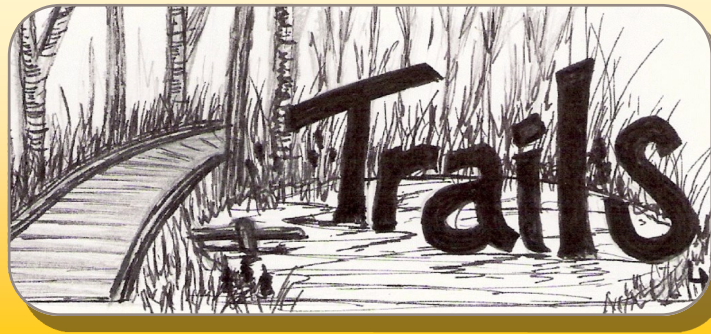


Newsletter of the
Crawford Park District
Winter 2021-22



New Preserve Opens

On October 21 at 1pm, Sandusky Headwaters Preserve officially opened to the public! CPD board members and staff were joined by many interested citizens from around the state for the ribbon cutting of not only the Preserve itself, but also to dedicate the H2Ohio Project that is a focal point of the property.

ODNR Director Mary Mertz spoke about the accomplishments of the H2Ohio projects across the state. These projects will aid in reducing nutrient loads that enter Lake Erie with the Sandusky Headwaters Preserve's wetlands being the first line of defense in the Sandusky River watershed. Lt. Governor Jon Husted followed with remarks about the need for parks and preserves that provide passive outdoor recreational opportunities for the citizens of Ohio. CPD Director Josh Dyer concluded the grand opening ceremony by thanking the many groups and individuals that came together over the past two years to clean up and develop the property for the public to enjoy.

Be sure to visit your newest preserve to enjoy the scenic River Trail, the elevated boardwalk, and the life that thrives in the newly constructed wetlands. As we move forward, more trails will be developed, and the land will continually be managed. Sandusky Headwaters Preserve is open dawn until dusk, 365 days a year. Go take a hike!





2022 Nature Camp

If you are familiar with Nature Camp, you know that it is a very popular activity around here! We want you to be prepared with all of the details, so you can be ready when registration opens at 8 am on Tuesday, March 1, 2022. You can print registration forms from our website (available January 10th); or stop by the Nature Center to pick one up. Payments (cash, check, or credit card) must be made at the Nature Center to reserve your child's spot in camp. We will not accept any payment over the phone until March 2, 2022.

<u>Ages</u>	<u>Dates</u>	<u>Times</u>	<u>Cost</u>
5-6 Year Olds	June 13 – June 17	9am - Noon	\$50
7-9 Year Olds	June 20 – June 24	9am - 3pm	\$100
7-9 Year Olds	June 27 – July 1	9pm - 3pm	\$100
7-9 Year Olds	July 11 – July 15	9am - 3pm	\$100
7-9 Year Olds	July 18 – July 22	9am - 3pm	\$100
10-12 Year Olds	July 25 – July 29	9am - 3pm	\$100
10-12 Year Olds	Aug 1 – Aug 5	9am - 3pm	\$100
5-6 Year Olds	Aug 8 – Aug 12	9am - Noon	\$50

PROGRAMS

All programs are free of charge, unless otherwise noted. For more information or questions about programs, call 419-683-9000, or visit www.crawfordpd.org.

December

Homeschool in Nature: Evergreens

Thurs., Dec. 2 9am, 11am, & 2pm Lowe-Volk Park

Last month we learned about ferns and discovered that some stay green all winter long. This month we will explore other plants and trees that stay green during winter. Dress for the weather. Call the Park District at 419-683-9000 to register your 5-12-year-old.

Winter Indoor Bird Watching

Saturday, December 4 8am Lowe-Volk Park

Winter months provide unique opportunities to observe common winter bird species from close distances all from the comfort of being indoors. Set out a bird feeder and watch the birds flock in for an easy meal. Enjoy donuts and hot beverages with CPD staff inside the Nature Center, as we sit and observe common birds that visit our feeders. Some binoculars will be provided.

Animals Face to Face: Frogs

Saturday, December 4 10am Lowe-Volk Park

Come meet the Nature Center's frogs up close—feel the sticky toes of a treefrog and the bumpy skin of a toad! Join Chelsea to interact with and learn about all of our resident frogs, including Gray Treefrogs, Spring Peepers, Western Chorus Frogs, Wood Frogs, and American Toads. Fun for all ages!



Winter Bird Feeding Workshop

Saturday, December 4 10am Lowe-Volk Park

Feeding birds can be an enjoyable and rewarding experience shared by anyone. Knowing which types of bird seed to provide our avian friends can make a big difference in which species of birds show up at the feeder. Come learn the basics of attracting birds to

your yard including which bird seeds to use, types of feeders, types of water features, and types of habitats to provide to attract birds. Following the workshop, we will spend time viewing birds from the Nature Center. Some binoculars will be provided.

