Watershed News

2454 Axe Factory Road, Bordentown, NJ 08505 (609)- 298-4262

Winter 2023

Upcoming Events

Quarterly Metered Monitoring Dates
June 5th, rain date 6th

Roadside Cleanup
at Axe Factory Rd @1pm
April 23rd

Macroscan
at Spring Hill Brook
May 20th
1pm-3pm

Meetings
April 11th
May 9th
June 13th

To access our full calendar online go to: https://craftscreekwatershed.org/calendar/

What is macro-invertebrate sampling and why is it important to do?

Written by: Debbie Pinto

Crafts Creek –Spring Hill Brook Watershed Association has performed water quality testing for many years, typically each spring and fall, and reports its findings to the NJ Department of Environmental Protection. This data provides important information on the chemical, biological and ecological health of our waterways transecting our community. Just testing for chemicals and checking water temperature and pH provides clues but does not tell us anything about the kinds of organisms existing in the waterways. Examining the macroinvertebrate communities provides a greater understanding of the overall health of waterways and what life, if any, is present.

To obtain information on aquatic macroinvertebrates, our citizen scientists use nets to scoop up water and sediments, and immediately empty the contents into a shallow container of water to see what has been caught. Aquatic macroinvertebrates, meaning aquatic animals without backbones, can be observed with the naked eye, thus making this a great, inexpensive tool for our watershed association to use.

Aquatic macroinvertebrates live for all, or part, of their lives in water and have limited mobility, making them perfect organisms to determine the individual health of each waterway in our community. Some of these tiny animals are sensitive to pollution whereas others can live in polluted waters. Because of this variability in sensitivity

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to pollution, macroinvertebrates make good biological indicators by examining both the types and numbers of animals present to determine the health of the waterway. A healthy waterway will have a large number of different types of macroinvertebrates present with no one type dominating the system and may include stonefly and caddisfly larva. A polluted waterway will have only a few different types of macroinvertebrates present, often in large numbers and generally include things like aquatic worms, water fleas and midge larvae.

Looking at this data over a period of seasons and years provides important information to local and state officials on impacts to these waterways due to runoff, road salts, erosion, and development and help officials make informed decisions going forward.

pollution tolerant water strider

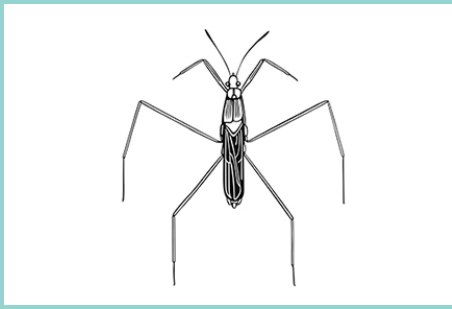
pollution intermediate dragonfly nymph

pollution sensitive caddisfly larva

Macro-invertebrate Fun Facts

Written by: Rebecca Szatkowski

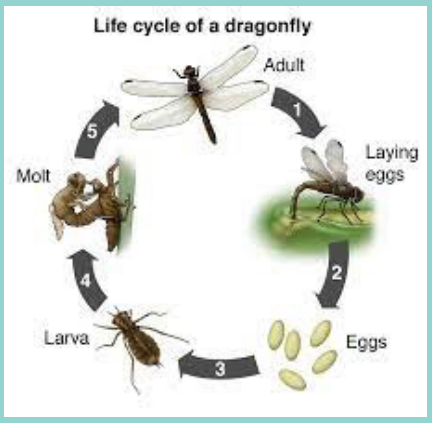
Waterstriders- Pollution Tolerant



1. Have tiny hairs on their legs which traps air and allows them to walk on water.

2. Their front legs are shorter than their back legs in order for them to capture their food, which consists of other insects.

Dragonflies- Pollution Intermediate



1. There are over 5,000 different species of dragonflies.

2. The larval stage typically lasts for up to 2 years while the adults (aka the flying stage) only live up for a few weeks up to a year.

