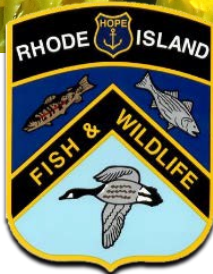


Division of Fish and Wildlife
Wild Rhode Island

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Painted lady butterfly, Photo: G. DeMeillon



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What's the Buzz on Rhode Island's Pollinators?

By Dr. Katie Burns, Pollinator Entomologist, DFW

The hum of insects and the sight of busy bees, butterflies, and hummingbirds flitting between the flowers are welcome signs of summer. Now that our meadows, hedgerows, and gardens are in full bloom, it's almost impossible not to take in the colorful diversity of Rhode Island's floral visitors! These flower visitors are much more than just a delight to the eye. Many of these insects and birds also carry out the very important ecosystem service of pollination, which is essential for both our survival and for supporting the health of our environment.

Almost 90% of plants require an animal pollinator to help them reproduce.



Buzz About Bees continued from page 1



Pollinators assist plants in their reproduction by carrying pollen from one flower to another, in an act called “pollination,” which allows the plant to produce seeds and fruits. These animal-pollinated plants account for about 35% of global food production, which comprises the majority of our Vitamin C, Vitamin A, and Calcium intake. These crop pollination services are worth up to \$530 billion per year and wild pollinators do it for free!

Pollinators are not only vital for supporting our health and our food security, but they are also essential for supporting healthy food webs and the health of the environment. By helping plants produce seeds and fruits, pollinators not only provide food for many species of mammals, birds, and insects, but also provide food for carnivores that eat these herbivores. In this way, they help keep our beautiful planet in balance.

There are many animals who carry out the ecosystem service of pollination, such as birds, bats, monkeys, and lizards, but most pollinator species are insects. North America is home to over 4,000 bee species, 750 butterfly species, 12,000 moth species, 850 flower fly species, and 2,800 wasp species, many of which are important pollinators. Out of these insects, bees are the most important pollinators due to the fact that they feed on plant material (nectar and pollen) at every stage of their life cycle and therefore regularly visit flowers. In

Rhode Island, there are an estimated 250 species of bee, most of which are solitary bees that don’t have a queen or make honey.

Unfortunately, insect pollinators are experiencing global declines, including our North American pollinators. For example, about one third of North America’s bumblebee populations are in decline and almost 20% of North America’s butterflies are facing extinction. These declines are due to threats such as habitat loss, disease spread, pesticide use, and invasive species. Many of these pressures are a direct result of land use changes caused by increased urbanization and agricultural intensification. Luckily, there are many actions we can take to protect these insect pollinators and the services that they provide for future generations.

In 2021, RIDEM caught the “buzz” on pollinators and launched an exciting new initiative called the Rhode Island Pollinator Atlas. The Pollinator Atlas is an effort to inventory Rhode Island’s pollinating insects and to gather data that will inform future conservation plans to protect our insect pollinators. Conducting an inventory of our pollinators helps us to determine which species need our help, how their populations are doing, which habitats are most important to our pollinators, and what activities are threatening their survival. All of this information will help us build management plans to promote and protect

How can I help pollinators?

- ♦ Allow RI native wildflowers, such as wild violets, milkweeds, and asters, to grow on your lawn or in your garden!
- ♦ Avoid using weed killers and insect sprays on your lawn and around your home!
- ♦ Advocate for pollinators in your neighborhood by talking to your community about their importance!
- ♦ Join a local Community Supported Agriculture (CSA) initiative!
- ♦ Become a community scientist by joining projects like the Rhode Island Bumblebee Survey!

Interested in joining the Rhode Island Bumblebee Survey (RIBS) in Spring 2023?

If you are interested in joining the RIBS project, subscribe to our **monthly e-newsletter** to receive updates by visiting our RIDEM “Outreach” webpage:
www.dem.ri.gov/wildlifeoutreach

Want to learn more about RI pollinators?

Check out our wildlife fact sheets on the RIDEM “Wildlife & You” webpage!

- ◆ Bee fact sheet:
www.dem.ri.gov/programs/bnatres/fishwild/pdf/bees.pdf
- ◆ Wasp fact sheet:
www.dem.ri.gov/programs/bnatres/fishwild/pdf/wasps-response-guide.pdf

associated with these species, so that we can better protect them. To do this, the RIBS project is engaging community scientists to document bumblebee species and their habitats around the state. For this year’s pilot season, a small group of volunteers is assisting with the RIBS project, but in Spring 2023 we will be welcoming as much public participation as possible! All you need is a love of nature, a smartphone, a lunchbox, and an insect net.

As of June 2022, our pilot volunteers have already observed all six of Rhode Island’s known bumblebee species, including the rare golden northern bumblebee (*Bombus fervidus*). We have also received reports that a new bumblebee species, *Bombus auricomis*, may have recently arrived in Rhode Island! This just shows that there is still so much more to be discovered about our state’s pollinators. So, make sure you sign up for our e-newsletter and follow us on social media to stay informed on how you can get involved with this important effort!

A world without insect pollinators is one that we would not like to see. Given the decline of insect pollinators both worldwide and here in Rhode Island, it is essential that we conserve these important critters and the services that they provide through informed management. Luckily, there is so much we can all do to help pollinators, whether you’re a gardener, a community scientist, an educator, or simply a person who appreciates nature! The Rhode Island Pollinator Atlas is a key effort in this fight to save our pollinators and we are so excited to work together to save our buzzing neighbors.

