AMERICAN BIRD CONSERVANCY

Agriculture & Natural Resources Committee
Colorado State Senate
200 E Colfax Avenue
Denver, CO 80203

13 April, 2023

Re: American Bird Conservancy SUPPORTS SB23-266

Dear Senators,

American Bird Conservancy and our 3,200 supporters in Colorado strongly support SB23-266, a bill to designate neonicotinoid pesticides as limited-use pesticides.

It is estimated that as much as 80 million pounds are applied to the lawns and gardens of Americans every year. Colorado State University Extension estimates that as much as 9 million pounds of pesticides are used in the State of Colorado alone, a significant portion of which is in non-agricultural applications. Though neonicotinoids should be phased out across all sectors, a commonsense and effective measure to reclassify them as restricted-use pesticides, meaning only certified pesticide applicators are able to access them.

North America is currently in the middle of a massive loss of biodiversity; there are three billion fewer birds today than in 1970.[1] A new report from the scientific non-profit NatureServe estimates that 34% of plants and 40% of animals in the United States are at risk of extinction.[2] Additionally, Colorado Parks and Wildlife lists 19 different species of bird as Endangered, Threatened, or of Special Concern.[3] Through direct and indirect effects, pesticide use poses risks to each and all of these species.

Colorado birds such as Lark Buntings, Broad-tailed Hummingbirds, and Broad-winged Hawks are all threatened by a particularly devasting class of insecticides called neonicotinoids. **Neonics are highly water soluble, meaning they easily travel via water and contaminate soil, groundwater, and surface water by this mechanism. Neonics are highly persistent, potentially remaining active in soil for as long as three years.[4]**

A single seed coated with a neonic is enough to kill a bird,[5] making them directly dangerous to wildlife, but they are even more damaging when they contaminate soil and waterways. Nontarget invertebrates like moths, caterpillars, may and caddisflies, and other organisms are both highly sensitive to neonics and frequently killed by them inordinately.

Endangered Prairie Chickens and Gunnison Sage-Grouse rely upon insects during breeding season, while Mountain Plovers and Brown-capped Rosy Finches sustain their chicks off of caterpillars and worms. These organisms are important food sources for birds and may result in loss of bird populations for decades to come.[6]

P.O. Box 249, The Plains, VA 20198 (regular, registered, or certified mail)
8255 E. Main Street, Suites D & E, Marshall, VA 20115 (physical address; use for deliveries)
tel: **540-253-5780** | fax: **540-253-5782** | email: **info@abcbirds.org** | website: **abcbirds.org**

AMERICAN BIRD CONSERVANCY

Additionally, loss of birds due to overuse of pesticides is not only an ecological issue, it is an economic issue. Wildlife viewing is estimated to bring in nearly $1.5 billion to Colorado every year, and with the State's important positioning in the Central flyway, it is a magnet to bird watchers from across the world.

Restricting non-agricultural neonicotinoids to only certified pesticide applicators will decrease the toxic pesticide load which currently threatens the birds, ecosystems, and people of Colorado.

American Bird Conservancy strongly supports SB23-266 and encourages aye votes and a favorable committee report.

For clarification or more information please do not hesitate to reach out.

Sincerely,

E. Hardy Kern III

E. Hardy Kern III
Director of Government Relations,
Pesticides and Birds Campaign
American Bird Conservancy
ehardykern@abcbirds.org
412.337.4673

Lark Bunting

Broad-Tailed Hummingbird

Gunnison Sage-Grouse

[1] Rosenberg, K. et al. (2019). Decline of the North American avifauna. *Science*, 366.
[2] https://www.natureserve.org/sites/default/files/NatureServe_BiodiversityInFocusReport_medium.pdf
[3] https://cpw.state.co.us/learn/pages/soc-threatenedendangeredlist.aspx
[4] Bonmatin, J.M. et al. (2015) Environmental fate and exposure; neonicotinoids and fipronil. *Environmental Science and Pollution Research, 22*. DOI 10.1007/s11356-014-3332-7
[5] https://abcbirds.org/wp-content/uploads/2015/05/Neonic_FINAL.pdf
[6] https://abcbirds.org/blog/insect-freefall/#:~:text=Dropping%20insect%20populations%20impact%20many,to%20be%20particularly%20hard%20hit.

