Protect Our Pollinators

Buzz Words

FALL/WINTER 2016

Fritillary butterfly on common milkweed (Asclepias syriaca) ~ photo by Marcia Chaloux

What's Inside

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Welcome!

Welcome to our newsletter on the first anniversary of our bee-ing! This year has been a flurry of activities: brainstorming, researching, writing, coordinating, presenting, and then cycling through this process again with more brainstorming for new ideas and objectives. Some of our activities this past year include:

- Developing the Propollinators.org website, the ProtectOurPollinators Facebook page, a PowerPoint presentation, and business cards including the chemical names of neonicotinoids.
- Creating written materials including two brochures, one called Planting a Pollinator Garden and the other Alternatives to Pesticides, as well as lists of pollinator friendly plants and beneficial insects.
- Presentations to NOFA, local garden clubs and the Master Gardeners Fair
- Participating at local garden club events, Roxbury/Bridgewater Info Day, and Newtown Earth Day.
- Planning activities for children on pollinators including Life Cycle of a Butterfly, coloring pages, sunflower photo opportunity, and making bee headbands.
- Publishing a booklet on Monarch butterflies.
- Sponsoring a pollinator poster challenge for schoolchildren and arranging for a local photography club to display photos of pollinators at the Municipal Building, in celebration of National Pollinator Week.
- Attending many local and regional seminars on bees and beekeeping.
- Supplying written feedback and support on a state bill regarding pollinator health.
- Contacting local and state officials about relevant issues.

All of this was made possible by a small but dedicated group of creative women and a public that seems ready to understand, and maybe change, the new reality. That reality being that pollinators in general are on a collision course with forces beyond their control, which put them in serious danger. Monarch butterfly numbers are down 90%, while populations of honeybees as well as native bees are also declining, some to the point of extinction.

While our group cannot address all the factors for this decline (overuse of pesticides, loss of habitat, various mites and viruses, and climate change), we have focused our efforts on reduction or elimination of harmful pesticides and the loss of habitat. We hope you will take a look at our website and our Facebook page for relevant information. Our PowerPoint is also available to any group who might want to see it presented.

So, bee well and enjoy this first issue of our newsletter.

Pollinator display at the Municipal Building in Newtown, CT to celebrate Pollinator Week ~ photo by Holly Kocet

NATIVE BEES ARE ESSENTIAL
Think Outside the Beehive Box

Holly Kocet

Like the European honeybee raised in hives by beekeepers, our native bees – bumble bees, squash bees, mason bees, orchard bees, sweat bees, and others – are responsible for pollinating our trees, shrubs, flowers, and many valuable food crops such as pumpkins, squash, tomatoes, blueberries, and apples to name just a few. Pollination of plants and trees is essential for our existence since much of the food we eat is dependent on pollinators, and our trees clean the air we breathe.

Bees and flowers have a symbiotic relationship. It is not the intention of bees to pollinate flowers. They simply go about their business feeding on nectar and collecting pollen and nectar to feed their brood of young bees. As they do this the pollen sticks to the hairs on their bodies and is transferred to the next flower, effectively pollinating it. On the other hand, a flower's only concern is to be pollinated for reproduction. Since they cannot move, flowers have evolved strategies to attract pollinators such as bees, butterflies, beetles, etc. to do the work for them. They do this with a variety of shapes, color, patterns, scent, and of course, sweet nectar.

BEES ARE MISUNDERSTOOD

Many people incorrectly group bees with aggressive insects such as hornets, yellow jackets and wasps. The reason they are aggressive is that they have large hives to protect. European honeybees can also be aggressive when threatened for the same reason. Native bees, however, do not have large hive colonies to protect. They are docile and rarely sting.

NATIVE BEES ARE SPECIAL POLLINATORS

A bumblebee in the goldenrod (photo by Kyra Middeleer)

Bumble bees and other native bees are active for longer periods of time than their European honeybee cousins. They tolerate cooler temperatures, so they are out in the morning and continue pollinating until late in the day. They also appear earlier in spring and remain longer at the end of the summer/fall season.

But survival of the bumble bee is tenuous. The queen of the species is the only one to survive over winter. She must start a new colony each and every year. It is critical for her to find food early in spring, not only for herself but to lay eggs and start her new colony. That is why homeowners are encouraged to plant early bloomers such as blueberry, maples, willows, dogwood, and apple trees, and to tolerate dandelions and clovers in their lawn areas, which are so beneficial to bumble bees. Continuous bloom of flowers during summer for nectar and pollen is also important to sustain the colony for raising young to replace aging bees whose lifespan is short. Providing flowers in late summer and early fall is critical in preparing the queen for the long winter ahead. Fall plants that are especially important as nectar sources are cosmos, goldenrod, asters, sedum, and wild senna.