☞

current and future pollinator populations. One of the first steps in this important effort is the launch of a brand-new community science project: The Rhode Island Bumblebee Survey (RIBS)!

Bumblebees are important pollinators that visit a wide range of plants and pollinate many foods that we like to eat! They also carry out a special type of pollination called “buzz pollination,” in which a female bee vibrates her wing muscles to help the flower release its pollen. Several important crop plants benefit from buzz pollination, including cranberries and blueberries. Rhode Island is historically home to about 11 species of bumblebee, however preliminary surveys undertaken by Dr. Howard Ginsberg and Dr. Steven Alm’s research groups at the University of Rhode Island (2014-2021) revealed that almost half of these species may have disappeared from the state.

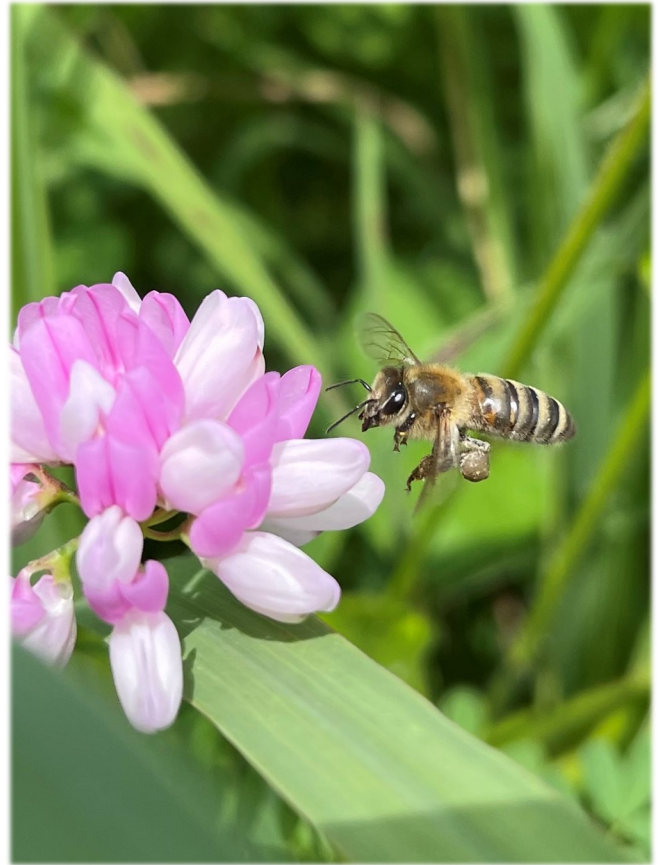
Given their declines, it’s important that we determine the status and distribution of Rhode Island’s bumblebees, as well as the floral species and habitats



Honeybees: Queens of “Save the Bees” Campaigns?

By: Dr. Katie Burns, Pollinator Entomologist, DFW

Despite the fact that there are over 4,000 wild, native bee species in North America and an estimated 250 species in Rhode Island, most people know about just one! The European honeybee (*Apis mellifera*) became a media star in the early 2000s when beekeepers began reporting unexplained mass die-offs of their colonies. These die-offs are now referred to as Colony Collapse Disorder (CCD), which is thought to have been caused by a combination of parasites, diseases, and pesticide exposure. Luckily, while once thought to pose a major long-term threat to honeybees, reports of CCD have declined substantially over the last five years, which is great news for beekeepers! However, honeybees remain the queens of “Save the Bees” campaigns which, unfortunately, has led to the spread of misinformation about bee conservation as a whole.



The honeybees in North America are not wild bees!

This may come as a surprise, but honeybees are actually a livestock species in North America! Managed honeybee colonies were brought over by European colonists in the early 17th century and, while feral populations do exist in the wild today, these bees are not native to North America and remain a primarily managed species. Today, they are used for both large-scale crop pollination and honey production, as well as smaller-scale backyard

beekeeping. Since they are a livestock species, like chickens or cows, they are highly unlikely to go extinct since they are actively bred for their services and because their beekeepers provide them with care.

Responsible backyard beekeeping.

Managed honeybees provide Americans with tasty honey, however, they do not play a role in our native bee conservation efforts. As any livestock species, honeybees are kept in large numbers, which leave them prone to diseases and parasites. If not properly managed, these pathogens can be spread to wild bees, such as bumblebees and solitary bees, who don't have the same support system as honeybees. Additionally, in areas with high populations of honeybees, these managed bees can outcompete wild bees for food. Since wild bees are already experiencing declines due to other threats, this can put unnecessary pressure on their populations. Therefore, if you do keep bees for honey or pollination services, it's important to practice responsible beekeeping to reduce the potential impact on our wild, native bees. Luckily, there are lots of ways for beekeepers to do this!

- [Register your apiary](#) with the RIDEM Division of Agriculture to help track potential disease outbreaks
- [Request regular inspections](#) of your hives
- [Join a local beekeeping community](#) to stay up to date with the latest protocols on how to monitor and protect your hives from diseases and pests
- Try not to place your hives in or near conservation areas to avoid resource competition with wild bees

On behalf of our buzzing neighbors, thanks for giving all of our bees a helping hand!