Stewardship

Saturday, December 4 1pm

Sandusky Headwaters Preserve

Join CPD staff for our monthly Stewardship Program where the focus will be on removing woody species such as Glossy Buckthorn (*Frangula alnus*), Autumn Olive (*Elaeagnus umbellata*), Honeysuckle (*Amur sp.*), and Tree-of-Heaven (*Ailanthus altissima*). There will be a brief introduction about stewardship and our target species before heading out into the field. Closed-toe shoes, long sleeves, and pants are required. There is a possibility of contact with poison ivy. Dress for the weather. Some gloves and loppers will be available.

Holiday Decorations

Sunday, December 5 1pm Lowe-Volk Park

Let's get festive! Come make a pinecone holiday decoration for your home. We will provide the pinecones, pine boughs, ribbon, glue guns, wreath forms, and miscellaneous items from nature. If you have other items you wish to add to your wreath or a certain ribbon you prefer, bring those with you! Call the Park District at 419-683-9000 to reserve your spot.



Waterfowl Watch

Sat., December 11 9am Meet @ Lowe-Volk Park

Waterfowl migration is well underway in Ohio with peak numbers for many duck and geese species occurring in November. December still provides opportunities to observe large numbers of stragglers with diving ducks arriving in large flocks as late



PROGRAMS



December/January

migrators. Gulls are also well known to flock together in mass during the winter months making it much easier to spot rarer species. Join CPD staff for an annual waterfowl watch as we monitor local waterfowl numbers at the nearby Bucyrus Reservoirs. We will meet at Lowe-Volk Park, then carpool/caravan to the reservoirs. Be prepared to be outside. Some binoculars will be provided.

Owl Prowl

Saturday, December 11 6pm Lowe-Volk Park

Eight species of owls call Ohio home with only four species being full-time residents. Join CPD staff to learn about these amazing avian predators of the night. We will meet in Lowe-Volk Nature Center to learn about our local owls then head outside for a night hike searching for roosting birds in our woods. Some binoculars will be provided.



Movie in the Park

Friday, December 17 5:30pm Lowe-Volk Park

Put on your pajamas, grab a blanket, and head over to the Nature Center for a family favorite holiday movie! There will be popcorn, hot chocolate, and themed activities to go with the movie. Call the Park District at 419-683-9000 to sign up.

Nature Hike

Sunday, December 19 3pm Sears Woods



Each winter brings with it a new set of challenges for all life forms. Food supplies vary from year to year and of course the weather patterns play a key role in determining the makeup of winter bird communities. Meet Warren Uxley at Sears Woods and find out what this winter will bring.

Each winter brings with it a new set of challenges for all life forms. Food supplies vary from year to year and of course the weather patterns

Little Explorers: Puppet Show

Thursday, December 30 5pm Lowe-Volk Park



Little Explorers is an interactive program for children ages 0-5 years. Activities will focus on stimulating the senses for infants while also engaging fine motor skills for toddlers. Join Naturalist Abby and baby Vincenzo for a small puppet show inside the Nature Center and a chance for the children to play with the puppets afterwards.

Audubon Christmas Bird Count

Sun., Jan. 2 7am Meet @ Bob Evans in Bucyrus

The classic example of citizen science, the Audubon Christmas bird count collects data on bird populations throughout North America. Those who wish to participate should meet Warren Uxley at the Bob Evans at the intersection of US Route 30 and State Route 4 in Bucyrus.

Homeschool in Nature: Nests

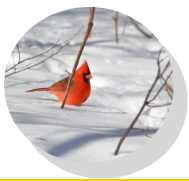
Thurs., Jan. 6 9am, 11am, & 2pm Lowe-Volk Park

Birds aren't the only animals to use nests as a home or a place to raise their young. This month we will look at several nest examples and then go on a hike to look for more in the park. Dress for the weather. Call the Park District at 419-683-9000 to register your 5-12-year-old.

Winter Indoor Bird Watching

Saturday, January 8 8am Lowe-Volk Park

Winter months provide unique opportunities to observe common winter bird species from close distances all from the comfort of being indoors. Set out a bird feeder and watch the birds flock in for an easy meal. Enjoy donuts and hot beverages with CPD staff inside the Nature Center, as we sit and observe common birds that visit our feeders. Some binoculars will be provided.



PROGRAMS



January

Animals Face to Face: Tarantulas

Saturday, January 8 10am Lowe-Volk Park



Come meet the Nature Center's tarantulas up close—don't worry, their favorite food is crickets, not humans! Join Chelsea to interact with and learn about our friendly resident tarantulas, including Chaco Golden Knee, Chilean Rose Hair, Curly Hair, and Mexican Red-knee Tarantulas. Fun for all ages!

