Neonics and Birds: A Match Made in Hell

Hardy Kern

Director of Government Relations,

Pesticides and Birds Campaign

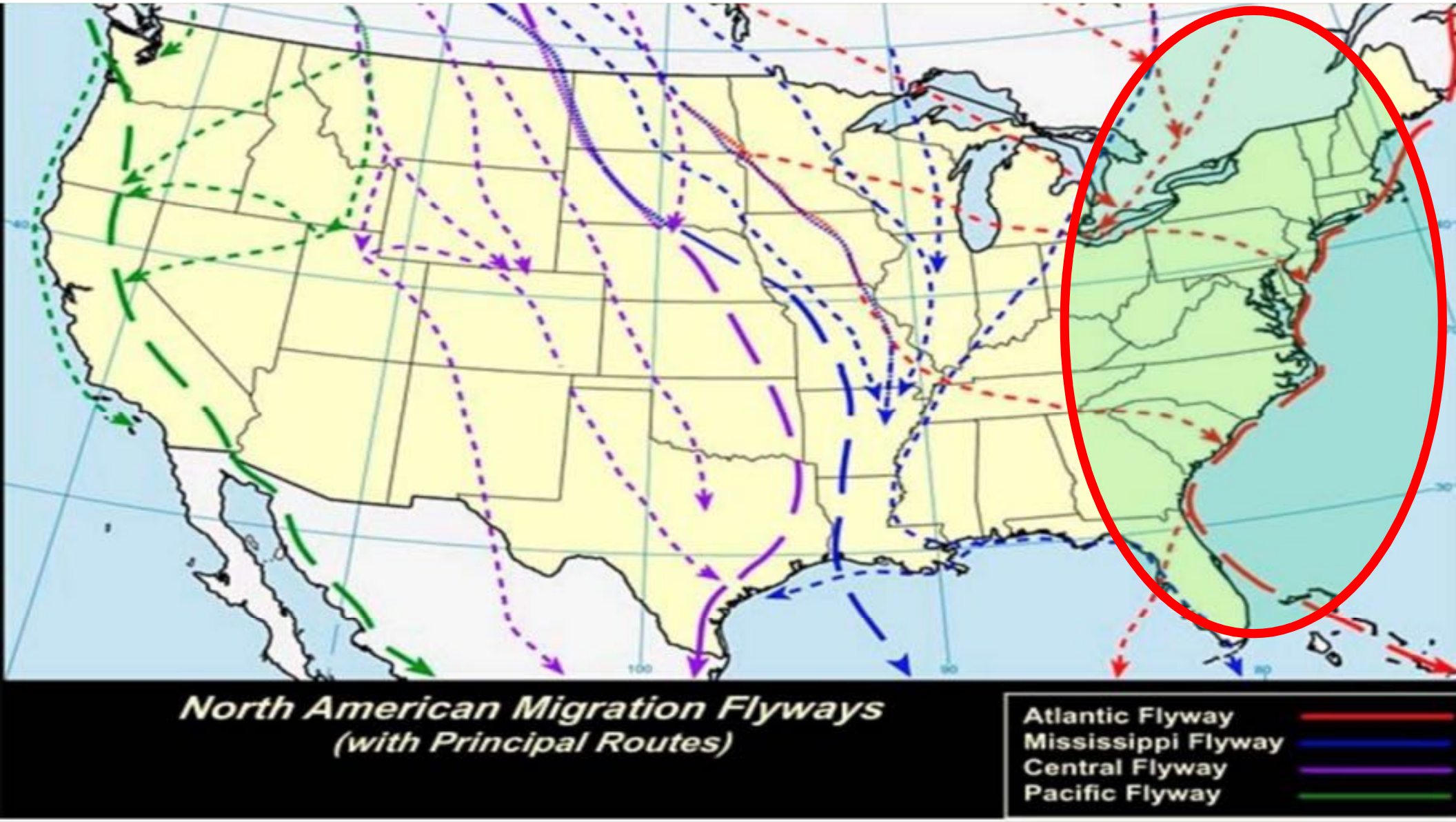
American Bird Conservancy

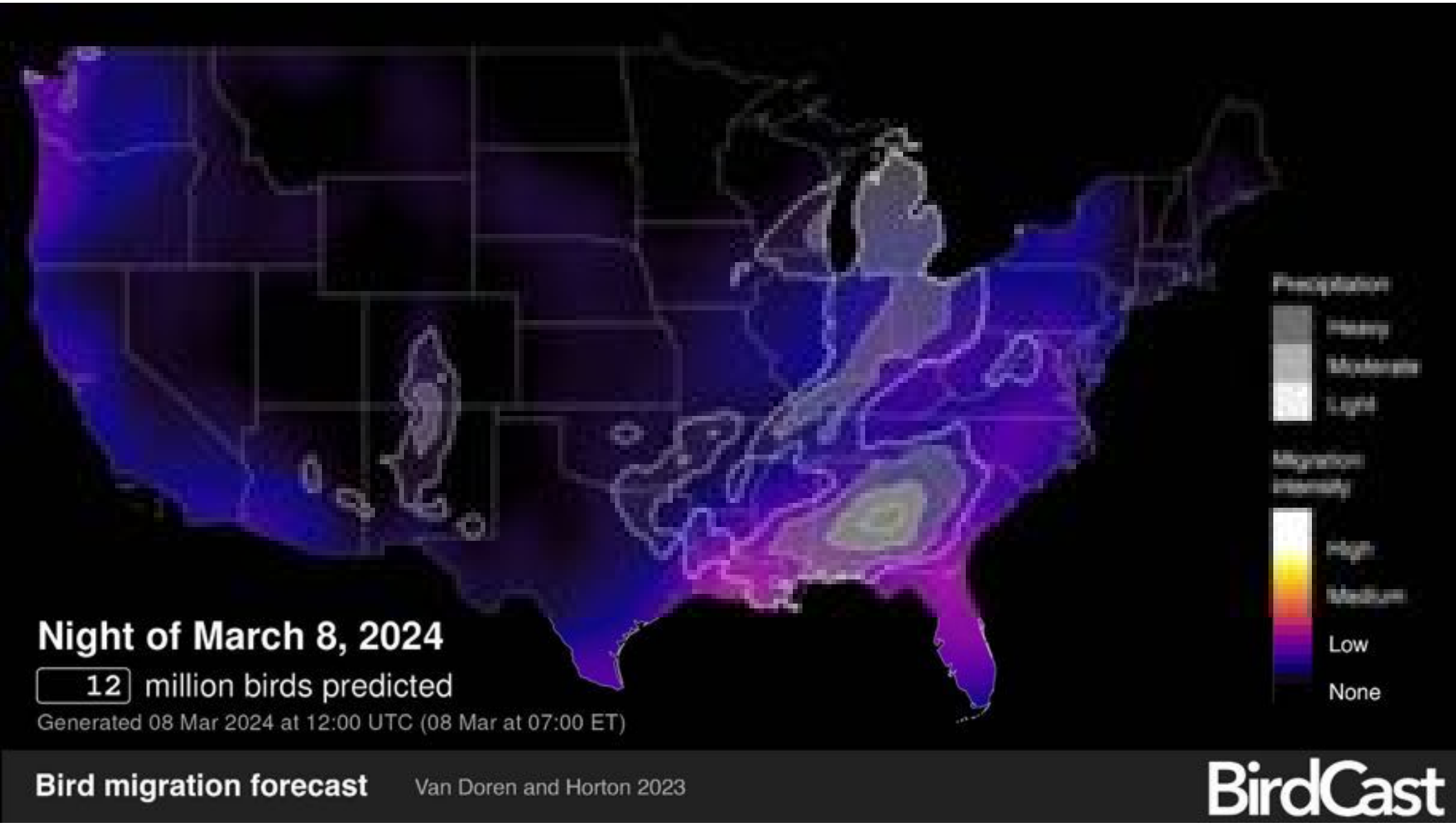
Golden-winged Warbler by Ray Hennessy, Shutterstock

