. Harmless insects, including our economically-vital pollinators, as well as useful insects that serve as biological controls of insect pests, are being lost in large and economically-unsustainable numbers.[3] The numbers of birds and bird diversity are likewise threatened.[4] The US EPA determined in 2022 that between 1,225 and 1,445 endangered plant and animal species (67-79%) are likely adversely affected by neonicotinoids.[5]

Since 90-95% of the insecticide applied to the seed coat remains in the soil instead of in the plant, it alters soil health, infiltrates nearby non-crop plants, and eventually washes into groundwater and surface water. Neonicotinoids degrade slowly, and they are persistent, so repeated use year after year creates toxic landscapes and waterscapes. One study shows that U.S. farmlands are now 48 times more toxic to all insect species than they were in the 1990s.[6] Conservative estimates are that more than **90 tons** of these insecticides accumulate in New York farmlands, green spaces, and bodies of water each year.[1]

Point 2: The New York landscape has become toxic to harmless and economically-beneficial species of insects, including pollinators that contribute $400 million to the NY economy.

Because of their persistence and high-level water solubility, neonicotinoids are now prevalent in dangerously high concentrations in most lakes and streams in the U.S. and worldwide.[7,8] The presence of these toxins is causing a loss of vital invertebrate species that form the foundation of the entire freshwater aquatic ecosystem, adversely affecting macroinvertebrates, fish, amphibians, birds and mammals.[9,10] Furthermore, neonicotinoids have been detected worldwide in well water as well as raw and finished municipal drinking water. Recent studies show that most routine drinking water treatments remove only a fraction of neonicotinoids, and that significant removal requires advanced granular activated carbon filtration not available to many small and rural municipalities.[11,12] There is some evidence to suggest that chlorinating certain neonicotinoid formulations may create more toxic end-products. The Finger Lakes provide 780,000 residents with drinking water, and they support more than $3 billion in tourism spending, providing employment for more than 58,000 New Yorkers. This resource is at risk.

Point 3: Neonicotinoid insecticides have entered the aquatic environment in high enough concentrations to threaten entire aquatic ecosystems as well as drinking water supplies.

There is one additional argument for banning these products. A recent study showed that nearly 50% of human subjects tested, including children as young as three years of age, had urine samples that contained neonicotinoids.[13] Earlier generations of insecticides were topical, and could be washed off the surfaces of fruits and vegetables. Systemic neonicotinoids infiltrate the plant tissues and are consumed when eaten. Studies of these compounds on experimental mammals suggest several potential health problems, including risks to human reproduction and the development of the brain, particularly in fetuses and children.[14,15,16]

Point 4: Due to their pervasiveness and high concentrations in food and water, neonicotinoids now pose a risk to human health.

Neonicotinoids are banned in many European countries and in Canada, and there is little evidence at this time for adverse economic impacts.[17] The NYSDEC has prohibited their use in some downstate counties due to water table concerns. The agency has banned one neonicotinoid formulation, chlothianidin, from being applied anywhere in NYS as a spray for agricultural, commercial and homeowner use because of concerns about groundwater contamination and risks to fish and wildlife. However, the agency is unable to restrict its use as a seed coat. The USEPA has chosen to provide all neonicotinoid-coated seeds with a FIFRA exemption as “treated articles or substances.” This means that nearly 70 tons (of the 90 ton total) of neonicotinoid insecticides that enter NY soil and water each year from coated seeds cannot be regulated, or even monitored, as pesticides.[18] The Birds and Bees Protection Act will close this loophole, at least in New York State.

A ban on the use of neonicotinoid insecticides as defined by the Birds and Bees Protection Act will impose some hardships on some farmers and turf growers who believe they have few if any alternatives available to them. However, incorporating Integrated Pest Management (IPM) strategies have been proven to produce better crop yields than seed application while also significantly

improving the welfare of pollinators, the quality of food, and the preservation of aquatic and terrestrial environments.[19,20] The core feature of Integrated Pest Management is to use insecticides as a last resort, and only after the pests have been identified and it has been determined that they pose an undue economic penalty. Insecticides are then employed in a targeted, economically-feasible, and environmentally-sensitive fashion.[21]

Point 5: Alternatives to the unnecessary use of neonicotinoids do exist, and they need to be employed to protect the ecology and the economy of the Finger Lakes region.

Weighing the largely insignificant economic benefits to New York farmers against the considerable environmental detriments, there is simply no good reason for farmers to continue to use neonicotinoid-treated corn, soybean and wheat seeds. A similar argument can be made for their use on turf and ornamental plants, unless environmental emergencies dictate their usage. The bill provides this safety measure.

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