Stewardship

Saturday, January 8 11am Lowe-Volk Park

Join CPD staff for our monthly Stewardship Program where the focus will be on removing woody species such as Glossy Buckthorn (*Frangula alnus*), Autumn Olive (*Elaeagnus umbellata*), Honeysuckle (*Amur sp.*), and Tree-of-Heaven (*Ailanthus altissima*). There will be a brief introduction about stewardship and our target species before heading out into the field. Closed-toe shoes, long sleeves, and pants are required. There is a possibility of contact with poison ivy. Dress for the weather. Some gloves and loppers will be available.

Lichens of Lowe-Volk

Saturday, January 8 3pm Lowe-Volk Park

Lichens are fungi that have discovered agriculture, harboring a layer of photosynthetic algae just below the surface of their bodies. The algae provide food for the fungus, which in turn houses the algae. This neat symbiotic lifestyle allows lichens to grow in almost any place that is too harsh for plants, such as trees, rocks, and barren ground. They are colorful, diverse in form and abundant. Ohio is home to several hundred species. In this workshop we will start indoors looking



at photos and samples of the common and distinctive ones that nature enthusiasts are likely to see on almost any outing.

Following that we will hike Lowe-Volk Park to discover lichens on our own. As preparation for this talk, audience members are encouraged to read the ODNR "Common Lichens of Ohio Field Guide", which can be viewed on their website at <https://ohiodnr.gov/static/documents/wildlife/backyard-wildlife/Pub5473%20Common%20Lichens%20of%20Ohio%20Field%20Guide.pdf>.

Dr. Bob Klips is an Associate Professor Emeritus in OSU's Department of Evolution, Ecology and Organismal Biology where he teaches classes on the plants of Ohio. He works in the OSU Herbarium maintaining the moss, liverwort, and lichen specimen collections there. He enjoys doing botanical macrophotography and has contributed images to many websites and publications. An active member of the Ohio Moss and Lichen Association, for the past 15 years he has contributed to the production of Ohio county-level atlases, and produced photo galleries for these organisms, all of which are posted on the Association's website (ohiomosslichen.org).

Owl Prowl

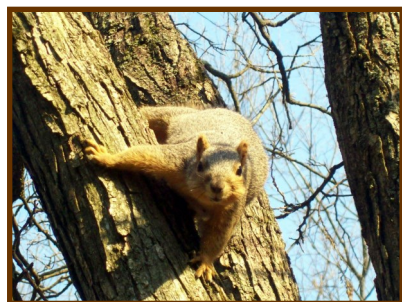
Saturday, January 8 6pm

Sandusky Headwaters Preserve

Eight species of owls call Ohio home with only four species being full-time residents. Join CPD staff to learn about these amazing avian predators of the night. We will meet in Lowe-Volk Nature Center to learn about our local owls then head outside for a night hike searching for roosting birds in our woods. Some binoculars will be provided.

Sneaky Squirrels

Wednesday, January 12 5:30pm Lowe-Volk Park



Squirrels have been observed pretending to cache (or hide) a nut to confuse potential food thieves. Come out to learn more interesting squirrel facts. We'll even play a game and pretend to be squirrels!



PROGRAMS



January/February

Rock Tumbling

Sat., Jan. 15 & 29 10am-12pm Lowe-Volk Park



Volunteer Bryan Summer will lead this rockin' program! You will learn about rock tumbling equipment and the process of tumbling rocks. We will start a rock tumbler with rough stone

and go through all 4 polishing stages to create beautiful, polished rocks. The first session will start the rough tumbling process; session 2 will finish with the polish tumble. A one-hour multimedia lesson will be part of this hands-on activity. Please plan on attending both sessions. Call the Park District at 419-683-9000 to register. Walk-ins are still welcome.

Snowy Owls

Monday, January 17 4pm Lowe-Volk Park

Snowy Owls often migrate from their summer homes in the Arctic to Ohio during winter months, even to Crawford County! Join Chelsea for an interactive presentation all about Snowy Owls, learning their life history and the best places to find one this winter.

Feeding Day

Sunday, January 23 1pm Lowe-Volk Park

The animals that reside in the Nature Center get a variety of food. Some prefer worms or mice while others gobble up leafy greens and vegetables. Come help Lisa feed some of our animal ambassadors.

Little Explorers: Ice

Thursday, January 27 5pm Lowe-Volk Park

Little Explorers is an interactive program for children ages 0-5 years. Activities will focus on stimulating the senses for infants while also engaging fine motor skills for toddlers. Join Naturalist Abby and baby Vincenzo for a program about ice. Dress for the weather as we will be outside for at least part of the program.



Castalia Pond/Medusa Marsh Bird Watching

Sat., January 29 7am Meet @ Lowe-Volk Park

Winter provides the perfect opportunity to work on waterfowl and gull identification as population numbers for many species are at their peak. Lake Erie provides a myriad of opportunities to view these birds.