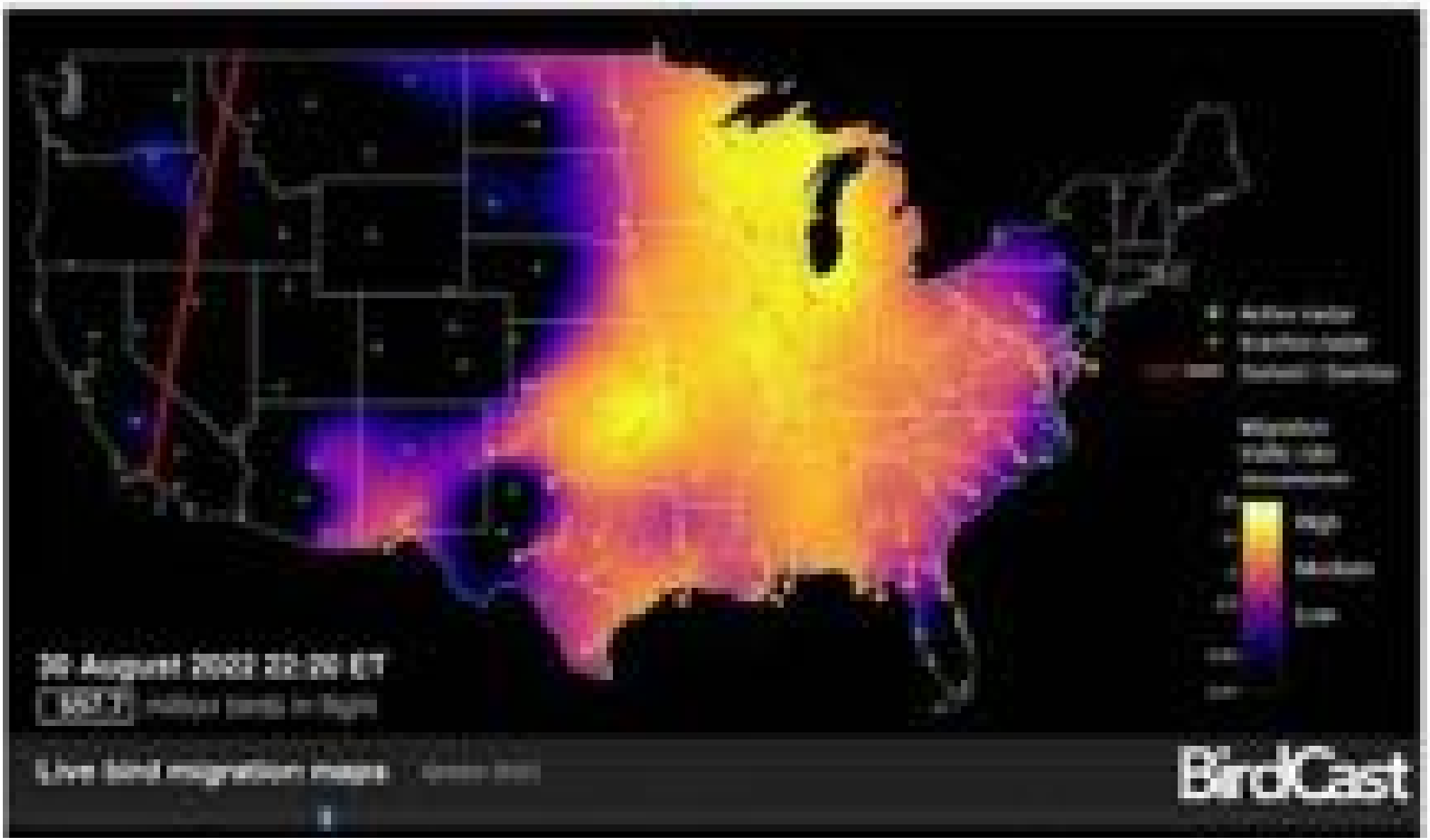
AMERICAN BIRD CONSERVANCY

American Bird Conservancy

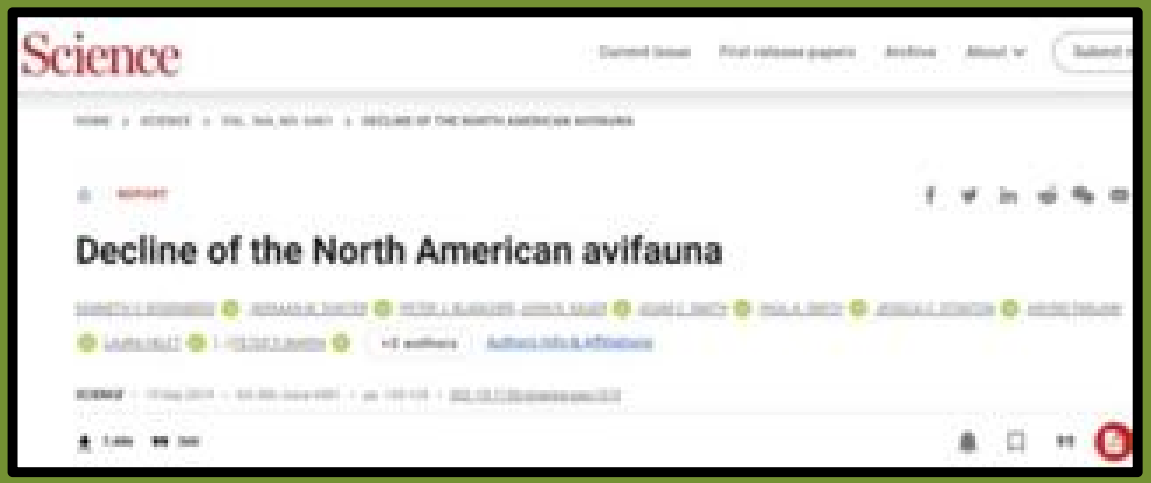
Dedicated to conserving birds and their habitats across the Americas


North American Migration Flyways
(with Principal Routes)
Atlantic Flyway
Mississippi Flyway
Central Flyway
Pacific Flyway


Precipitation
Heavy
Moderate
Light
Migration intensity
High
Medium
Low
None
Night of March 8, 2024
12 million birds predicted
Generated 08 Mar 2024 at 12:00 UTC (08 Mar at 07:00 ET)
Bird migration forecast
Van Doren and Horton 2023
BirdCast


BirdCast

Cerulean Warbler by Tessa Nickels



3 Billion Bird Lost

AMERICAN BIRD CONSERVANCY

AMERICAN BIRD CONSERVANCY


Aerial Insectivores
160
MILLION
AERIAL INSECTIVORES
BIRDS LOST
SINCE 1970
-32%
POPULATION
LOSS IN AERIAL
INSECTIVORES
SINCE 1970
2 IN 5
BARN SWALLOWS
LOST SINCE 1970

Are declines in insects and insectivorous birds related?