All bees are essential. We need to provide habitat for them and protect them from pesticides because they are responsible for our very existence. Please spread the word.

POLLINATOR SPOTLIGHT

Marcia Chaloux

Humble Bumble Bee

The genus Bombus (bumble bee) includes about 250 species found primarily in temperate regions of North America, Central America, South America, Europe, and Asia. In the United States there are a total of 21 species.

The common, and easily recognized, bumble bee is large and "furry" with smooth areas on their hind legs surrounded by stiff bristles for transporting pollen. The bumble bee above is shown with the well recognized pollen basket (corbicula) which is used for storing the harvested pollen .

Bumble bees are eusocial organisms meaning they live in colonies comprised of several different 'castes' who divide the reproductive, foraging, defense, and other tasks necessary to their survival. Mated queens emerge from hibernation in the spring after overwintering and begin feeding, building a nest and laying eggs. Once the first workers emerge they take over the care of the nest so the queen can concentrate on laying eggs. As the summer progresses, the colony reaches maximum worker production of about 100 to 200 bees. At the end of the season, only the new queens overwinter and the rest of colony dies.

Bumble bees are extremely important pollinators both in the field and in greenhouses. Unlike honeybees, they are able to forage under cold, rainy, and cloudy conditions as they have the rare ability to thermoregulate, which means they are able to generate heat in their thoracic muscles, by shivering, to reach the required minimum temperature to fly (about 30°C). This makes them excellent pollinators for a variety of crops in temperate regions, late into the fall.

And if thermoregulation wasn't special enough, bumble bees are also able to "buzz pollinate," allowing them to reach tightly packed pollen that other pollinators are not able to. By contracting their flight muscles, they produce strong vibrations that they direct on to the anther using their legs and mouth parts, which releases the pollen. Blueberries and tomatoes are just two examples of the many plants that require this form of pollination.

Monarch butterfly on Butterfly Bush (photo by Mary Wilson)

Protect Our Pollinators

Our Initiatives

- Increase awareness of threatened pollinator species including native bees, honeybees, butterflies and other beneficial insects, as well as birds and bats.
- Encourage the planting of native species for pollinators and other wildlife.
- Increase awareness of harmful pesticides and their effects on bees and other pollinators.
- Provide safe alternatives to harmful pesticides (insecticides, herbicides, and fungicides).
- Seek local government and state support for the protection of pollinators.

Fall Gardening Clean-Up

Mary Wilson

Pollinators will appreciate it if you suppress that urge to cut everything down to neaten up the yard, leaving some perennials, grasses and others until spring. Some reasons are:

- Wildlife is hibernating. Lots and lots of beneficial insects (bees and butterflies included) will use your garden for overwintering sites in leaf litter, on twigs, even in the top layer of soil. If you chop down plants, you could be tossing out a black swallowtail chrysalis or destroying a native bee nesting site in the hollow of a stem.
- Birds find free food in seed heads, pods and berries. In particular do not cut down purple coneflowers, black-eyed Susans, sunflowers, and other plants with seeds and berries, which the birds will feed from during the winter. Especially leave any local, native plants standing, since they are most likely to be edible for local wildlife.
- Limiting your fall clean up is actually good for your perennials. Leaving perennials standing will help them gather snow, which will insulate the roots when it gets really cold and will also add moisture to the soil. Strong perennials in the spring make for better pollinator habitat later on.

Leave the leaves

- Removing leaves eliminates vital wildlife habitat. Critters from turtles and toads to mammals, birds, beneficial insects, and invertebrates rely on leaf litter for food, shelter and nesting material. Many moth and butterfly caterpillars overwinter in fallen leaves before emerging in the spring.
- On the lawn let leaves stay where they fall, chopping them with a mulching mower if needed.
- Rake leaves to use as mulch in garden beds to protect your plants and provide shelter for wildlife.

Other things to do in the fall

1. Plant spring bulbs. Pollinators particularly appreciate crocus blooms early in the season when other sources of nectar and pollen are not available.
2. Consider reducing lawn area and increasing pollinator habitat by planting a new garden with pollinator-friendly perennials, shrubs, and trees (natives recommended). Fall is a great time to plant, as time and snow melt give the roots an opportunity to become established before summer's heat and draught. Another reason to plant in the fall is that plants are often on sale at this time of year.

Finally, enjoy the beauty of your winter yard where snow and frost will create sparkling landscapes, while winter birds appreciate the seeds and berries you left there for them.