Join CPD staff for a field trip along the Lake Erie Coastline searching for our target species. We will meet at Lowe-Volk Park to carpool/caravan to Castalia Pond. We will be

joined by the Richland County Park District and The Wilderness Center Bird Club. Participants will want to bring snacks; we will find somewhere warm for lunch. This is a family-friendly program. Plan to be outside.

"Nature's Rainbow" Photography Exhibit

Tuesday, February 1 6pm Exhibit Opens

Monday, February 28 Exhibit Closes

Lowe-Volk Park

Beat the winter blahs by stopping in the Nature Center to enjoy a colorful display of Ohio's native flora and fauna. The photos on exhibit, taken by Crawford Park District Naturalist Chelsea Gottfried, offer a welcome retreat from the whites and browns of winter, providing a glimpse of the rainbow of hues about to come in spring. While her exhibit will include photos from across Ohio, many will feature sights from your CPD parks. Chelsea will give a "Nature's Rainbow" presentation at 6pm on February 1 to kick-off this month-long exhibit.

Denticulate Longhorned Bee, an ironweed specialist.



PROGRAMS

February

Homeschool in Nature: Bark and Buds

Thurs., Feb. 3 9am, 11am, & 2pm Lowe-Volk Park

It is usually easier to identify trees when they have leaves on them. However, when you know what to look for during the dormant months, you can still identify the species of tree by taking a closer look at the tree's bark and buds. Dress for the weather. Call the Park District at 419-683-9000 to register your 5-12-year-old.

Animals Face to Face: Snakes

Saturday, February 5 10am Lowe-Volk Park



Come meet the Nature Center's snakes up close—you may be surprised to find they are smooth and soft, not slimy! Join Chelsea to interact with and learn about our friendly resident snakes, including an Eastern Foxsnake, an Eastern Milksnake, and a Corn Snake. Fun for all ages!

iNaturalist Tutorial

Saturday, February 5 2pm Lowe-Volk Park

Have you ever wondered which plants, fungi, insects, or other animals you're seeing when you take a walk through the woods, or even in your own backyard? iNaturalist is a website/app that helps you identify anything alive in nature, while also contributing to scientific research. Join Chelsea to learn how to navigate the iNaturalist website, how to use its features, and how to be a contributor to citizen science!

Woodpeckers

Wednesday, February 9 7pm Lowe-Volk Park

Charismatic and fascinating, woodpeckers cast their spell over all of us. This will be a PowerPoint program that looks into their lives: habitat, breeding biology, ecology, and their haunting calls will be examined in depth. Meet Warren Uxley at Lowe-Volk Park.

Winter Indoor Bird Watching

Saturday, February 12 8am Lowe-Volk Park

Winter months provide unique opportunities to observe common winter bird species from close distances all from the comfort of being indoors. Set out a bird feeder and watch the birds flock in for an easy meal. Enjoy donuts and hot beverages with CPD staff inside the Nature Center, as we sit and observe common birds that visit our feeders. Some binoculars will be provided.

Stewardship

Saturday, February 12 11am Daughmer Savannah

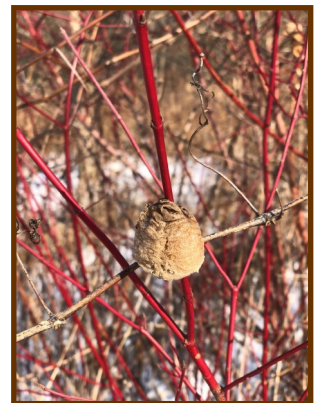
Winter is coming to an end and vegetation is slowly coming back to life. This change in seasonality means a transition for our natural resource crew in managing for invasive species. Join CPD staff for our last monthly Stewardship Program where the focus will be on removing woody species such as Glossy Buckthorn (*Frangula alnus*), Autumn Olive (*Elaeagnus umbellata*), Honeysuckle (*Amur sp.*), and Tree-of-Heaven (*Ailanthus altissima*). There will be a brief introduction about stewardship and our target species before heading out into the field. Closed-toe shoes, long sleeves, and pants are required. There is a possibility of contact with poison ivy. Dress for the weather. Some gloves and loppers will be available.



Ootheca Collection Hike

Saturday, February 12 2pm Unger Park

Join Naturalist Abby for a hike to search for the Ootheca (egg case) of praying mantises. Come learn why we are taking these non-native animals out of the wild and how you can keep them to watch them emerge in the spring with the potential of having a new pet! Fun for the whole family!



PROGRAMS

February

Native American Artifacts

Saturday, February 19 10am-12pm

Lowe-Volk Park

Retired school teacher, Bryan Summer is excited to tell the life of Ohio Native Americans by looking at some of their artifacts. There will be tools, weapons, and decorations to see, along with hands-on activities. Call the Park District at 419-683-900 to register. Walk-ins are still welcome.