"In fact, **terrestrial bird species that rely on insects during at least part of their annual life cycle (304 species) declined more than 2.9 billion** individuals in the last 50 years, while terrestrial birds that do not rely on insects (64 species) gained 26.2 million individuals, more than a 111-fold difference," (Tallamay & Shriver, 2021).

Scissor-Tailed Flycatchers

Water Thrush with Insects

96%

of all terrestrial birds eat insects

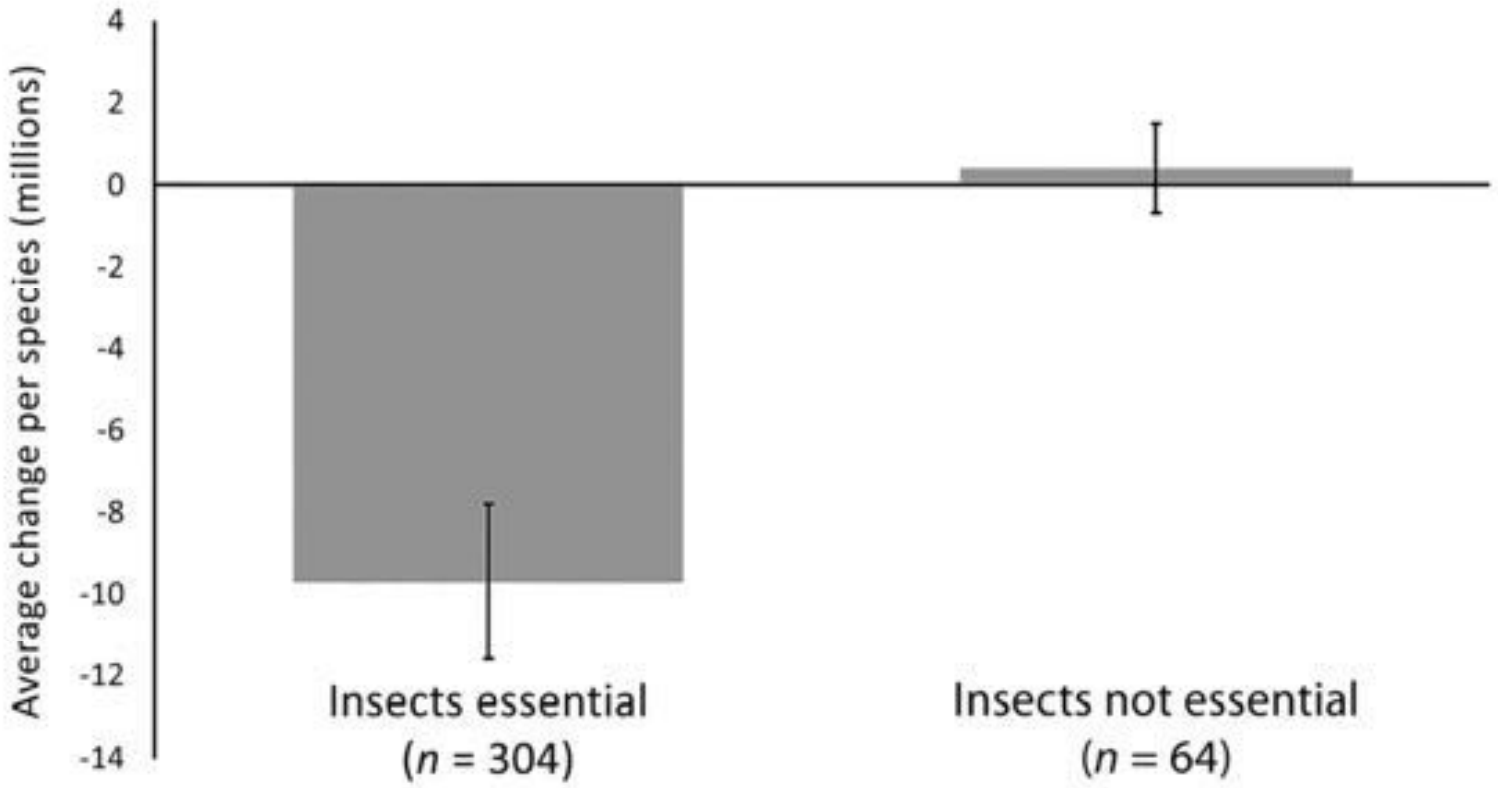


FIGURE 1. The average change in population size over the last 50 years of terrestrial North American bird species for which insects are an essential part of the diet at some point in their life history and bird species that never rely on insects for food. Statistical intervals = standard deviations. Data from Rosenberg et al. (2019). Bird species in each category are listed in Supplementary Material Table S1.

Q: How many caterpillars will a single Carolina Chickadee feed its nestlings before they fledge?

A: 6,000-9,000

Carolina Chickadee

Lower Caterpillar Biomass =

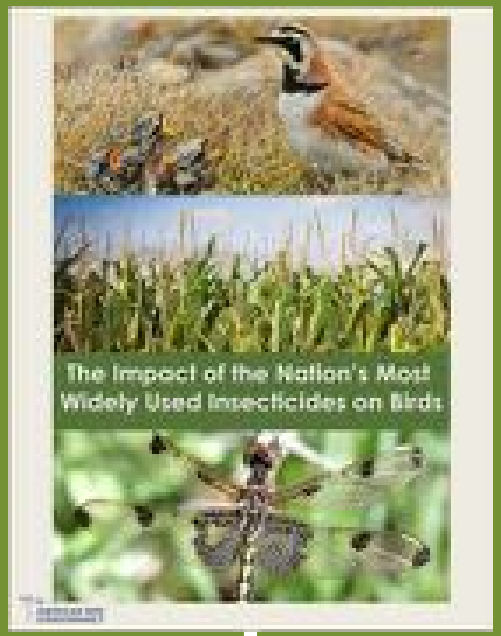
- Smaller Clutches
- More Frequent Nestling Mortality from Starvation
- Fewer fledging offspring
- Lower body mass of fledglings

Neonics and Birds

1992: Imidacloprid First Registered in US

2004: Neonic Use Begins to Increase in US

2011: Neonic use doubles from previous year



2013

2015: USGS Stops Tracking Use of Pesticide-coated Seeds

2023

2023: EPA Opens BEs and ANPRM on Neonic and Neonic Seeds

AMERICAN BIRD CONSERVANCY

WARNING:

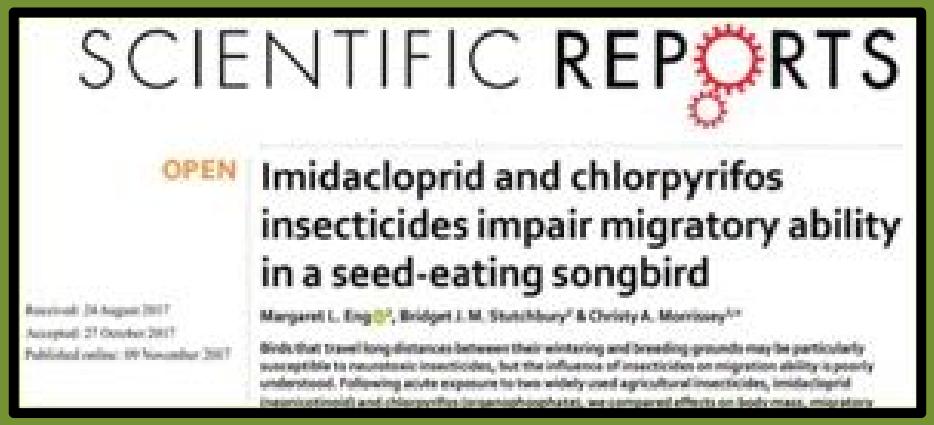
Potentially Upsetting Content Ahead

AMERICAN BIRD CONSERVANCY

https://fb.watch/qH9iNC-jhZ/

Raptor Education Group, Inc.

Antigo, WI



SCIENTIFIC REPORTS

OPEN

Imidacloprid and chlorpyrifos insecticides impair migratory ability in a seed-eating songbird

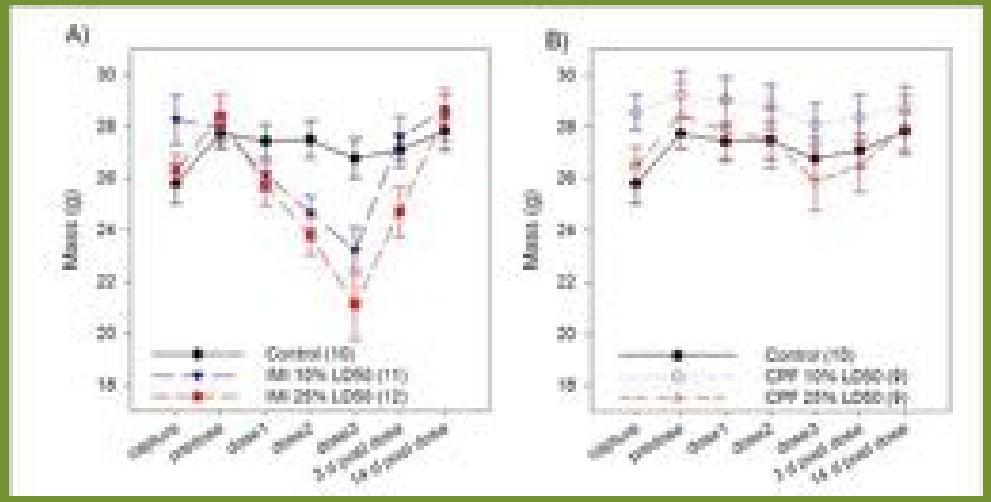
Margaret L. Eng, Bridget J. M. Stutchbury & Christy A. Morrissey

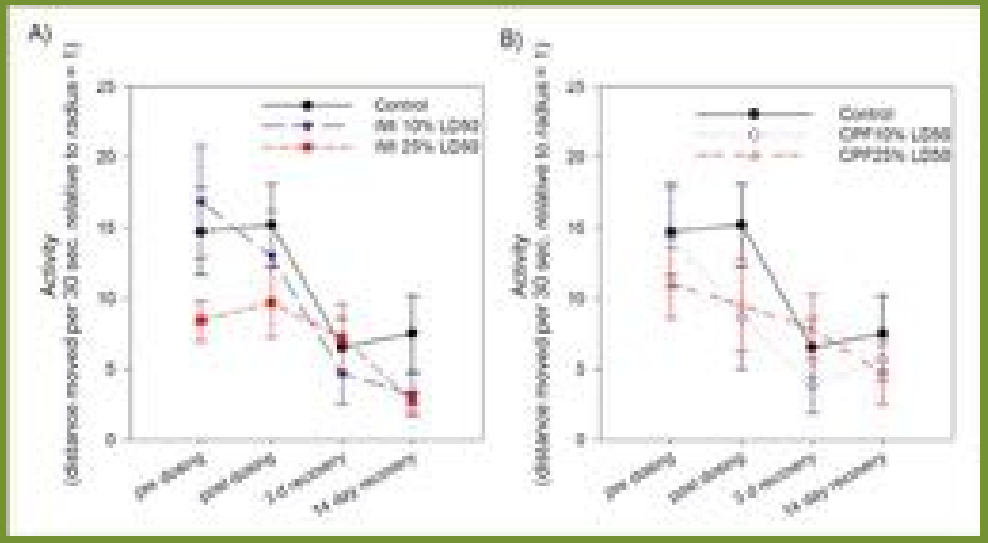
Received: 24 August 2017
Accepted: 27 October 2017
Published online: 09 November 2017