Hello,

Thank you, Senate Agriculture and Natural Resources Committee, for reading my testimony. I am Dr. Christy Briles an Associate Professor at CU Denver and environmental scientist that runs the CU Denver Bee Project. I am a second-generation Coloradoan and grew up on a farm in Montrose. Pollinators and pollination have been extremely important in my life and now in my career as an academic. First, I grew up surrounded by agricultural crops. As a young kid, I fondly remember a beekeeper bringing bee boards to place in our barn for the alfalfa bees, those crazy bees making their nests in siding vent holes of our house, and using my first digital camera to snap pictures of pollinators in our pasture. But, something happened as I became older…there were fewer and fewer pollinators to observe as alfalfa fields were replaced by monocultures of crops and the arial pesticide spraying became more frequent through the growing season. Then came the honeybee collapse of the mid-2000s as I was a graduate student at the University of Oregon. I studied pollen, and its many uses in environmental reconstruction, geolocation and authentication, and environmental monitoring. When I finally made it back to Colorado for my academic position in 2013, I decided to build a research program around these topics, and specifically, understanding resource availability for bees in harsh environments (e.g. semi-arid, urban, agricultural mono-cultures, contaminated). We use both non-native and native bees in our research. We currently have honeybee hives in downtown Denver on Auraria campus and in several suburban locations around Littleton.

In 2019, I placed four research honeybee hives on our family farm in Montrose, Colorado. I also registered the hives on Field/Bee Watch so that I would get notified of any pesticide spraying around the hives. The hives in Montrose were surrounded by corn crops. I do not know for sure if the corn seed planted in the surrounding crops were coated with neonics or not, but there were many arial spraying events that occurred which I was notified about. When I was notified of the arial spraying events, I closed the hives to keep the bees in their home. We had several significant die-offs too due to unannounced and unknown spray events. While some bees survived it knocked the colony's population and health down to a point that they never recovered. We had to remove the hives from the Montrose farm when Covid started, and my father had to sell the house due to his health and age. However, the pesticide spraying, and the lack of adequate forage, made it very difficult to maintain honeybee colonies in Montrose and Covid was just the straw the broke the camel's back.

I also had honeybee colony die-off's due to residential pesticide spraying in the Littleton area. The main use of pesticides in the urban and suburban area appears to be to control Japanese beetles. When I get calls from city government that they will be spraying near our hives, they are using acelepryn (not as harmful to bees as most pesticides). However, we found that the common application suggested to homeowners to control beetles by big box garden stores is Sevin (carbaryl), which is banned in the EU because of it's toxicity to bees. Yet, some local garden stores around the area were recommending neonics (e.g., imidacloprid). Of course, suburban neighborhoods are continually targeted by solicitors from various pesticide spraying companies that try to get you to sign up for routine services to eliminate insects from your home. While I have tried to get information on what they are using, they are not forthcoming, and the inquiry typically sends them on their merry way. I think a limited-use ban would help protect our pollinators from some of the more harmful pesticides, the neonics, but I also would like to see carbaryl and other pesticides that other countries have banned considered too.

In summary, I am a firm supporter of this bill, and any bill, that helps protect our beneficial insects in Colorado.

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Dr. Christy Briles

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Thanks,

Dr. Christy Briles

April 10, 2023

The Honorable Dylan Roberts, Chair
The Honorable Nick Hinrichsen, Vice-Chair
Senate Committee on Agriculture and Natural Resources
200 E Colfax Avenue
Denver, CO 80203

RE: SB 23-266 (Priola): Neonicotinoids - Oppose

Dear Chair Roberts, Vice-Chair Hinrichsen, and Members of the Committee on Agriculture and Natural Resources:

On behalf of the Household & Commercial Products Association (HCPA)[1], I respectfully write to oppose Senate Bill SB 23-266, which seeks to adopt restrictions on common and important pest management options using the neonicotinoid class of pesticides.

Consumer pest products allow Colorado residents in all communities the ability to clean and protect their homes with safe and affordable products against a variety of public health pests. Without access to such products, consumers must choose between taking no action against these pests or paying someone to perform services.

Neonicotinoids are a class of neuro-active insecticides (acetamiprid, clothianidin, dinotefuran, imidacloprid, nitenpyram, nithiazine, thiamethoxam) available commercially for use in crop and animal agriculture, urban landscapes, domestic settings, and around structures. Neonicotinoids were developed in large part because they are both effective and a safer alternative to previously used organophosphate and carbamate insecticides.

Follow the Science

HCPA member companies manufacture neonicotinoid-based products which are used for several common insect pest management applications, including addressing ants, bed bugs, flies, stink bugs, cockroaches, grubs, and certain invasive species. Additionally, neonicotinoid products are used for controlling pet (dog and cat) insect pests. All of these applications have been evaluated by the U.S. Environmental Protection Agency (EPA). EPA risk assessments focus on both ecological and human health effects – a process guided by scientific advisory panels.