WE'VE BEEN EXTREMELY

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1. "Polly" bee (POP member Holly Kocet) with the young artists who particpated in our 2016 Pollinator Poster Challenge; **2.** POP member Mary Wilson covers the booth at the Roxbruy Garden Club event; **3.** POP advocate Flo Vanonni and POP member Joyce Pogers during the UCONN Master Gardener Fair in Bethel, CT; **4.** Newtown's First Selectman, Pat Llodra, commemorates National Pollinator Week at the Municipal Building; **5.** POP member Marcia Chaloux engages several kids in the Life Cycle of a Butterfly project at the Newtown Earth Day event; **6.** POP member Jackie Gaudet dons a bee costume for Earth Day; **7.** Friendly bee sign points the way to our pollinator display at the Municipal Building; **8.** POP members Marcia Chaloux, Mary Wilson and Holly Kocet at the Newtown Earth Day event.

BUSY BEES THIS YEAR

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9. POP member Mary Wilson with Diane Baumer who buzzed by our Earth Day booth; **10.** POP members Mary Wilson and Holly Kocet with Ann Astarita, Conservation Chair, talk at the Town & Country Garden Club; **11.** POP member Jackie Gaudet posing in the sunflower photo booth on Earth Day; **12.** POP members Marcia Chaloux, Sarah Middeleer and Holly Kocet at the CT NOFA conference, our first event; **13.** POP member Joyce Pogers planting on the Fruit Trail in Newtown, CT; **14.** Peg Townsend and Robin Austin man the booth on Earth Day; **15.** POP member Mary Wilson plants milkweed at NFA meadow on Blackman Road; **16.** "Polly" and "Wanna" bee swarm Richard Blumenthal, U.S. Senator, during Newtown's Labor Day parade.

Designing Pollinator Habitats for the Residential Landscape

(Part I)

Sarah W. Middeleer, MLA, ASLA
photos by Kyra Middeleer

You have no doubt heard a lot recently about the population declines of honeybees, native bees, and butterflies (especially the Monarch, down by 90%). There are many contributing factors to these losses, but decreased habitat is a significant cause. Thus, many experts urge communities and homeowners to provide pollinator-friendly plantings. There are many lists of recommended plants in books and on line (including propollinators.org, our website). But it can be confusing to know which of these plants should go where on one's property, not to mention what growing conditions they require. For instance, meadow plants are highly recommended for pollinators, but not everyone can create a meadow on their own property, or wants that "look." How then, can we incorporate plants valuable to pollinators into our existing landscapes? And what does design have to do with pollinator gardens?

GENERAL CONSIDERATIONS

First, whatever we set out to do on our properties, certain criteria should be considered. Factors to keep in mind include:

- Your personal style preferences and needs, e.g.: formal/informal, modern/traditional, low maintenance, kid- or pet-friendly, etc.
- The design of the house and outbuildings, including architectural style and color. This will influence the design and placement of planting beds and paths, from geometrical to curved, proximity to the house, color scheme, edging style, etc.
- Views: from the house to gardens, from the street, and from other vantage points outside
- Setting: rural, suburban, or urban; wooded or open; single-family or condo complex, etc.
- Existing conditions: wet or dry soils, rocky, sunny or shaded, etc.

Types of Pollinator Gardens for the Residential Landscape

Luckily, there are many plants favored by pollinators to suit almost any residential property – even an apartment with a terrace! But I think it helps to roughly categorize these plants as to where they will do well and look best. For instance, certain plants are better suited for a meadow, but others are great for the more manicured perennial border or a woodland planting.

Most plants listed for pollinators are perennials and annuals, but there are many ornamental grasses, groundcovers, shrubs, and trees that also play important roles. For instance, many plants serve as a food source for caterpillars. So don't feel limited to perennials, which can be high maintenance.

Here, then, is a very rough list of types of plantings one can incorporate attractively into the home landscape while supporting pollinators:

Meadows or meadow-type plantings
Perennial borders or beds
Mixed borders (shrubs and perennials)
Specimen trees
Shade or woodland gardens
Herb and vegetable gardens
Container gardens
Lawn and lawn alternatives

In this article I'll discuss meadows and meadow-type plantings. Future articles will explore the other types.

MEADOWS

Meadows are prime pollinator habitat, but creating a meadow from scratch is not for the faint of heart. Depending on the area you choose to foster a meadow, you may need to remove existing lawn and other plants. But first get your soil tested to know if the existing soil will be good for meadow plants. For instance, a rich loam may actually encourage more weeds. Meadow plants often thrive in lean soils where garden plants would struggle.