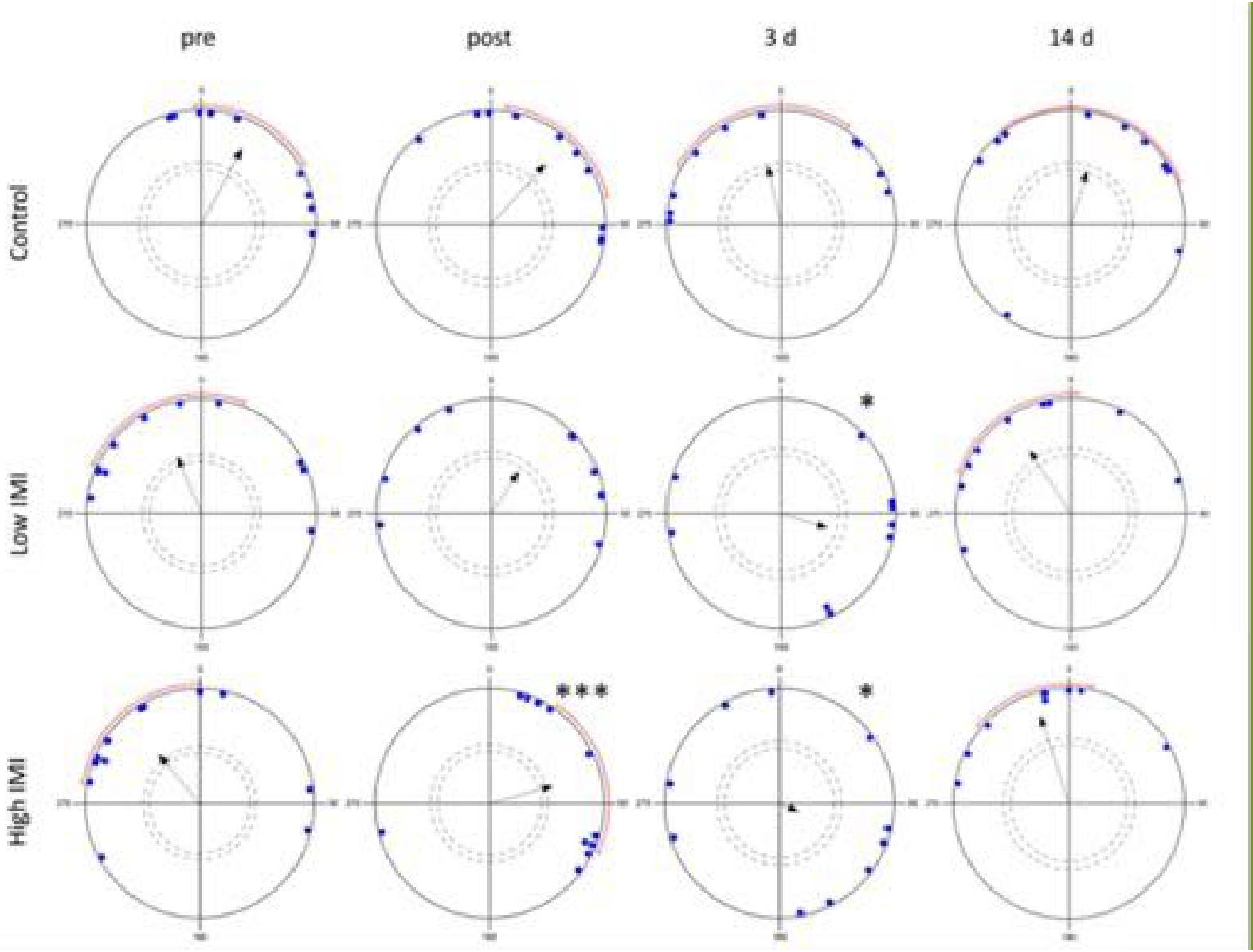
Birds that travel long distances between their wintering and breeding grounds may be particularly susceptible to neurotoxic insecticides, but the influence of insecticides on migration ability is poorly understood. Following acute exposure to two widely used agricultural insecticides, imidacloprid (neonicotinoid) and chlorpyrifos (organophosphate), we compared effects on body mass, migratory