Snow Insects

Sunday, February 20 2pm Lowe-Volk Park

Some insects are most active on warm winter days on top of the snow. Join Chelsea to discover which insects

are active in winter and why they are most comfortable in the cold. This program will include a indoor presentation, concluding with a hike down to the Sandusky River to search for insects. If



we are lucky, we may find the elusive Snow Scorpionfly! The date/time of this program is subject to change based on weather conditions, so please check our website or Facebook page for updates.

Cardinals

Monday, February 21 5:30pm Lowe-Volk Park

Cardinals can have over a dozen different calls or songs. While most of the time males are the vocal ones, female cardinals will call or sing to their mate while on their nest. Come out to learn more about our state bird and to make a craft to take home!

Little Explorers: Animal Tracks

Thursday, February 24 5pm Lowe-Volk Park

Little Explorers is an interactive program for children ages 0-5 years. Activities will focus on stimulating the



senses for infants while also engaging fine motor skills for toddlers. Join Naturalist Abby and baby Vincenzo for a program about animal tracks that will engage your children's senses. Dress for the weather as we will be outside for at least part of the program.

Feeding Day

Sunday, February 27 1pm Lowe-Volk Park

The animals that reside in the Nature Center get a variety of food. Some prefer worms or mice while others gobble up leafy greens and vegetables. Come help Lisa feed some of our animal ambassadors.

Nature Hike

Sun., February 27 3pm Heckert Nature Preserve

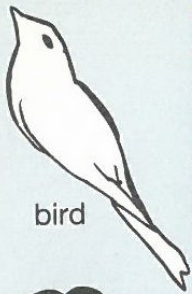
By late February winter is starting to loosen its grip. Winter bird flocks are breaking up, and the first courtship calls can be heard. Warm days can bring out over wintering butterflies. Meet Warren Uxley at Heckert Nature Preserve to see what this year's season of transition will bring.

400th Bird Banded!

On September 17, Bob Placier brought his mist nets to band fall migratory birds. Bob mentioned that the total birds banded at Lowe-Volk Park stood at 399. Figuring we would easily surpass the 400 mark, Bob and staff waited, and waited... and waited. No birds! It was looking to be a disappointing morning when, lo! At 11:40am, 20 minutes before we were going to close the nets, a Nashville Warbler was captured and banded! A remarkable 400th bird!



Out and About



bird



heart



comb



pencil



bowling pin



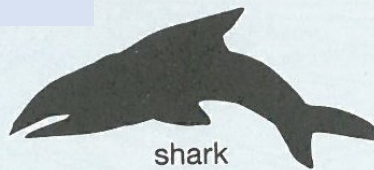
cat



frog



pliers



shark



mouse's head



spoon



slice of cake



Initial Butterfly Surveying Yields Impressive Results

Photos & Text by Kyle Bailey



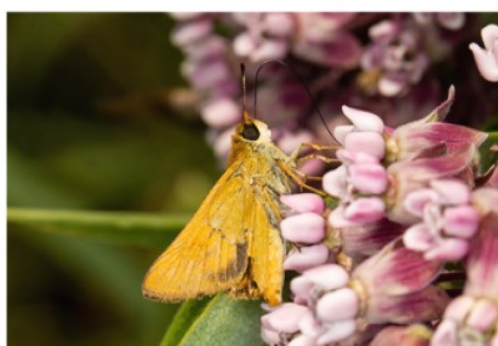
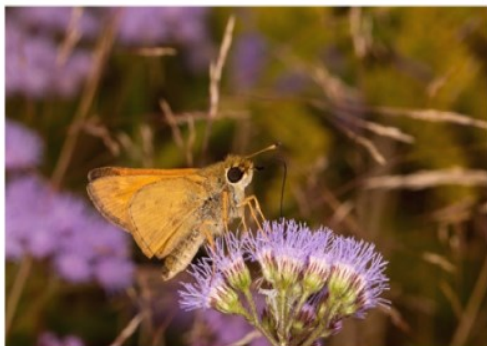
Pictured left to right: Eastern Tailed-blue (*Everes comyntas*); Bronze Copper (*Lycaena hyllus*); Common Checkered-skipper (*Pyrgus communis*). The former two butterflies are common resident species. The latter butterfly is a visitor species that is considered rare to occasional and is localized.

Work for a land manager is never complete. One of the most important aspects of the job is ecological assessments on the vulnerability and resilience of wildlife habitat, flora and fauna populations, and the overall ecosystem. These assessments are used to effectively guide land managers to make informed science-based land management policy decisions. Policies are then created to establish standardized protocols for managing habitat and monitoring flora and fauna populations.