3. Adult dragons only eat while flying so they are expert flyers. They are able to hover and fly straight up and down.

Caddisfly- Pollution Sensitive

1. The larvae builds different cases around themselves using sand, twigs, and other underwater debris.

2. Larvae typically feed on different aquatic plants and insects while adults are incapable of eating solid food so instead they extract nectar from flowers.

3. The adult stages are often mistaken for moths since they are active at night and attracted to light just like moths who are close relatives of caddisflies.

Rain, Flooding, & Tornadoes Oh My!

Written by:Todd Kokotajlo

For as long as I can remember, I have always had an enthusiasm for weather. Whether it be a good summer thunderstorm or a winter snowstorm, weather always had my attention. Like most kids growing up, I was mostly enthused with winter weather at the time and when the next big snowstorm be that might get us a day or days off from school to play around with friends making snowmen, snow forts or snowballs. Fast forward to now and my enthusiasm remains the same.

Recently, I became a trained SKYWARN weather spotter for the National Weather Service (NWS) www.weather.gov/phl and weather observer for the Community Collaborative Rain, Hail & Snow Network (CoCoRaHS) www.cocorahs.org (NJ-BT-90) "It's a group of amateur/volunteer weather enthusiasts who work in conjunction with the National Weather Service in reporting adverse weather conditions to promote public safety and minimize property damage, as well as report daily rain, hail and snow data that provides the highest quality data for natural resource, education and research applications." If weather is a passion of yours, both the NWS and CoCoRaHS are always looking for individuals to volunteer and help with weather reporting and precipitation data collection.

Weather in Mansfield Twp, NJ, and surrounding communities this past summer has been wild to say the least. We have had many heavy rain events which led to flash flooding and tornado events that led to property damage and road closures. Is this normal for our area? How much precipitation has fallen this year compared to previous years? How many tornados does NJ average per year? For community residents who don't follow weather regularly, I will share information to try and answer these questions. There were two flash flood events in-particular that affected our community severely. Both were localized.

On average, New Jersey receives between about 43" and 47" of precipitation annually, which is usually well distributed during warm months. Using data taken from my home weather reporting CoCoRaHS weather station Mansfield, let's look at the 30-year average precipitation vs. a 1-year total of precipitation period from October 2020 – September 2021. (See Water Year Overview pic). As you can see, the 30-year average is 46.72" of precipitation at my location. The 1-year total of 54.87" is above average for the 1-year period compared to the 30-year average. Looking at the 3-month period from July-September 2021, you can see precipitation was well above average respectively, which led to flooding issues in our community.

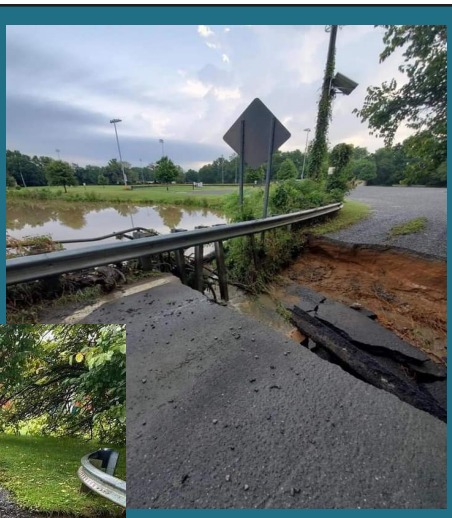
Specifically, let's look at the 2 severe weather events of heavy rain on July 12, 2021. and August 10, 2021, that led to flash flooding on Rt. 130 near Kinkora Rd. on the border of Florence and Mansfield Twp. & in Mansfield Twp. near the Civic center on Rt. 206. The July 12th event happened within a 3-to-4-hour timespan and produced 6" to 10" of rainfall, which led to roadways being flooded and impassable. This was a 100-year event. In any given year, there is a 1% chance of this type of flood occurring. The August 10th event in Mansfield dropped just under 4" of rainfall in a 1-to-2-hour span which led to the civic center pond to overflow and cause the access bridge to the parking lot be washed away. This resulted in the township committee to order emergency repair so the area could be accessed again for community use.

