

Introducing the Rhode Island Plant Insect Community Network

Plants and insects are inextricably linked through pollination, herbivory, and innumerable other interactions. Together with birds, these organisms are connected in a complex web of relationships that sustains life on Earth, including human life.

National attention to the ill-health of this plant-insect community has already inspired diverse initiatives in Rhode Island: some inventory insects or research pollinators and pollinator habitat, some grow and promote native plants, create pollinator plantings, and promote sustainable food production, and some raise public awareness.

But are our efforts as connected as the plants, insects, and other organisms? Now there's a new initiative to support these diverse projects and create a community of mutual support: the **Rhode Island Plant Insect Community Network**.

The Rhode Island Plant Insect Community Network is a project of the **Rhode Island Natural History Survey**, funded by a grant from the **One Hive Foundation**. The goal is not to create one more program, but to lift up the many programs working on the conservation of plants and insects and their ecological benefits.



Learn more about the Network:

<https://picn.rinhs.org/>

@riplantinsectnetwork



15 Minute Field Trips hosts an iNaturalist project for the Woonasquatucket Greenway, which allows community members to upload observations of any living thing (birds, mammals, insects, plants, fungi, and more!). This information is used to make decisions on future restoration projects along the Greenway to best support the pollinators, birds, and other wildlife in the area.



MEMBER HIGHLIGHT:

15 Minute Field Trips

15 Minute Field Trips offers hands-on education programs at the intersection of art, community action, and the natural world.

This organization led the Woonasquatucket River Greenway Pollinator Event and states that the "Pollinator stations along the Woonasquatucket Greenway were well-received and helped connect the local community with resources and each organization with each other."

Pollinators, such as bees, flies, wasps, beetles, moths, and butterflies, are integral to a healthy ecosystem. Learn about the multitude of work being done in Rhode Island to sustain healthy pollinator populations!

Rhode Island State of the Pollinators Report 2024

PRODUCED BY:

RI Plant Insect Community Network Members, including:

- Rhode Island Natural History Survey
- 15 Minute Field Trips
- RIDEM Pollinator Atlas Entomologist
- University of Rhode Island Bee Lab
- Providence Pollinator Lab
- Rhode Island Audubon
- Rhode Island Wild Plant Society
- University of Rhode Island Master Gardener Program

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**RHODE ISLAND
PLANT INSECT
COMMUNITY
NETWORK**

RI Plant Insect Community Network 2024 Field Trips & Outreach Events

An investigation of the state-listed plant *Sanguinaria canadensis* (bloodroot)

Bloodroot is a rare plant of conservation concern in Rhode Island.

In April of 2024, PICN members visited a large, naturally occurring patch of bloodroot to investigate plant-pollinator interactions.

Five bee species were observed: *Andrena carlini*, *Bombus bimaculatus*, *Bombus impatiens*, *Ceratina calcarata*, and *Nomada bella*.

RINHS collected over 200 seeds, which have been incorporated into the Native Plant Trust seed bank.



3rd Annual Westerly Land Trust Pollinator Safari



Attendees used insect nets and bug vacuums to collect bees, wasps, butterflies, flies and more!

Network members spoke about various topics including the importance of insects and their host plants.

Woonasquatucket River Greenway Pollinator Event

Seven organizations in Rhode Island came together to host a kid-friendly pollinator event along the Woonasquatucket River Greenway in Olneyville.

Activities included a pollination game, bug hunting, various arts and crafts, and bug bingo!

The Olneyville Public Library's bookmobile traveled along the Greenway to supply kids and caregivers with free nature-themed books and magazines to take home!



Mount Hope Farm Pollinator Panel

Mount Hope Farm hosted a pollinator panel that was free and open to the public. Panelists included representatives of RIDEM, URI Bee Lab, Audubon Society of Rhode Island, and other conservation groups and native plant nurseries.

Panelists discussed the importance of pollinators, native plants, and best gardening practices for wildlife.



RI Pollinator Projects

Community Scientists help the RIDEM Division of Fish and Wildlife catalogue the bumble bees of Rhode Island

In 2021, the RIDEM Division of Fish & Wildlife caught the "buzz" on pollinators and launched an exciting new initiative called the Rhode Island Pollinator Atlas.

The Rhode Island Bumblebee Survey is a statewide community science survey of bumblebees and Eastern carpenter bees. Over the course of three years, 60 volunteers observed nearly 4,000 individual bumble bees across 67 sites in RI.

There were multiple observations of the regionally threatened golden northern bumblebee (*Bombus fervidus*).

The Rhode Island Pollinator Atlas:

<https://dem.ri.gov/fish-wildlife/conservation-research/drhode-island-pollinator-atlas>



Does decreased snowfall impact a declining butterfly's sole food source?

