

To: Natural Heritage Advisory Committee
DNR Commissioner Strommen
DNR Pesticide Committee



From: Coalition of pollinator, bird and wildlife conservation advocates

Date: September 26, 2021 (updated November 6, 2021)

Summary: We are requesting changes be made for insecticide use and pesticide-coated seed use on DNR-managed lands for the protection of water, people and wildlife including prohibiting the use of synthetic **insecticides and pesticide-coated seed** with lethal and sublethal effects to at-risk pollinators, birds, and other wildlife on all Minnesota DNR-managed lands.

Three actions: Change Department of Natural Resources Operational Order #59 dated 2018 and companion prohibited pesticide list(s) to: 1) prohibit synthetic insecticides and pesticide-coated seed; 2) develop standardized land use / lease agreement to prohibit the same with penalties for non-compliance; and 3) communicate and implement these changes in a timely manner.

Requests: The following changes repeat in part Bill #HF1210 from the 2020-2021 legislative session. HF1210 was passed by the MN House of Representatives and supported by the MN Department of Natural Resources.

1. Change the MN Department of Natural Resources Operational Order #59 on pesticide use to **prohibit the use of synthetic insecticides and pesticide-coated seed on all Minnesota DNR-managed lands**. The use of prohibited insecticides and all pesticide-coated seed will be banned on all Minnesota DNR-managed lands including state forests, state parks, state trails, scientific & natural areas (SNA), aquatic management areas, wildlife management areas (WMA), all rented lands such as crop lands and food plots. Following are insecticides toxic especially to pollinators (see attached toxicity systemics spreadsheet):
neonicotinoids (systemic neurotoxin)
chlorpyrifos (organophosphate)
sulfoxaflor (systemic neurotoxin)
cyantraniliprole (systemic)
thiodicarb (carbamate)
dichlorvos (organophosphate)
flupyradifurone (systemic neurotoxin)
methoxyfenozone (systemic)
2. **A standardized land use (rental) agreement governing DNR-managed lands is needed.** Currently there is no standardized lease or land use agreement. The lease agreement for

rented crop land or feed plots needs to specifically state that synthetic insecticides and pesticide-coated seed are prohibited. As with any rule or law, the individual is expected to comply. Since the DNR does not have the capacity to proactively monitor this, administrative enforcement needs to be added to the land use agreement which requires the lessee to email or mail the seed tag to the DNR land manager's office. A penalty for non-compliance needs to be included on the land use agreement. This penalty can be a fine and/or termination of the land use agreement for non-compliance.

3. **DNR will assume responsibility to insure changes are implemented.** There may be other internal documents, policies or units of the DNR that need to be changed to accomplish this action we are not aware of. We expect the DNR will initiative these changes voluntarily and proactively. The DNR will inform staff of these changes in a timely manner.

Background: Protect wild species and biodiversity

Scientists have been alerting us for decades about climate crisis and species decline. The western monarch population dropped more than 99% since the 1980s. In less than a single lifetime, North America has lost more than one in four of its birds and half of wild animal species. Pesticide contamination and loss of habitat are major drivers for species decline. Insecticides are ubiquitous in our environment, on our food, and in our water. Songbird decline is driven by loss of insect populations and pesticide use. One insecticide coated seed can kill a songbird. Even deer spleens were found to be contaminated with neonicotinoids. Deer in Minnesota are suffering from CWD and pesticide contamination. Pesticide contaminated forage and habitat will contribute to a depleted immune system and an unhealthy animal. Federal and state governments are sadly reluctant to impose regulations or bans on toxic insecticides evidenced by the 60 years it took to remove toxic chlorpyrifos from our food. Other countries are banning neonicotinoids and other insecticides. Meanwhile our understanding of the science of pesticide devastation continues to grow and hit the media almost daily. The responsibility to make change must take place in local communities and states.

Beneficial insects and pollinators are keystone species that support the entire food web including fish, aquatics, birds, other wildlife, and humans. Species on earth are all interconnected and rely upon one another. Pesticides and especially insecticides are a primary driver of species decline and loss of life-sustaining biodiversity. Wildlife lands are set aside for fish, bird, and wildlife preservation. Protecting biological diversity and integrity and conserving the system's wildlife are the central tenets of a refuge system's mission.