Margaret Eng, Bridget Stutchbury, Christy Morrissey

Effects on Body Weight and Movement



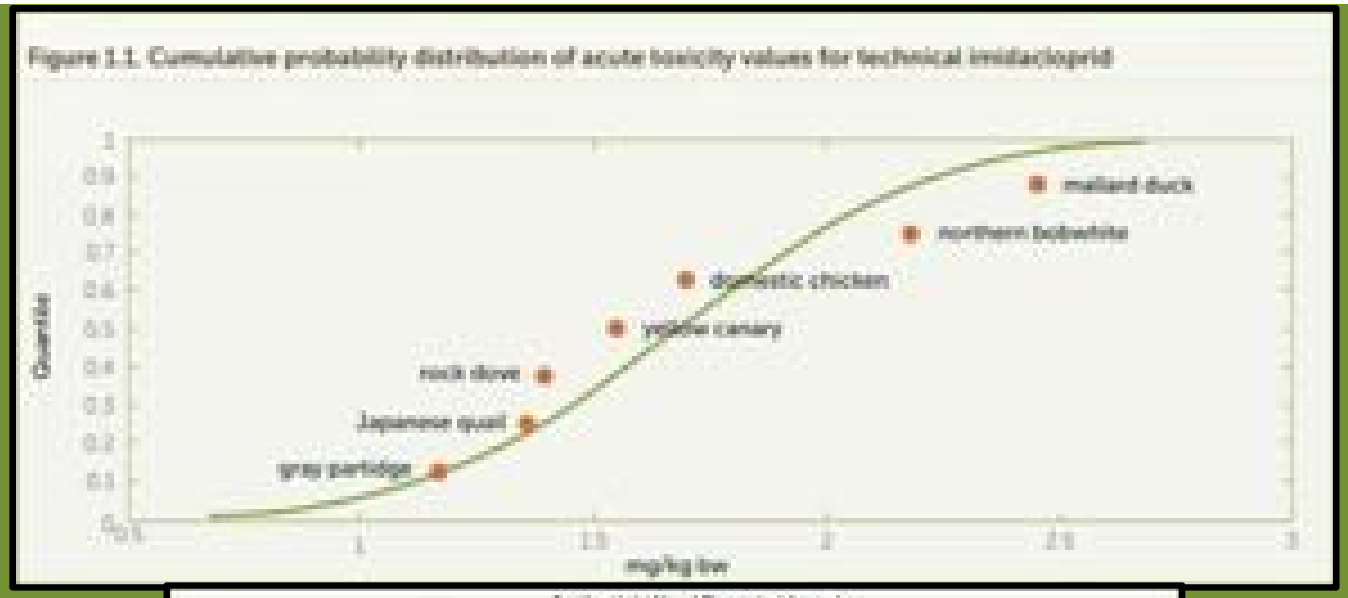


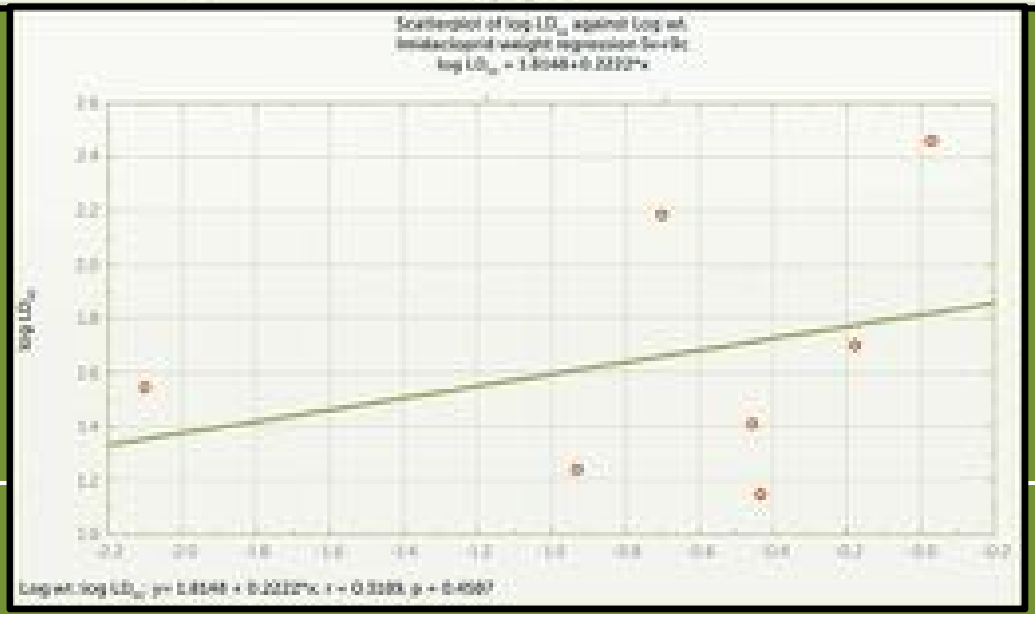


Control
No Dose

Low
4 Canola Seeds
OR
<.1 Corn Seed

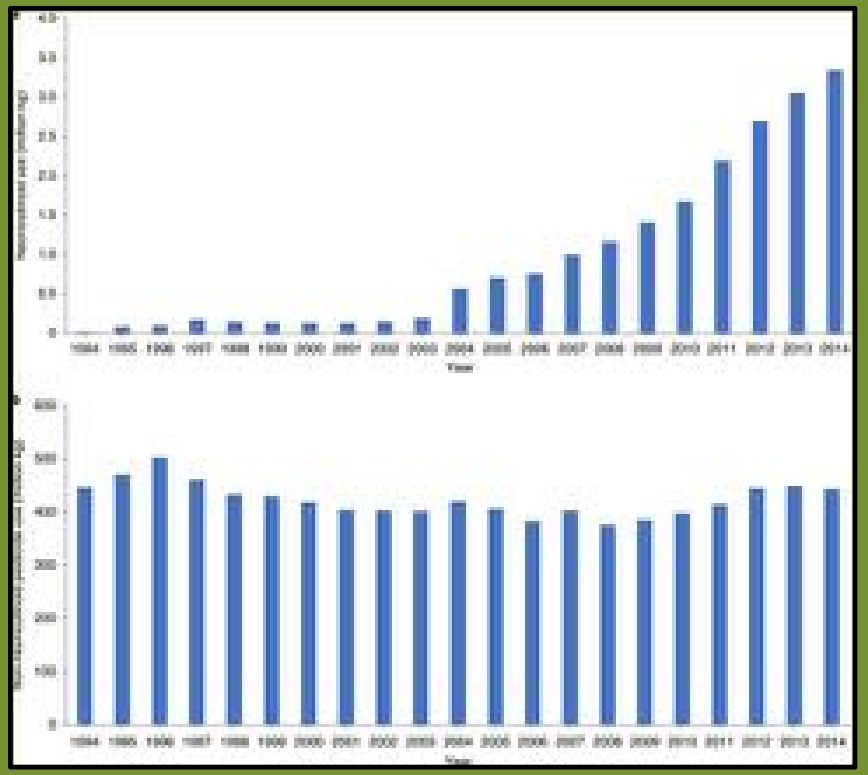
High
9 Canola Seeds
OR
0.2 Corn Seeds



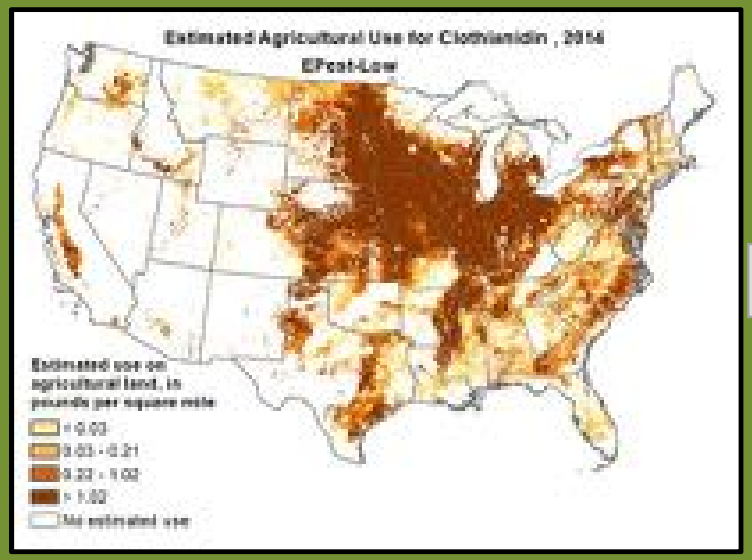


"The very wide difference between the toxicity of acetamiprid and dinotefuran to Zebra Finches (*Taeniopygia castanotis*) compared to the usual test species (*Bobwhite Quail and Mallard*) suggests that this scaling is very much a factor with neonicotinoids."

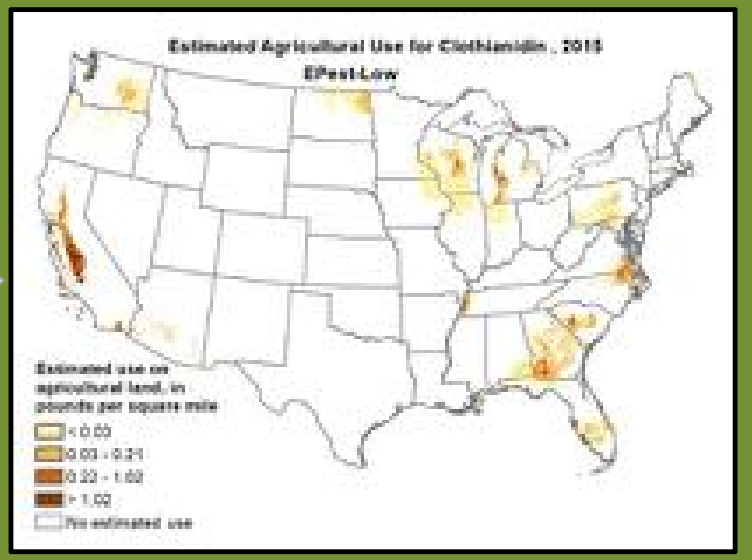
Neonicotinoid Seed Treatments

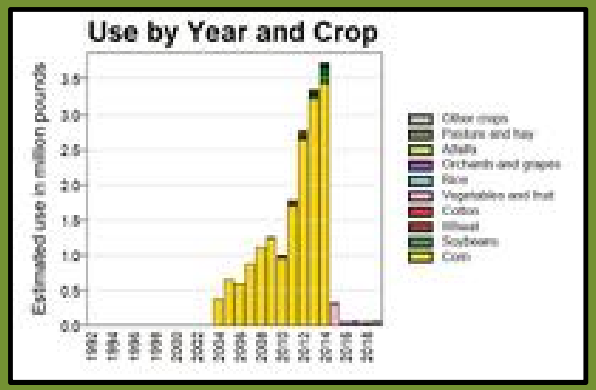


Use of Neonicotinoid and other pesticides: 1994-2014, Li et al. (2020)



Treated Seeds ≠ Pesticides





Source: United States Geological Survey

AMERICAN BIRD CONSERVANCY

ESA Consultations on Neonics

"A limited amount of general usage data was available for some uses (e.g., developed and open space developed uses, seed treatments)..."