[1] HCPA is the premier trade association representing the interests of companies engaged in the manufacture, formulation, distribution, and sale of more than $180 billion annually in the U.S. of familiar consumer products that help household and institutional customers create cleaner and healthier environments. HCPA member companies employ hundreds of thousands of people globally. Products HCPA represents include disinfectants that kill germs in homes, hospitals, and restaurants; air fresheners, room deodorizers, and candles that eliminate odors; pest management products for home, lawn and garden, and pets; cleaning products and polishes for use throughout the home and institutions; products used to protect and improve the performance and appearance of automobiles; aerosol products and a host of other products used every day.

Specifically, under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), the EPA reviews all current pesticide registrations to ensure they continue to meet the protective FIFRA risk standard in light of new information and evolving science. EPA is currently undertaking registration review of the class of neonicotinoids and expects to have to interim decisions for each category in this class by 2024. The EPA recently released the draft biological evaluations which determine whether they may affect one or more species listed under the Endangered Species Act (ESA) or their designated critical habitats. HCPA believes the nuanced scientific evaluations of various applications and uses of these pesticides is best left to the rigorous process at the US EPA.

A comprehensive report by U.S. Department of Agriculture (USDA) and the USDA National Agricultural Statistics Service (NASS) describe a broad range of issues or "stressors" negatively affecting bees, including habitat loss, parasites and diseases, lack of genetic diversity, climate change, pesticides, reduced forage options and pathogens. The research and data collected nationally and specific to Colorado shows the leading stressor to honeybee colonies is overwhelmingly varroa mites. Any legislation seeking to protect pollinator populations that ignores the most influential stressors will not be successful.

EPA's Pollinator Protection Plan sets forth methods of using neonicotinoids and other products to further reduce the risk of exposure to pollinators. We urge lawmakers to recognize the EPA Pollinator Protection Plan and allow the federal and state regulatory system to continue to regulate the use of pesticides. The U.S. EPA and the state regulatory agencies are in strong positions to determine appropriate pesticide use through continued evaluation of the latest scientific findings on pollinators, the environment and public health. We believe members of the legislature should avoid undermining this process by prejudging outcomes in proposed legislation.

Public Policy Approach is Inverted

HCPA appreciates the recognition within the bill that different application and use types are important to distinguish, such as pet products and indoor use. Not all products or uses are the same. However, the approach SB 23-266 uses to regulate neonicotinoids is flawed because it seeks to ban all forms of the insecticide, and then attempts to enumerate all the possible instances that would be acceptable for use – presumably because it won't impact pollinators. This approach assumes the legislature will successfully identify and capture all the possible uses it believes is appropriate. It also forces any future innovation that meets this arbitrary standard to seek approval by the legislature.

For example, this bill would *prohibit*:

- Indoor use, such as gels for ant control;
- Fly traps used in and around structures;
- Perimeter treatment to stop pests from entering homes and structures;
- Consumer baits for roaches, flies and ants such as granular scatter bait used outdoors;

The prohibition of sales would become law without evidence that any of the uses cited above would result in significant interactions with pollinators.

It should be incumbent upon the legislature to identify in the law what specific insecticide *uses* it believes are contributing to the stated problem(s). As a matter of public policy this approach would be more manageable and allow for a robust discussion about those uses and the science around them, including ecological impacts. California legislators took this approach when considering this issue last year.[2] It is worth noting the California Governor vetoed that measure because he believes these complex scientific evaluations are best handled at the department level.

[2] AB 2146, Bauer-Kahan (2022)

The safety of consumers is the highest priority for HCPA members. HCPA member companies manufacture products that are safe when used according to the directions on the label. Manufacturers are continuously focusing on the safety of products and packaging, as well as helping to prevent improper use of their products. Users are encouraged to determine the most appropriate product for the need, and to read and follow all label directions.

We support initiatives to promote pollinator health and believe its complexity calls for thoughtful, stakeholder engaged solutions. We support continued research on the risks to bee health and readily acknowledge the critical importance of pollinators to our ecosystem and economy, however, in recognition of the work by the US EPA and lack of adequate science to support the measure, HCPA respectfully opposes SB 23-266.

I welcome any opportunity to discuss these concerns and can be reached at cfinarelli@thehcpa.org.

Sincerely,

Christopher Finarelli
Director, State Government Relations & Public Policy - Western Region

Thank you Senator Roberts and the rest of the Senate Agriculture Committee

My name is Beth Conrey and I own Bee Squared Apiaries—a beekeeping operation with approximately 200 colonies from Denver to Wellington. I keep bees for my living.

I appreciate the opportunity to provide written testimony IN SUPPORT of SB23-266—Neonic Pesticides as Limited-Use Pesticides.