Insecticides are designed to kill insects and unfortunately do not distinguish between target pests and the many beneficial insect species also harmed. Systemic insecticides are absorbed into the plant and tree tissues reaching the stem, leaves, roots and flowers. One of the most used systemic insecticides are neonicotinoids which are neurotoxins that have proven lethal and sublethal effects on pollinators, migratory birds, deer, and other wildlife. Neonicotinoids are listed as a surface water pesticide of concern as they show up commonly in Minnesota streams and groundwater. Comparison studies show pesticide-coated seed does not increase

soy crop yields. In fact, the use of insecticides removes beneficial insects that control pest insects such as beetles thus reducing the total crop yield.

The Fish & Wildlife Service recognized the need for biodiversity and has phased out land for lease and croplands in waterfowl production areas. Prohibiting insecticides that have lethal and sublethal effects on wildlife should not be a question since these wildlife areas are intended to be a refuge for wildlife. These proposed changes will remove harmful insecticides and pesticide-coated seeds from Minnesota DNR-managed wildlife and natural areas.

Currently, DNR practices include integrated pest management. In the best scenario, if followed integrated pest management will dictate the least toxic methods without chemicals first. However, following an IPM plan does not guarantee the removal of harmful insecticides and is subject to each individual land manager's interpretation.

Coalition – who we are:

We are a coalition of concerned individuals, local to national environmental groups and species conservation organizations working collaboratively to protect pollinators, birds, and other wildlife, clean water, land and food for human health.

Abbreviated list in support of proposed changes:

Audubon, Minneapolis Chapter
Audubon, River Valley Chapter
Bee Safe Minneapolis
Beyond Pesticides
Friends of Mississippi River
Friends of Roberts Bird Sanctuary
Friends of Scientific and Natural Areas
Great River Coalition
Humming for Bees
LONA, Legacy of Nature Alliance
MEP, Minnesota Environmental Partnership
Minnehaha Falls Landscape
Minnesota Center for Environmental Advocacy
PAN, Pesticide Action Network
Pollinator Friendly Alliance
Pollinate Minnesota
Representative Rick Hansen
Representative Alice Hausman
Representative Kelly Morrison
Representative Sydney Jordan
Senator John Marty
Senator Steve Cwodzinski
Saint Paul Audubon Society
Sierra Club North Star Chapter

Xerces Society for Invertebrate Conservation

Support: articles and scientific papers

Water Contamination:

[Minnesota 2020 Clean Water Fund Report Summary](#)

Minnesota Department of Agriculture, *surface water pesticides of concern* (2020)
<https://www.mda.state.mn.us/surface-water-pesticides-concern>

Insecticide Seed Treatments Threaten Midwestern Waterways
<https://xerces.org/publications/fact-sheets/insecticide-seed-treatments-threaten-midwestern-waterways> by Xerces Society 2021.

Deer Poisoning:

<https://www.dnr.state.mn.us/news/2021/03/01/preliminary-results-pesticide-study-show-widespread-neonicotinoid-exposure-minnesota-white-tailed-deer>

Neonicotinoid effects on large mammals: Scientific Reports: *Effects of Neonicotinoid Insecticides on Physiology and Reproductive Characteristics of Captive Female and Fawn White-tailed Deer*. Elise Hughes Berheim, Jonathan A. Jenks, Jonathan G. Lundgren, et al. volume 9, Article number: 4534 (2019)
<https://www.nature.com/articles/s41598-019-40994-9>

Lax Pesticide Policies are putting wildlife health at risk

<https://www.audubon.org/magazine/summer-2021/lax-pesticide-policies-are-putting-wildlife>

How Pesticide Companies Corrupted the EPA and Poisoned America

<https://theintercept.com/2021/06/30/epa-pesticides-exposure-opp/>

Soybean yields and environmental pollution. IPM Practitioner 2017.

<https://www.birc.org/IPMPfinalOct2017.pdf>

Failure to yield: Evaluating the performance of GE crops. Union of Concerned Scientists, 2009.