The best location for a meadow is in an area that already has some meadow plants. But if you need to start from

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My "mini-meadow" is planted in long, rectangular beds along the street. The beds form a kind of hedge but support a lot more pollinators than the typical clipped hedge of privet or boxwood. An opening between the two sections frames a view of my front door.

scratch, you can utilize parts of your property unsuitable for other purposes, such as a steeply sloping lawn, if you wish. If you have a large lawn, consider converting part of it to meadow. Framing a meadow with groupings of native shrubs and trees is very attractive – to both humans and wildlife of all kinds.

The subject of removing existing plants to prepare for creating a meadow is complicated. Many experts rely on the herbicide glyphosate. However, glyphosate has recently been shown to be carcinogenic. Alternatives to spraying include sod cutting (for lawns), smothering, burning, and good old-fashioned removal by hand or machine.

If you are starting with an area that already has some meadow-type plants, be sure to identify them so that they can be preserved. Many important pollinator plants grow naturally in areas not receiving regular mowing and weeding, so if you find that your chosen meadow area is already supporting some good plants, you may be able to spot-seed or simply plant around what's there. Identifying existing plants is also extremely helpful for knowing what other plants are most likely to succeed in that location.

Choose a seed mix appropriate to your region and soil type. Ideally purchase it from a company in the same region where you live. Southern Tier Consulting, based in New York, offers several excellent mixes, including those for wet or upland soils, and even for shady areas. Avoid mixes with lots of annuals, because after they have died out, weeds will take their place. Your seed seller should provide seeding rates (how much seed you need for a given area) and instructions.

Cut your meadow every 3 years, preferably in March. This schedule will permit birds to forage from the dried seed heads all winter but will also not disturb ground-nesting birds during their breeding season (April 15 – Aug. 15). If you have a very large meadow it is recommended to mow one-third of it every three years.

Room here does not permit me to go into the subject of meadows at greater length, but good resources include: ***Garden Revolution***, by Larry Weaner and Thomas Christopher (2016); ***Managing Grasslands, Shrublands, and Young Forest Habitats for Wildlife: A Guide for the Northeast***, published by The Northeast Upland Habitat Technical Committee and the Massachusetts Division of Fisheries & Wildlife (I located this book on the CT DEEP website); ***Establishing Pollinator Meadows from Seed***, by Eric Lee-Mäder, Brianna Borders, and Ashley Minnerath; and many articles on line, particularly those published by universities with agricultural extension services. Xerces.org is a very helpful website.

See propollinators.org for a recommended plant list.

Mosquitoes, Pesticides and Bees

Mary Wilson

A massacre of over 2.5 million honeybees occurred recently in South Carolina when a pesticide, naled, was inappropriately sprayed by officials in response to concerns about the Zika virus — even though no mosquitoes infected with Zika had been identified in the area. To make matters worse, beekeepers in the area were not notified in advance, preventing them from being able to take protective action. And, as a prominent bee researcher at the University of Maryland said, "If you're killing honeybees, you're killing a lot of other pollinators, too, and those populations could take a long time to recover."

There is a huge need for both honeybees and native bees to provide pollination services for agriculture in this country. Pollinators are essential in the production of about 75% of the crops grown in the U.S. Without them, a complex food industry, including farmers, suppliers, truckers, refrigeration companies, retailers, and, of course consumers, would be facing very major, and mostly negative, changes.

There are many other reasons to eliminate or reduce pesticide use including: threats to human health, in particular our children's; damage to beneficial insects, birds, fish, worms, and good soil bacteria; harm to our pets; contamination of surface and ground waters; and contamination of our food.

The kind of governmental disaster that occurred in South Carolina should never have happened and hopefully will not be repeated in other jurisdictions across the country. We see this as part of a wide-spread belief that pesticides are an acceptable option to control all kinds of real and/or perceived problems. While we understand that there are instances where chemical intervention is justified, we believe that the overuse and misuse of pesticides and herbicides is doing grave damage to the environment, i.e. the world in which we live.

(Check the POP website, propollinators.org, for safe alternatives to pesticide use.)

NOTECARD SET
Fundraiser

Help support Protect Our Pollinators efforts by purchasing these wonderful notecards created from the artwork of some of the young artists that participated in the 2016 Pollinator Poster Challenge.

The set includes 4 beautiful designs.
Each card is 5 1/2 x 4 1/2 inches, printed in full color on medium weight cover stock.

$8 a set
2 sets for $15

Email us to arrange your purchase at
ProPollinators@gmail.com