The goal of land management is to improve the ecological integrity of our ecosystems. Ecological integrity is the condition of an ecological system and can be quantified through the implementation of surveying and monitoring programs. These programs are designed to assist land managers in developing the status and trends of resources on park properties. This information can be used as a basis for making decisions in aiding the long-term protection of our ecosystems. Gaining insight into the consequences of human interactions intertwined with the dynamic nature of the environment can guide management decisions. These decisions affect maintaining, enhancing, or restoring the ecological integrity of park ecosystems, while attempting to avoid, minimize, or mitigate the threats to these systems.

Over 135 species of butterflies have been documented in Ohio. Butterflies are beautiful pollinators that are great habitat indicators and can be easily monitored for habitat assessment quality. The goal of monitoring butterfly populations in CPD properties is to gain insight on the effectiveness of land management techniques. Increased diversity and population numbers should coincide with improvements in habitat stands through construction, enhancement, or restoration. It is our hope that the efforts of our natural resource staff will pay dividends in improving wildlife habitat and the ecological integrity of the CPD parks. This in turn, will benefit passive recreational opportunities within the park system for you!

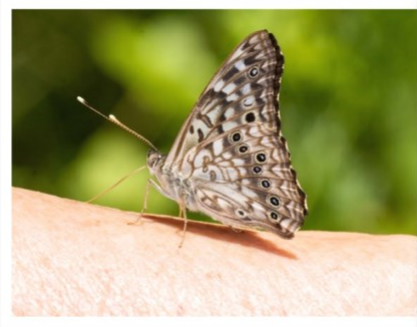
Prior to 2021, the CPD had never conducted long-term butterfly monitoring to assess pollinator habitat; I readily agreed to take on this project. One of my first tasks as the new land manager was to begin assessing each park property:



Members of the Skipper (Hesperiidae) family from left to right: Sachem; Zabulon Skipper; Fiery Skipper. Sachem and Fiery Skippers are visitors to Ohio and are considered rare to occasional. Zabulon Skippers are a resident species and are considered uncommon to occasional. All three butterflies are considered high quality habitat indicator species.

documenting safety issues, trail conditions, infrastructure conditions, flora and fauna inventories, wildlife assessments, etc. Before we could establish protocol for conducting long-term butterfly monitoring, I took a simplistic approach and surveyed by free-roaming park properties. With the grand opening of Sandusky Headwaters Preserve set for late October, I spent most of the summer and early fall surveying and familiarizing myself with this specific park property. This allowed me to create a baseline for the new park.

Since 2021 was the inaugural year for introducing long-term butterfly monitoring, creating a baseline from the initial survey results was very important. Baselines are used by land managers as a reference to develop protocols for subsequent monitoring. Results from the preliminary surveying were beyond satisfactory and yielded 35 species of butterflies! In just our first year of conducting butterfly surveying, we managed to observe approximately a quarter of Ohio's documented butterfly species! Most of the species we documented are considered common; however, a few species are considered uncommon to rare! Considering many of Ohio's 135 butterfly species are extremely localized, are considered vagrants, or have been



Members of the Brush-foot (Nymphalidae) family from left to right: Painted Lady (*Vanessa cardui*); Hackberry Emperor (*Asterocampa celtis*); American Snout (*Libytheana carinenta*). American Snouts are a visitor species and considered rare to uncommon. The Painted Lady is also a visitor species and considered uncommon to common. Hackberry butterflies are a resident species that is considered uncommon to common.

extirpated from the state, our initial results are welcomed and desirable. This baseline data has been helpful in developing long-term butterfly monitoring on all CPD properties.

Beginning in 2022, the CPD will use the protocol established by the Ohio Lepidopterists Society through the Ohio Lepidopterists Monitoring Network. This monitoring

program utilizes the "Pollard Walk" method, which includes walking an established route on a weekly basis and recording all adult butterflies seen in front and to the side of the observer up to ~5m. The Pollard Walk methodology will help by creating standardized protocol for all staff and volunteer monitors.

The important role that native plants play in attracting butterflies cannot be overstated. Native plants provide necessary shelter, protection, and food for caterpillars as they begin their long transformative journey of becoming a butterfly. Land managers should actively provide a diverse array of host species for egg laying and larval consumption, while also providing an abundance of nectar sources for adults. To maximize the potential for high butterfly diversity, there are a few best practices to keep in mind: provide nectar sources throughout the entire growing season; offer nectar sources that range in size from small to large; provide nectar sources that bloom at various times (early spring-late fall); provide a spectrum of color choices; and provide an array of composite vs. non-composite nectar sources.

As land manager of the CPD, I have been working tirelessly to improve habitat stands to yield maximum results. It is a process, and it will take time. I will continue to survey and monitor our floral and faunal populations to determine the success of our management efforts. It is my hope that our continued efforts will reduce populations of invasive species, which in turn will create, enhance, and maintain productive stands of native habitat that also improve visitor experiences.