<https://www.ucsusa.org/resources/failure-yield-evaluating-performance-genetically-engineered-crops>

Insecticides reduce total crop yield. Yale Environmental Review. <https://environment-review.yale.edu/deadlier-intended-pesticides-might-be-killing-beneficial-insects-beyond-their-targets-0>

Bird Poisoning and Decline:

<https://www.science.org/doi/abs/10.1126/science.aaw9419>

Neonicotinoid effects on songbirds: Science: *A neonicotinoid insecticide reduces fueling and delays migration in songbirds.* Margaret L. Eng, LeBridget, J. M. Stutchbury, Christy A. Morrissey. Issue 13 Sep 2019: Vol. 365, Issue 6458, pp. 1177-1180.
<https://science.sciencemag.org/content/365/6458/1177>

American Bird Conservancy: Impact of Insecticides on Birds
http://abcbirds.org/wp-content/uploads/2015/05/Neonic_FINAL.pdf

Three billion birds have been lost in North America since 1970
<https://www.nationalgeographic.com/animals/article/three-billion-birds-lost-north-america>

Pesticides are leading cause of grassland bird declines
<https://abcbirds.org/article/new-study-finds-pesticides-leading-cause-of-grassland-bird-declines/>

The impact of nation's most widely used insecticides on birds
https://abcbirds.org/wp-content/uploads/2015/05/Neonic_FINAL.pdf

Birds, bees, and aquatic life threatened by gross underestimate of toxicity of world's most widely used pesticide – neonics
<https://abcbirds.org/article/birds-bees-and-aquatic-life-threatened-by-gross-underestimate-of-toxicity-of-worlds-most-widely-used-pesticide-2/>

Decline in U.S. bird biodiversity connected to neonic poisoning
<https://aces.illinois.edu/news/decline-us-bird-biodiversity-related-neonicotinoids-study-shows>

Goebel study: Insecticide drift and impacts on arthropod prey resources of birds in public grasslands of Minnesota
https://conservancy.umn.edu/bitstream/handle/11299/219388/Goebel_umn_0130M_22104.pdf?sequence=1

How neonicotinoids, sulfoxaflor and flupradifurone work: PAN, 2016
<https://www.pan-europe.info/sites/pan-europe.info/files/public/resources/factsheets/201609%20Factsheet%20What%20is%20a%20neonicotinoid%20Flupradifurone%20Sulfoxaflor%20EN%20PAN%20Europe.pdf>

Pollinator Decline / Insect Apocalypse:

Xerces Society: *The science behind the role neonics play in harming bees.* Jennifer Hopwood, Aimee Code, Mace Vaughan et al. (2016)
https://xerces.org/sites/default/files/2018-05/16-023_01_XercesSoc_ExecSummary_How-Neonicotinoids-Can-Kill-Bees_web.pdf

Science, 8/3/2021, Goulson Study combines 232 scientists signatures to restrict neonicotinoids
Phys Org, 8/2/2021: Study shows common insecticide is harmful in any amount

<https://www.mprnews.org/story/2021/02/26/npr-climate-change-deforestation-threaten-monarch-butterfly-migration>

Monarch butterflies on verge of extinction

<https://www.nationalgeographic.com/animals/article/monarch-butterflies-near-extinction>

POLLINATOR PROTECTION RESOLUTION: *Model resolution for cities, counties, state agencies, school districts.* Pollinator Friendly Alliance, Humming for Bees, Pesticide Action Network, Pollinator Minnesota 2020.

<https://static1.squarespace.com/static/59fcf40ab1ffb6ee9911ad2a/t/5f8fb7dcac3e6348089291a2/1603254237712/MODEL+resolution+2020.pdf>

Understanding pesticide toxicity to pollinators

<https://static1.squarespace.com/static/59fcf40ab1ffb6ee9911ad2a/t/5a8d7cbce2c483e996eca85/1519221950734/Krischik+Toxicity+to+Pollinators+.pdf>

EPA National and State PCA are not protecting us from pesticide contamination:

The Intercept 8/7/2021: How Pesticide Companies Corrupted the EPA and Poisoned America

<https://theintercept.com/2021/06/30/epa-pesticides-exposure-opp/?emci=2a58c809-74db-eb11-a7ad-501ac57b8fa7&emdi=37e67a18-27e0-eb11-a7ad-501ac57b8fa7&ceid=341111>

Government is not protecting us from pesticides

<https://www.audubon.org/magazine/summer-2021/lax-pesticide-policies-are-putting-wildlife>

Pesticide-Induced Diseases Database: <https://www.beyondpesticides.org/resources/pesticide-induced-diseases-database/overview>

States are categorizing neonics as restricted use

<https://www.wbur.org/news/2021/03/05/neonicotinoid-massachusetts-bees>

Chlorpyrifos Ban and Health Effects

<https://www.nrdc.org/chlorpyrifos>