Environmental Protection Agency (2023, May 1). Imidacloprid, Thiamethoxam and Clothianidin: Draft Predictions of Likelihood of Jeopardy and Adverse Modification for Federally Listed Endangered and Threatened Species and Designated Critical Habitats.

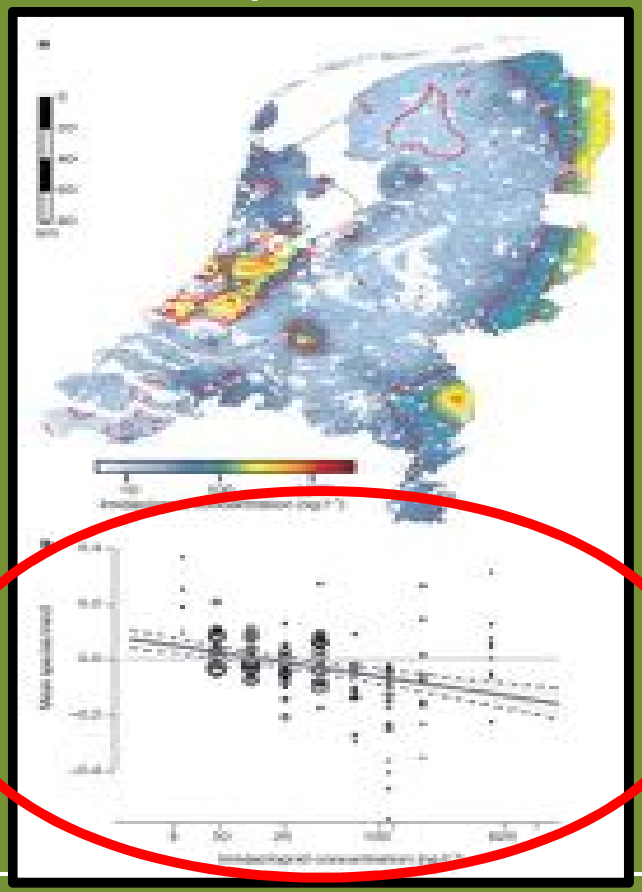
https://www.epa.gov/system/files/documents/2023-05/ESA-JAM-Analysis.pdf

The Importance of Insects

Shout Out To our Friends at

XERCES SOCIETY
for Invertebrate Conservation

Imidacloprid in the Netherlands



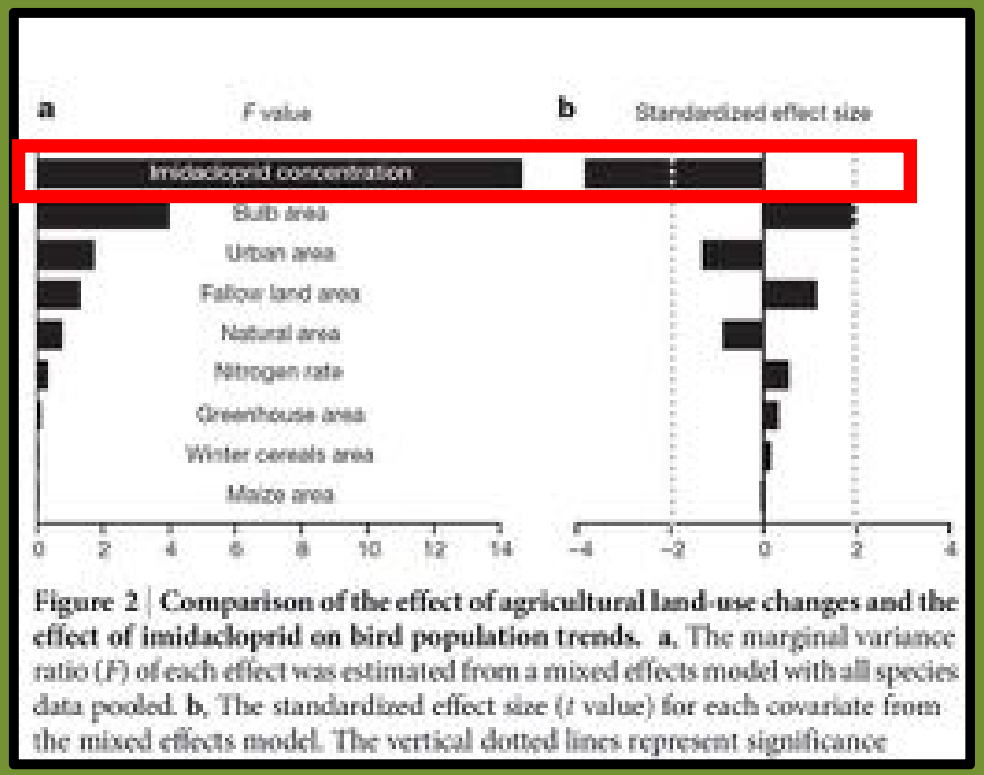


Figure 2 | Comparison of the effect of agricultural land-use changes and the effect of imidacloprid on bird population trends. **a**, The marginal variance ratio (*F*) of each effect was estimated from a mixed effects model with all species data pooled. **b**, The standardized effect size (*t* value) for each covariate from the mixed effects model. The vertical dotted lines represent significance

Hallmann et al., 2014, Nature Letters

COLLAPSE OF FOOD SOURCE WAS TO BLAME

AMERICAN BIRD CONSERVANCY

Fewer Bugs = Less Food for Birds

Less Than Optimal Diets

Greater Foraging Distance

Increased Predation

L to R: Modern Farmer, Seeds: Modern Farmer, Range Map: ScienceDirect, COHA: Lucy Bennett, Cat with Hooded Warbler: ForestPath_SS

Neonics: How are birds affected?

Birds may be exposed to neonicotinoids throughout their lives. From treated seeds and polluted ponds to coated insects and contaminated soil, this wide range of exposure pathways leads to a variety of toxic effects across species.

- Life-threatening weight loss
- Impaired spermatogenesis/ reproduction
- Decreased brood sizes
- Convulsions
- Loss of migratory ability
- Smaller populations due to insect loss
- Impaired motor control
- Death

"Now even more than in 2013, we see a very strong case for cancellation of all but the most essential uses of neonics."
– 2023 Report