I am currently searching for volunteers to assist with monitoring for the 2022 season. If you are interested in getting involved as a butterfly monitor, please contact me at kbailey@crawfordpd.org!



Bees... More than just the Honey Kind!

Photos & Text by Chelsea Gottfried



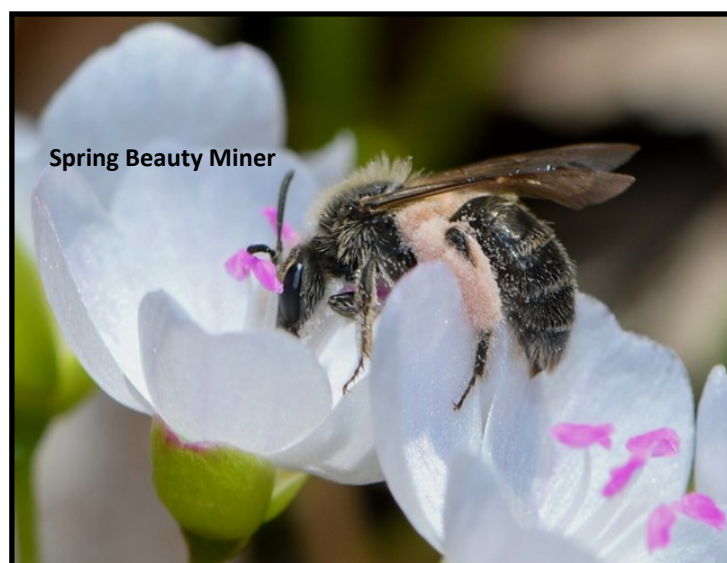
Coneflower Mining Bee

When most people think of bees, an image of a buzzing colony of honey bees likely comes to mind. And, thanks to apocalyptic headlines—"Last Winter's Bee Colony Death Rate is Highest Reported Yet..."; "Honeybees are Battling Their Own Pandemic"; and "Beepocalypse Redux: Honeybees are Still Dying—and We Still Don't Know Why"—it is well known that U.S. honey bee colonies are in peril. Conservation efforts to "save the bees" have been launched, with citizens taking up beekeeping and adding flowers to their landscapes to support the cause. What many people don't realize is that honey bees are not native to the U.S. They were brought here by European settlers during colonization. While their honey is deliciously appreciated, they unfairly steal most of the credit for pollinating our crops and flowers. In Ohio

alone, we have more than 500 species of native bees—bees that co-evolved with our native plants for thousands of years before European Honey Bees were introduced. Unfortunately, wild colonies that have escaped domestication compete with native species for nectar and pollen resources, and their numbers are declining. Thus, our native bees need our conservation efforts as well.

Though a handful of our native species have some degree of sociality (bumble bees, for example), most are solitary. This habit, along with their passive, non-stinging nature, is likely why they go unnoticed. Females must create a nest, lay eggs, and gather pollen for their larvae to feed on when they hatch. There are no queens, workers, or drones to help with this process, and their nests are typically underground or in a cavity like a plant stem. Living for only a year, much of our native bees' lives are spent within their nest as larvae and pupae before they metamorphosize into the winged adults we are familiar with. Adult life lasts a mere month or two (even less for males, whose only job is to reproduce), and this is when native bees are most likely to be seen visiting flowers. They consume nectar and some pollen to sustain themselves, and females collect pollen to provision each egg in their nest.

While a lot of bees are generalists, taking pollen from whatever flowers are blooming nearby, many species have adapted to specialize on one genus (or a few genera) of plants. This is known as oligolecty. One oligolectic bee is the Spring Beauty Miner, a mining bee that only collects pollen from spring beauty flowers in the genus *Claytonia*. These little ladies are ubiquitous in spring woodlands—their pink pollen sacs proof of their devotion to pink-pollened spring beauties. Such specialist bees are especially vulnerable to changes in habitat. If their host plant becomes uncommon or absent, so do they. To see which oligolectic bees might be found in Ohio and to find out which plants are their favorites, check out this free online "Guide to Specialist Bees of Ohio" at https://cpb-us-w2.wpmucdn.com/u.osu.edu/dist/2/86606/files/2021/04/GuidetoSpecialistBeesofOhio_2021.pdf.



Spring Beauty Miner



Hibiscus Turret Bee



Left to right: Calliopsis Cuckoo Bee, unidentified nomad bee, Lemon-cuckoo Bumble Bee. Cuckoo bees forgo the work of pollen collecting, instead stealing food from other bee species.

Another group of bees susceptible to population declines is cuckoo bees. Rather than doing the work of building nests and gathering pollen, these bees are kleptoparasites. They steal food by laying their eggs in the nests of other bee species. This is comparable to the cowbirds and cuckoos (for which the bees are named), that lay their eggs in other birds' nests. Most cuckoo bees resemble wasps, as they lack fuzzy hairs bees typically use for pollen storage. Though cuckoo bees seem lazy, they are a sign of healthy bee populations and are super interesting to insect nerds like me!