Neonicotinoids were introduced in the mid-1990's as the latest in the non-stop pesticide solution for American Farming. They were touted as being less harmful to mammals as well as being more effective on crop pests than the previous class of chemicals that they replaced due to overuse and subsequent pest resistance. They are currently the most widely used pesticide in the US and they are proving to be neither more effective nor less toxic. Current estimates conclude that US agriculture is 50 times more toxic than before their introduction.

The impacts of neonicotinoids on honey bees and other bee species have been exhaustively studied since their introduction. The following impacts have been observed:

1. Neonicotinoids are used prophylactically on over 130 million acres of American cropland. This overuse has resulted in widespread contamination of waters and soils as well as fast-tracked insect resistance.
2. Neonics are typically used as seed coatings. As the seed grows, the coatings are taken up through the plant via its vascular system. Minute quantities of these pesticides are therefore present throughout the entire plant. This includes the nectar and the pollen. Bees require nectar and pollen to survive.
3. Contamination of their key foods has resulted in a variety of "synergistic and sub-lethal effects" including the inability to properly navigate to and from the hive; reduced queen fecundity; reduced drone sperm viability; and reduced learning resulting in decreased foraging success and hive productivity.
4. The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) exempts seed coatings under a "treated article exemption" so most US neonicotinoid use is fully unregulated.

Honey bees reflect the losses found in other insect species—40% annually. Insects and soil are the key ingredients to the success of every terrestrial life form on the planet! From amphibians to birds, to small and large mammals—insect dependent population numbers have plummeted. Most of these declines have been exacerbated since the introduction and subsequent overuse of neonicotinoids.

Given their overwhelming toxicity, it is important that those who use these products have proper training and protective equipment. In Colorado, this is required of regulated pesticide applicators. It is time to get these products out of the hands of the inexperienced and untrained.

Join me in supporting SB23-266 and remove neonicotinoid availability from the average citizen.

Senate Agriculture & Natural Resources
04/13/2023 01:30 PM
SB23-266 Neonic Pesticides As Limited-use Pesticides
Typed Text of Testimony Submitted

Name, Position, Representing	Typed Text of Testimony
Ingrid Moore For themself	I am 75 years old. When I was a small child the city used to send a fogger truck down the streets of our neighborhood fogging for mosquitos. I and the other kids used to have great fun playing in the fog! But the fog was DDT. According to a study in National Geographic, neonics are at least 1000 times more toxic to bees and other pollinators than DDT. Now as an adult I am actively trying to avoid exposure. Despite what the Ag Chemical Industry claims, we CAN produce food, have gardens and lawns, and live happy lives without this pesticide! Non-chemical and chemical alternatives exist. You already know the scientific reasons for limiting the use of these poisons. I urge you to support this bill.
Keng-Lou Hung For themself	Dear Committee, My name is Keng-Lou Hung, and I'm a pollinator biologist who has done research on the topic of neonicotinoid applications in pollinator-dependent crops. Neonicotinoids can be effectively applied to control invertebrate pests while circumventing the problem of non-target impacts associated with indiscriminate spray applications. However, neonicotinoids are by no means risk-free for beneficial organisms in our environment, including key insect pollinators and important soil invertebrates. When used incorrectly or at doses that are too high, these chemicals can leach into the environment and accumulate in plant tissue to the detriment of pollinators, as well as pollute soils and watersheds. My opinion is that the use of such chemicals should be left to professionals with requisite training and certification to properly apply the them in the correct contexts and at the right dosage. Doing so will be an important step in maintaining healthy populations of invertebrates (including native pollinators) in Colorado, many of which may already be under threat from anthropogenic impacts. Thank you for your consideration. Dr. Keng-Lou Hung
Virva Aryan For themself	My name is Virva Aryan, and I am both a Environmental Science masters candidate at the University of Colorado Denver and a working professional in the compostable products industry. In both my professional and academic experience, the instances of global pollinator population decline has been a growing concern, and one we should address immediately.