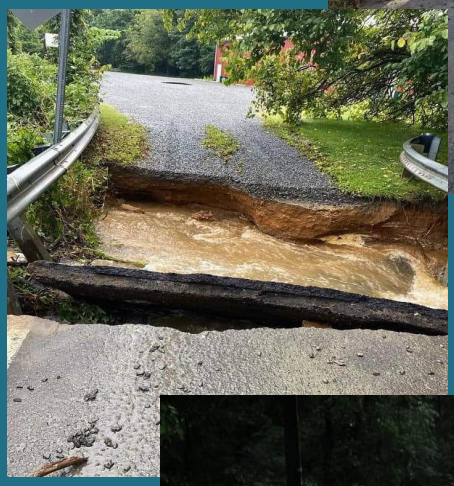
Rain, Flooding, & Tornadoes Oh My! cont.

Written by:Todd Kokotajlo

Finally, let's look at the tornado events that affected not only our community, but the entire state. New Jersey on average experiences 2 tornados per year. This past summer, New Jersey experienced 11. The record is 17 tornadoes in 1989. Tornado warnings were unusually high for our area and NJ as well. 23 counties in the state had at least 1 tornado warning issued this past summer. The highest ever recorded since 1986 (Iowa Environmental Mesonet). The worst tornado affected south jersey town of Mullica Hill on September 1, 2021, which had an EF-3 rated tornado, winds of 136mph – 165mph is the strongest to ever affect NJ. Multiple homes were damaged or destroyed. It was 1 of 7 tornadoes on this date. On July 17, 2021, an EF-1 tornado with winds of 80 – 90 mph touched down near the Columbus Farmers Market Rt. 206 and traveled towards Mt. Pleasant Rd. and Rt. 68 causing tree damage.

So, to answer the question, is the wild severe weather events we experienced this past summer normal? In short, the answer is yes & no. The factors that caused some of the severe flooding weather events in July and August, were due in-part to a combination of your typical hot humid weather pattern that set up over our area. This led to the stage being set for when strong cold fronts pushed through our area to cause heavy rainfall to occur. The other reason for the severe weather (tornadoes) was due to the remnants of 2 tropical systems that affected our areas. When this happened, we had storms/rain that moved over the same area (training) dropping a lot of precipitation in the same area. This doesn't always happen. Hopefully moving into next summer, the weather will be cool with highs of 78 degrees, sunny skies (occasional rain sprinkled in as needed) and low humidity…. lol who am I kidding…we need those conditions year-round!





STATION LIST | OVERVIEW | CHARTS | DAYS IN WATER YEAR | DAILY PRECIP OBS | MULTIDAY PRECIP OBS | HAIL OBS

Station Overview

Station Number: NJ-BT-80
Station Name: Mansfield Twp 1.9 SW
Elevation: 94 ft.