AMERICAN BIRD CONSERVANCY

Challenging the Treated Article Exemption

2017 Petition

CITIZEN PETITION TO THE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

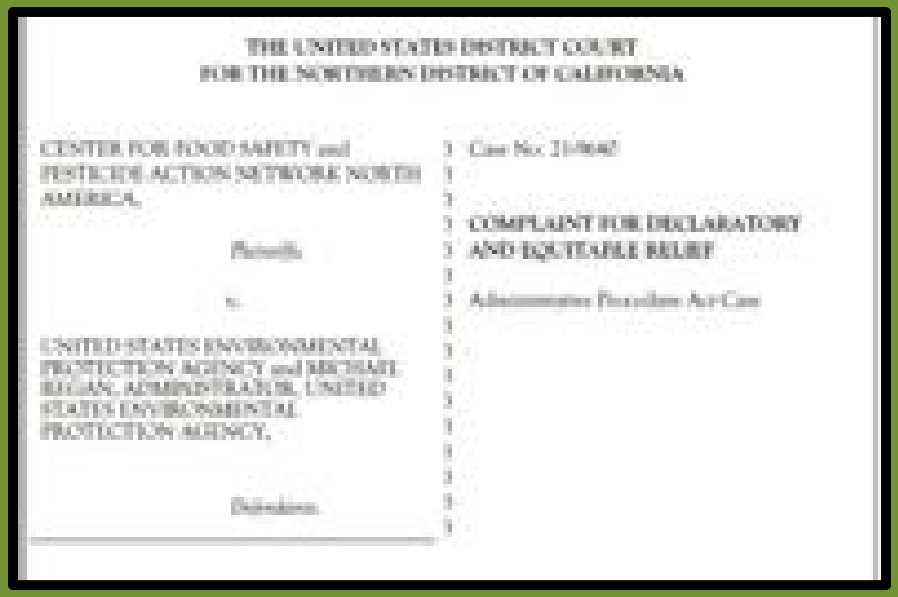
BRET ADEE, AMERICAN BEEKEEPING FEDERATION, AMERICAN BIRD CONSERVANCY, AMERICAN HONEY PRODUCERS ASSOCIATION, JEFF ANDERSON, LUCAS CRISWELL, GAIL FULLER, DAVID HACKENBERG, PESTICIDE ACTION NETWORK OF NORTH AMERICA and POLLINATOR STEWARDSHIP COUNCIL
including and represented by
CENTER FOR FOOD SAFETY
660 Pennsylvania Ave., SE. Suite 302
Washington, D.C. 20003.
Petitioners

Filed With:

SCOTT PRUITT, ADMINISTRATOR
Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

Docket Number _____

2021 Lawsuit



THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA

CENTER FOR FOOD SAFETY and PESTICIDE ACTION NETWORK NORTH AMERICA,

Plaintiffs,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY and MICHAEL REGAN, ADMINISTRATOR, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,

Defendants.

Case No. 21-9047

COMPLAINT FOR DECLARATORY AND EQUITABLE RELIEF

Administrative Procedure Act Case

Results

- Proposed Consent Decree – fulfilled in September 2022

- *"As a result, EPA denies the Petition request to either interpret or amend 40 C.F.R. § 152.25(a) to categorically exclude seed treated with systemic pesticides from exemption under that provision."*

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

September 27, 2022

George Kimbrell
Legal Director
Center for Food Safety
2009 NE Alberta Street, Suite 207
Portland, OR 97211

SUBJECT: Center for Food Safety (CFS) et al. Citizen Petition to the U.S. Environmental Protection Agency Seeking Rulemaking or a Formal Agency Interpretation for Plant Seeds Coated with Systemic Insecticides (April 26, 2017)

Dear Mr. Kimbrell:

Thank you for engaging with us on this important topic. The U.S. Environmental Protection Agency's (EPA or the Agency) recognizes the need to provide clear information about seeds that are treated with pesticides (i.e., treated seeds). As such, the Agency has considered your request and concerns, and in response, EPA notes that it has been reviewing and will continue to review labeling instructions for pesticides registered for seed treatment use(s) in registration and registration review to verify the completeness of these instructions for both use of the treating pesticide and the distribution, sale, and use of the treated seed. EPA also intends to work with the States and other federal agencies and to issue an advanced notice of proposed rulemaking (ANPRM) to seek additional information on pesticide seed treatments and to explore the options of issuing a rule pursuant to FIFRA section 3(a) to regulate the use of pesticide-treated seed, which may prove to be a more efficient and less resource intensive solution to some of the concerns raised in the petition.

This letter constitutes the Agency's response to the petition filed on April 26, 2017, by CFS on behalf of itself and 10 others seeking "amendment to, or a formal re-interpretation of, [the Treated Article Exemption], 40 C.F.R. §152.25(a)" (the Petition). In summary, the Petition requests that EPA "clearly communicate to the regulated community that systemic pesticidal seeds intended to kill insect pests of the plants (grown from those seeds) are not included under the Treated Articles Exemption and are therefore subject to FIFRA's requirements for registration and labeling." Petition at 38. The Petition also requests "that EPA immediately enforce FIFRA's

CFS and PANNA Suit on Petition Denial

- ABC is submitting an amicus brief in the suit
- Identifying impacts on birds from pesticide-coated seeds
- Poorly-done ESA consultation

Case 3:23-cv-02714 Document 1 Filed 05/31/23 Page 1 of 54

Amy van Saun (*Pro Hac Vice Pending*)
Kristina Sinclair (CA Bar No. 329416)
Center for Food Safety
303 Sacramento Street, Floor 2
San Francisco, CA 94111
Phone: (415) 826-2770
Emails: avansaun@centerforfoodsafety.org
ksinclair@centerforfoodsafety.org

Counsel for Plaintiffs

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

CENTER FOR FOOD SAFETY, and PESTICIDE ACTION NETWORK NORTH AMERICA,

Plaintiffs,

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY, and MICHAEL S. REGAN, in his official capacity as Administrator of the U.S. Environmental Protection Agency,

Defendants.

Case No. 23-cv-2714

COMPLAINT FOR DECLARATORY AND EQUITABLE RELIEF

Administrative Procedure Act Case

Upcoming Chances for Engagement

Advanced Notice of Proposed Rulemaking: Coated Seeds

Biological Integrity, Diversity, and Environmental Health Comment Period:

National Wildlife Refuges

Biological Opinions on Neonicotinoids

State Advocacy

Minnesota – Non-ag Neonic Ban, Treated Seed Prescription

Vermont – Treated Seed Prescription

California – Rodenticide Legislation, Seed Tracking

Connecticut – Rodenticide Prohibition, Neonic Legislation

Washington – Non-ag Neonic Ban

Support S.B.190!!!

The Birds and the Bees (Protection Act)

- S1856A
- Phases-out uses of neonics on corn, soy, and wheat seeds by 2029
- Phases out non-ag uses by 2027
- Wide exemptions are possible
- No self-certification by growers

California Fish and Game Regulation

ABC 2017 Petition submitted by Earthjustice resulted in new language adoption by CFGC

Proposed Regulatory Language

Section 540, Title 14, CCR, is added to read:

§ 540. Neonicotinoid pesticide use is prohibited on Department lands.

The application of a neonicotinoid pesticide to department lands by the department is prohibited. For purposes of this section, "neonicotinoid" has the same meaning as specified in Section 6990, Title 3, California Code of Regulations, and "department land" has the same meaning as specified in subsection 550(b)(1).

Note: Authority: 1526, 1580, 1581 and 10504 Fish and Game Code. Reference: 1526, 1580, 1581, 1584 and 10504 Fish and Game Code.

DDT Ban
ESA De-Listing
Global DDT Ban
ESA De-Listing
Year

I WANT YOU!

Thank You!

Palm Warbler by Ryan Sanderson

ehardykern@abcbirds.org

AMERICAN BIRD CONSERVANCY