	Despite the services and economic value pollinating insects bring to agriculture and food production, they are indicators of ecosystem health and biodiversity. They face numerous threats to their fitness and survival, including from neonics exposure from agricultural activity. I conducted a literature review on the effects of neonics on native pollinators, like bumblebees. In the research I saw, neonics are acutely toxic to exposed pollinators. Particular to bumble bees, cellular responses have included altered gene expression via mitochondrial dysfunction (Camp and Lehmann 2021). After bumble bees have been exposed to neonicotinoids, studies have shown increased detoxification gene expression in both workers and drones of bumble bee species Bombus impatiens. Further studies revealed reduced immune responses in bumble bees, measured by increased antimicrobial peptide activity and reduced hydrogen peroxide production after neonicotinoid exposure. Other cellular responses analyzed include lower functioning rates of pathways responsible for production of fatty acid and juvenile hormones, which regulate normal development, metamorphosis and reproduction in bumble bees (Camp and Lehmann 2021). Lastly, it was discovered that bumble bees are unable to detect neonicotinoids in pollen and nectar, leading to undeterred exposure in agricultural fields. Hopefully this written testimony can provide information on how toxic neonics are to native pollinators, and that limiting their use will be fully considered. Thank you for your time.
Brittany Morrow For themself	My name is Brittany Morrow, an environmental science and natural resource professional finishing an M.S. degree at the University of Colorado Denver. I have a decade of education and experience in the field, and one of the most consistent points of interest and issue throughout that time has been the importance of pollinators and the threats facing them. Pollinating insects drive our agricultural economy and are integral to the health and beauty of our landscapes – both natural and urban. Their importance cannot be overstated. The critical services which pollinators provide, both to humans and the natural beauty that we value, are under threat from the overuse of neonic pesticides. Limiting these chemicals is crucial to the health of our land, our economy, and ourselves. I fully support the proposed limitations encompassed in this bill.

4/12/2023

Dear Chairman Roberts,

Thank you for the opportunity to submit written testimony to the Senate Agriculture & Natural Resources Committee and share my support for SB23-266. As the President and Vice President of the Colorado Law Animal Legal Defense Fund at the University of Colorado Law School, we are writing on behalf of ourselves and the members of our organization. This bill is particularly important to us because it will help protect the native insects of Colorado and help stabilize struggling ecosystems.

We are currently living through an age of climate change, ecosystem collapse, and plummeting biodiversity. These problems, among others, amplify each other and create a positive feedback loop that worsens them all. While estimates vary, some experts believe that the present rate of extinction is as high as 10,000 times greater than the natural extinction rate.[1] But the extinction of bees would be especially disastrous. As keystone species, they have outsize importance in their ecosystems. Specifically, bees are responsible for the pollination of between 60-90% of all flowering plants.[2] Those plants and the animals that depend on them need native pollinators like bees to survive. Despite their importance, various species of bee have been repeatedly denied the protection that they deserve.[3] Now, neonicotinoids are wreaking havoc on bee populations across the country. Even optimistically, these pesticides contributed to the 72% decline of western bumblebee populations around the Rocky Mountains in Colorado.[4]

Now, Colorado has the opportunity to take affirmative steps to prevent these unsustainable pollinator die-offs. Overapplication of these insecticides has contributed to die-offs and, when done as a precautionary measure, often served no purpose.[5] By preventing unlicensed and unskilled use of neonicotinoids, Colorado can immediately reduce the reckless and unnecessary amount of insecticide that is used. This bill would grant bees some much needed relief. While it will not fix the problems of Colony Collapse Disorder and possible extinction, it is a necessary step in slowing down this decline.

We strongly support the passage of SB23-266 and further restrictions on these poisons. The science is clear that neonicotinoids are directly harmful to bees, humans, and other animals. Their negative impacts ripple outward and ultimately threaten food security, health, and biodiversity.

Sincerely,
Mason Liddell, President of the Colorado Law Animal Legal Defense Fund
Aidan Bodeo-Lomicky, Vice President of the Colorado Law Animal Legal Defense Fund

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[1] *Species Extinction Rate*, The World Counts, https://www.theworldcounts.com/challenges/planet-earth/forests-and-deserts/species-extinction-rate (last visited Apr. 12, 2023).
[2] Giulia C.S. Good Stefani, *Save Our Wild Bumble Bees*, NRDC (Oct. 29, 2013), https://www.nrdc.org/bio/giulia-cs-good-stefani/save-our-wild-bumble-bees.
[3] Lucas Rhoads, *Protecting the Rusty Patched Bumble Bee: Round Three*, NRDC (Jan. 17, 2019), https://www.nrdc.org/bio/lucas-rhoads/protecting-rusty-patched-bumble-bee-round-three.
[4] William M. Janousek et al., *Recent and Future Declines of a Historically Widespread Pollinator Linked to Climate, Land Cover, and Pesticides*, 120 Proc. Nat'l Acad. Sci., no. 5, 2023, at 1, 1, https://www.pnas.org/doi/10.1073/pnas.2211223120.
[5] Michael Gross, *EU Ban Puts Spotlight on Complex Effects of Neonicotinoids*, 23 Current Biology R462, R462 (2013) https://www.sciencedirect.com/science/article/pii/S0960982213006258.

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