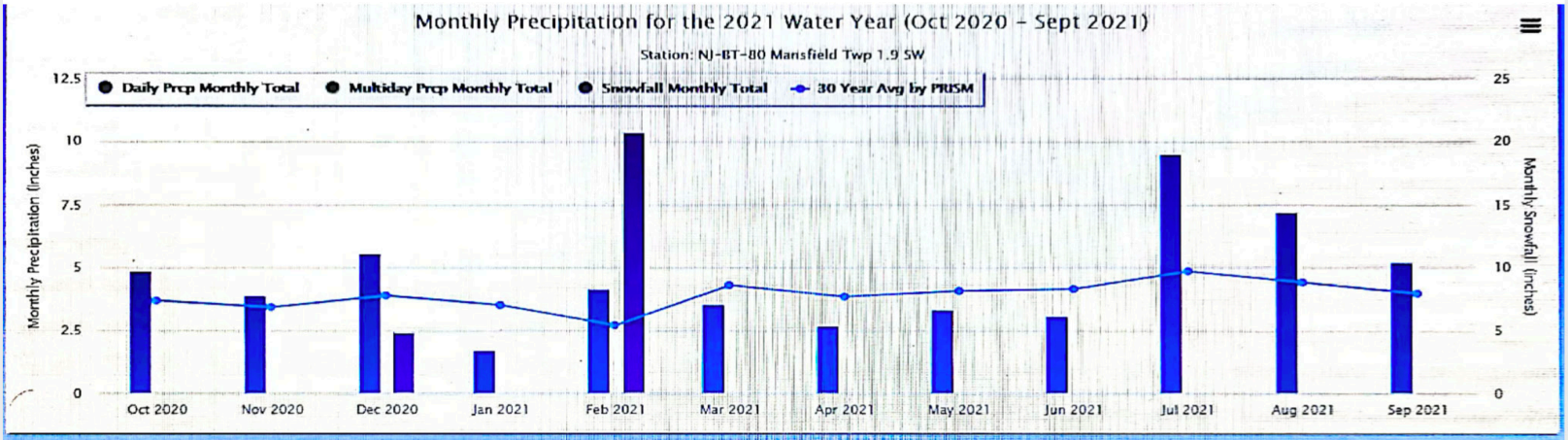
Download as Excel File

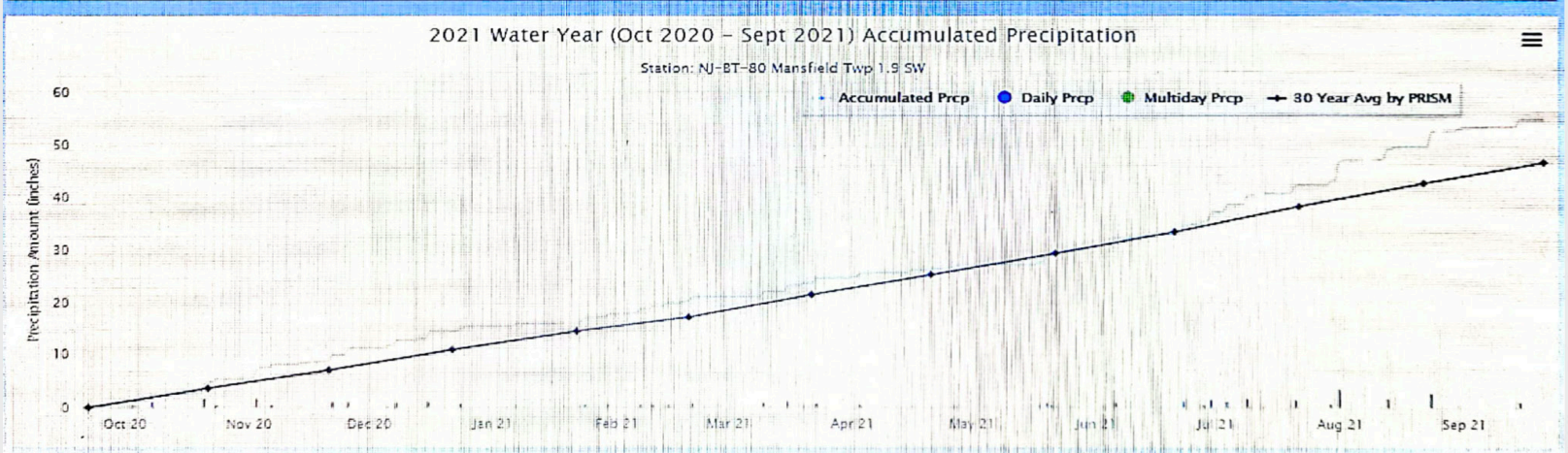
Station Location

County: Burlington, NJ
Latitude: 40.068133
Longitude: -74.743809

Water Year Overview

Year-Month	30 Yr Avg by PRISM	Total Precip Sum	Days Covered by All Obs	Daily Precip Sum	Daily Obs Count	Multiday Precip Sum	Days Convered by Multiday Obs	Multiday Obs Count	Days with Precip	Days with Trace	Total Snowfall	Days with Snowfall	Days with Snow on Ground
Oct 2020	3.68	4.87	30	4.87	30	0.00	0	0	14	1	0.0	0	0
Nov 2020	3.42	3.91	30	3.91	30	0.00	0	0	9	1	0.0	0	0
Dec 2020	3.88	5.56	31	5.56	31	0.00	0	0	9	6	4.9	1	7
Jan 2021	3.50	1.72	29	1.72	29	0.00	0	0	8	3	0.0	0	0
Feb 2021	2.70	4.16	28	4.16	28	0.00	0	0	13	5	20.8	7	28
March 2021	4.29	3.54	31	3.54	31	0.00	0	0	8	2	0.0	0	0
April 2021	3.83	2.69	30	2.69	30	0.00	0	0	14	1	0.0	0	0
May 2021	4.06	3.36	31	3.36	31	0.00	0	0	12	2	0.0	0	0
June 2021	4.14	3.07	30	3.07	30	0.00	0	0	13	1	0.0	0	0
July 2021	4.85	9.53	30	9.53	30	0.00	0	0	14	1	0.0	0	0
Aug 2021	4.41	7.25	30	7.25	30	0.00	0	0	12	4	0.0	0	0
Sept 2021	3.96	5.21	29	5.21	29	0.00	0	0	10	1	0.0	0	0
Totals:	46.72	54.87	359	54.87	359	0.00	0	0	136	28	25.7	8	35





Bats- A Very Misunderstood Animal

Written by: Debbie Pinto

Bats are fascinating and their role in our environment is not well known. Bats are very beneficial to control insects that plague our spaces, like mosquitos and stinkbugs. New Jersey is home to nine different species of bats, and no matter where you live, bats are close by. Many people fear bats and regard them as pests to be killed. Bats are not aggressive and avoid interactions with people. While some bats may carry rabies, most do not and any bat that appears sick and on the ground is best avoided (with a call to animal control officials).

Bat Facts:

•The majority of bats (70%), including those in New Jersey, are primarily insectivorous. They will consume at least ½ their body weight of bugs each night and more if they are pregnant or nursing (about 3,000 mosquito sized insects per night). Bats are the only major predator of night flying insects.

•About 30% of bats consume nectar during the night and help pollinate plants. Many nectar-feeding bats see ultraviolet light, helping them to locate flowers during the nighttime hours