Frosted elfin (*Callophrys irus*) is a spring-flying butterfly in the Eastern US and is listed as a species of concern in 11 states. As host plant specialists, frosted elfin only lay eggs on yellow wild indigo (*Baptisia tinctoria*) and wild lupine (*Lupinus perennis*).

To simulate the impact of global warming on indigo, Dr. Rachael Bonoan's Providence Pollinator Lab conducted a multi-year snow removal experiment at a site in MA where indigo is abundant, but the frosted elfin population is declining.

Preliminary results are positive: decreased snow pack does not seem to affect yellow wild indigo development or abundance.



Effect of integrated pest management on honeybee behavior



One of the most pressing threats managed honey bees face is the parasitic Varroa mite, which weakens bees and spreads disease. A popular method of combating Varroa is drone comb removal, which forces the colony to raise the larger, mite-preferred male bees.

Past work in Dr. Bonoan's lab showed that drones are nutritionally expensive to raise. Her lab collaborated with RI and Cape Cod beekeepers in 2023 and the URI Bee Lab in 2024 to examine if forcing a colony to raise nitrogen-rich drones for mite management affects colony-level population growth and foraging behavior.

Although data analysis is still underway, it seems like this mite management strategy does not have unanticipated effects on the bees.

Providence Pollinator Lab:
<https://providencepollinators.com>

RI Native Plants for Pollinators

The Rhode Island Wild Plant Society's ReSeeding RI initiative

RIWPS (Rhode Island Wild Plant Society) is finishing up its third year of its ReSeeding Rhode Island program with the harvesting of the first large crop of seed from foundation plots. 10 RI Sites are hosting these foundation plots, which are grown from sustainably-collected wild seed.

The goal of this program is to harvest seed for the next three years in order to provide RI growers and residents with a local, ecotype seed source without continuously disturbing our precious, wild, native plant populations.

Currently, seeds from two ReSeeding RI plant species are available for purchase through the Northeast Seed Collective!

RIWPS website:
<https://riwps.org>



The University of Rhode Island Master Gardener Program (URIMGP)

Public Education

The URIMGP partnered with the URI Bee Lab to provide training for over 50 volunteers in "Rhode Island's Native Bees: Best Gardening Practices for Pollinators." Now that a team of volunteers is trained to give the presentation, it is available for groups to request on the URIMGP website.



Demonstration Gardens

The URIMGP maintains several teaching gardens around the state that highlight the importance of pollinators. For example, in 2024 URI Master Gardeners expanded the pollinator meadow at Davis Park Community Garden in Providence, planted new pollinator habitat at ReFocus, Inc., a non-profit human service agency which serves adults with differing physical and developmental needs in Providence.

School Gardens

Serving as outdoor classrooms for children to learn about STEM topics, as well as conservation land, many school gardens include pollinator gardens supported by specially trained URI School Garden Mentors. Examples include Forest Park Elementary in North Kingstown, the Captain Isaac Paine school in Foster, and the Tiverton Library school garden.

URI MGP website:
<https://web.uri.edu/coopext/programs/mgp>



RI Audubon joins collaborative effort to document aerial insect declines



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A collaboration of over 220 ecologists from 47 states and Canadian provinces was formed in North America to decipher the impacts of insect decline on aerial insectivorous birds. Audubon joined the North American Insect Abundance Network in 2024, aiding in the investigation of local insect trends which adds to the global story.

Two traps were deployed following an established protocol to ensure that results are comparable to other North American sites. Timing of insect sampling was scheduled to follow the nesting and fledging cycles of Tree Swallows, a common aerial insectivore in Audubon's grasslands.

RI Audubon website:
<https://asri.org>

Collected insects were sorted by order, identified, and then weighed to determine weight per insect type focusing in greater detail on flies because this insect group is a significant, highly nutritious part of the diets of insectivorous birds worldwide.



Audubon Society of Rhode Island

Bee diversity in Farm Bill pollinator plantings

The University of Rhode Island Bee Lab, led by Dr. Steven Alm, is documenting wild bee responses to pollinator meadows installed through the USDA's Natural Resources Conservation Service (NRCS) initiatives in Rhode Island and Connecticut.

In 2023, the URI Bee Lab documented at least 114 different species of bees using the plantings. At least 18 of these bee species were recorded in Rhode Island for the first time!

URI Bee Lab website:
<https://web.uri.edu/beelab>



Documenting Rhode Island's Syrphid flies

Flies in the family *Syrphidae* (often referred to as *Syrphids*, hover flies, or flower flies) are one of the most prominent groups of non-bee pollinators.

In Rhode Island, there are 65 species of *Syrphids* documented on iNaturalist. However, a study of habitat descriptions and range maps indicate that over 120 additional species could be found in Rhode Island.

George Christie (RINHS) initiated collecting trips to a variety of locations in 2024 and collected at least 10 new species of flower flies not previously documented in Rhode Island!

RINHS Website:
<https://rinhs.org>