•Bats are the only mammals capable of true flight. Some bat species will migrate in the fall, while others will hibernate in caves, buildings and tree cavities.

•Bats use echolocation by emitting rapid ultrasonic pulses into the air that bounce off nearby objects to precisely locate fast-flying insects, like mosquitos and stinkbugs. The combination of echolocation ability and flight agility allows a bat to detect and avoid an object the thickness of a strand of human hair in the dark.

•The most common bat in NJ is the Little Brown Bat.

•Numbers of bats has plummeted in NJ due to a disease called White Nose Syndrome, insecticide applications killing its food supply, and the intentional killing of bats especially if found roosting near humans. Sadly, bats typically have just one offspring per year so numbers keep trending downwards. All bats are protected by law under the NJ Endangered and Nongame Species Conservation Act, and it is illegal to harm, harass, capture, or kill bats (with the exception of Rabies testing of sick bats).

What to do if bats are roosting in your home?

Bats can become a nuisance since they roost in warm, dark spaces, and man-made structures can offer the perfect habitat. Bats are non-aggressive animals but regardless having a bat enter your living space is frightening. To assist the bat in exiting the house, stay calm (or find someone who is), isolate the bat to a single room, and open the windows with the screens removed. Dim the lights and, if possible, stand quietly in a corner until the bat is observed exiting the window. If you find that you have a bat colony in your attic, it is important to observe them for a few evenings at dusk to determine where they are leaving from. Since they leave their young in the colony at night, it is most humane to seal the entry/exit areas after their young leave the roost. Since bats are protected, you can always contact Rutgers Wildlife Conservation and Management Program for assistance to report a bat colony or seek help. Weblink: https://wildlife.rutgers.edu/bats/reporting.php You can also contact the New Jersey Bat Sanctuary at phone: 908-200-1040.

Helping Bats Thrive in the Community .

Limit your use of insecticides. If mosquitos are problematic, a good solution is to use outdoor fans, which will also reduce chemical exposure for you and your pets. You can buy or construct bat houses as a means of increasing suitable bat habitat. Bat houses are artificial roosting structures that provide bats with an alternate site to establish a colony and can be mounted on poles or on the sides of buildings, like a shed. Mounting a bat box prior to properly evicting a bat colony will provide a new roost for the evicted colony. For more information on the proper construction and placement of a bat house, you can go to www.wildlife.rutgers.edu

Let's "Bee" the Change for Bee Friendly Lawns

Written by: Debbie Pinto

What is your idea of a perfect lawn? Is it perfectly uniform green grass with no flowers or weeds? Now look closer. Are there any signs of life? Where are the pollinators and birds? Sadly, you will see few if any pollinators and birds; in other words that perfect green lawn is devoid of life. That perfect green lawn also requires significant water, chemicals and mowing contributing nothing to a healthy, sustainable ecosystem.

Now look at that imperfect lawn that is colorful with flowers (maybe even including dandelions) and a variety of low growing plants. You will see that it is vibrant and alive with insects and birds. More importantly this imperfect lawn supports a more sustainable ecosystem, is healthier for your family and pets, and requires less maintenance. And if you have a vegetable garden, it is scientifically proven that you'll have a more prolific harvest with all of your pollinator helpers. It's time to rethink what a beautiful lawn really looks like.

Pollination is crucial for food sustainability and healthy ecosystems: Pollinating species travel from plant to plant carrying pollen on their bodies and transferring genetic material critical to flowering plant reproduction throughout the world. Food crops like tree fruits, nuts, and many vegetables depend on wild bee pollinators. Wild bees, especially bumblebees, are important to blueberry pollination. And as the European honeybees struggle to survive, our native pollinators become even more important for our food security.

Pollinator populations throughout the world are changing and in many areas are now in serious decline due to loss of feeding and nesting habitats, pollution, application of herbicides and pesticides, disease, and changes in climate. There are over 400 native species of bees in New Jersey and their numbers are declining. Research has shown that every bee friendly lawn will help to support the wild bee population and all pollinators by providing food sources.

Don't be afraid of bees. It is important to understand that not all pollinators sting! Pollinators on your lawn are not likely to sting you (unless you grab one), since they are much more interested in seeking food and habitat.

Benefits of a Bee Friendly Lawn: A Bee Friendly lawn can support over 60 species of bees, including 55 bee species on Dutch white clover alone. Adding plant diversity in a lawn reduces maintenance, including less irrigation, fertilizer, and mowing (your time is valuable, right?).

Steps to Create a Bee Friendly Lawn: The overall goal of a bee friendly lawn is to have different grasses and low-growing perennials that bloom at different times of the year, while the bee lawn is able to withstand mowing to 3-4 inches tall, can handle foot traffic, and reduces maintenance. Here's how to get started:

1. Mow to about one inch and remove grass clippings.

2. Aerate if desired to improve seed-to-soil contact.

3. Overseed the lawn area with a Fine fescue grass or a blend of Fine fescue and Kentucky bluegrass seeds (total grass seed at 4 pounds per 1000 square feet) mixed with white clover seed (Trifolium repens; about 1.5 ounces for 1000 square feet). These seeds are available online. White clover is important to include since it is robust, is green, handles foot traffic and outcompetes weeds. Other low lying plants can be included such as Creeping thyme (Thymus serphyllum); and Wild violets (Viola odorata). Dandelions are also an excellent pollinator food source, which nature will happily provide.

4. Water well to encourage seed growth and establish new growth. Water as needed until established.

5. Let the new lawn grow to 4 inches or more to encourage growth and blooming. When you do mow, cut back to 3 inches instead of mowing short. This prevents moisture evaporation and encourages healthy growth. Allow flower heads to form to release seeds to attract pollinators and help the new lawn retain moisture.

6. Avoid application of pesticides, herbicides,

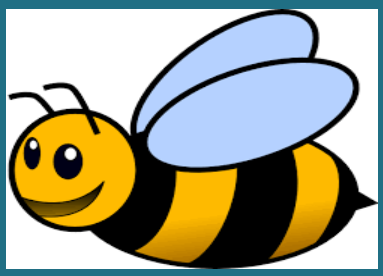
Let's "Bee" the Change for Bee Friendly Lawns

Written by: Debbie Pinto

and fertilizers on your Bee Friendly lawn since most are toxic to pollinators and birds, especially Neonicotinoids (already banned in many countries). If desired, control unwanted weeds by hand weeding or using a weed torch. Tolerate some insect damage in your landscape, it shows that your ecosystem is healthy. If you must use pesticides, avoid broad-spectrum products that include neonicotinoids, organophosphates, carbamates, and pyrethroids. Even organic products (e.g., Pyrethrin) can be harmful. Do your research before applying any chemicals!

Going Further to Support Bees-Provide Nesting Habitat: It is important to understand that native bees do not defend their nests and do not sting unless they are disturbed or grabbed.

Native bees have very different nesting requirements from European Honey Bees, which live in hives. Many native bees are solitary or nest in very small numbers, with 70% nesting in the ground in a sunny location with bare soil or very little vegetation. The other 30% of native bees make nests in small tunnels, holes in trees, and inside hollowed plant stems. To help native bees, leave an area of bare soil in a sunny location, keep perennials up over winter as bee nesting cavities, and leave some areas of exposed, undisturbed soil, with brush piles, old logs and dead trees cut down to a safe height. You can also purchase or build your own nest boxes to place in sunny areas around your lawn.



DO YOU WANT TO HAVE YOUR LAWN CERTIFIED AS BEE FRIENDLY & RECEIVE A SIGN TO PUT ON YOUR LAWN? Please fill out the Self Certification Application below and email it to: imagardengirl@verizon.net

SELF CERTIFICATION APPLICATION FOR BEE FRIENDLY LAWN DESIGNATION

To receive a "Bee Friendly" Lawn designation by the Crafts Creek Spring Hill Brook Watershed Association for your lawn, please check the applicable boxes below to SELF-CERTIFY that your lawn qualifies for this designation. Upon approval, you will be provided with a Bee Friendly Sign (subject to limited quantities) to post on your property to identify your achievement, to educate your community about the importance of bees and other pollinators in our environment, and how every lawn can become important food sources for pollinators.

CHECKLIST:

____ 1. My property is located in Mansfield, Springfield, or Chesterfield Township.

____ 2. My lawn has not been treated with pesticides, herbicides or non-organic fertilizer in the past 12 months.

____ 3. My lawn includes a mix of turf grass, white clover, and/or dandelions and other flowering, low growing plants.

____ 4. I pledge to maintain a lawn height of 3-5 inches to allow my Bee Friendly lawn to flower and seed and to avoid chemical use on my lawn.

NAME: _____

EMAIL: _____

ADDRESS: _____

_____

DATE: _____

Informative Resources

Macro-invertebrates

* https://www.nwf.org/Educational-Resources/Wildlife-Guide/Invertebrates/Water-Striders

* https://www.smithsonianmag.com/science-nature/14-fun-facts-about-dragonflies-96882693/

* https://www.chesapeakebay.net/discover/field-guide/entry/caddisflies

Weather

* www.weather.gov/phl

*www.cocorahs.org

Bats

* https://wildlife.rutgers.edu/bats/reporting.php

*www.wildlife.rutgers.edu

Become a Member!

Membership Type:	Fee:	Quantity:	Subtotal
Senior/Child	$20		
Adult	$30		
Family	$50		
Corporation	$100		
One Time Donation	$		
		Total:	

Mail your membership to:

CCSHBWA, Inc.
Christine Wilson, Treasurer
2323 Old York Road
Bordentown, NJ 08505

Make Checks Payable to CCSHBWA, Inc.

Or

Apply online!

Join our member funded organization at www.craftscreekwatershed.org

Like and follow us on facebook! Keep informed and share events, data, videos, and much more! https://www.facebook.com/CCSHBWS/

Follow us on Instagram https://www.instagram.com/craftscreekwatershed/

Follow us on TikTok https://www.tiktok.com/@craftscreekswatershed?lang=en

Shop at smile.amazon.com/ch/25-1910217 and amazon donates to Crafts Creek Spring Hill Brook Watershed Association Inc.