Like the honey bee, some native species have experienced population declines in recent years due to habitat loss, pesticide use, disease, and climate change. For instance, the Rusty-patched Bumble Bee used to be common but hasn't been found in Ohio in over 20 years. It is federally listed as critically endangered and presently lives in only 0.1% of its historical range. Though the first Ohio Bee Survey is currently ongoing in an attempt to document all of our state's species, the sad reality is that some species may already be gone that we never knew were here.



What can you do to help our native bees?

1. **Grow a "weedy" lawn:** spraying herbicides kills clover, dandelion, plantain, and other flowers bees forage on; mowing less often gives these flowers time to bloom, also saving you time and money
2. **Plant more flowering plants, especially natives:** include a range of bloom times; spring ephemerals, flowering trees & shrubs are great early season bloomers, while goldenrods & asters provide fall food
3. **Avoid using pesticides:** insecticides & fungicides are harmful/fatal to bees since they can remain in plants for long periods of time and can be transferred to bees & their larvae via pollen & nectar.

Junior Naturalist Club

The Crawford Park District's Junior Naturalist Club is for 12-18-year-olds who are interested in nature. Meeting topics change each month. The goal of the club is "To foster and encourage excitement for nature and nature-related careers within a community of young adults, giving them tools they need to excel in the pursuit of their interests." For more information about the Junior Naturalist Club, or if you know an interested 12-18-year-old contact Naturalist Abby Ditomassi by calling the park office at 419-683-9000; or you can send her an email: aditomassi@crawfordpd.org.

Meeting Dates: December 11, 5-7pm

January 8, 5-7pm

February 12, 5-7pm

Meetings are held at the Lowe-Volk Nature Center.

CPD Book Club

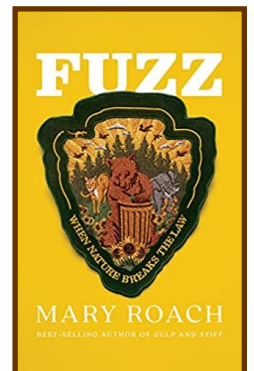
Do you love nature and also love to read? With the abundance of books available for nature lovers, sometimes it's hard to choose the next great book to read. Join the Crawford Park District's Book Club, and we will figure it out together! So come armed with your favorite book about nature or a nature-centered book you want to read, and be ready to make your case to the club!

Book Club Meeting Dates:

Dec. 29, Jan. 26, & Feb. 23

Start time: 6pm

Meetings take place at the Lowe-Volk Nature Center.



Crawford Park Astronomy Club

The Astronomy Club will meet on the 4th and 5th Saturday of every month 30 minutes after sunset. Please dress for the weather. On rainy or cloudy nights, the meeting will be held in the Nature Center.

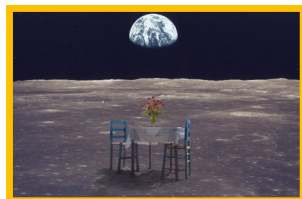
Crab Nebula

“When a star dies in a violent, fiery death, it spews its innards out across the sky, creating an expanding wave of gas and dust.” That is how Space.com describes the formation of a supernova nebula.



The start of one of the most popular nebulas began over 1000 years ago when Chinese astronomers first noticed a “guest star” near the constellation Taurus. This was actually an explosion that could be seen during the day and stayed visible for several weeks. In 1731, English astronomer John Bevis observed and documented the remnants of that explosion (nebula). In another 27 years, Charles Messier observed the nebula and was inspired to start cataloging celestial objects that were not comets. He began labeling them as Messier or “M” objects followed by a number. This nebula would be his first one on his list as M1. In 1844, the British astronomer William Parsons’ sketching of this nebula resembled a crustacean, which has now earned the moniker “The Crab Nebula”.

For years, astronomers have studied M1 and can tell us that it is 6,500 light years away; found near the horn of Taurus; stretches 10 light-years across; has an apparent magnitude of 8.4; and can identify the different elements that give M1 its beautiful colors. (Orange is hydrogen, blue is neutral oxygen, green is singly ionized sulfur, and red is doubly ionized oxygen.) The Crab Nebula is best seen in January when viewed with a high-grade telescope.



Q: Have you heard about the new restaurant that opened on the moon?

A: The food is good, but there's just no atmosphere.

Meeting Dates



January 22	6:30 pm
January 29	6:30 pm
February 26	7:00 pm



Targets for Winter

✦ **Andromeda/M31** – 2.5 million light years away, our nearest large, barred spiral galaxy, and has about a trillion stars

✦ **Triangulum Galaxy** – a spiral galaxy, 2.73 million light years away, 40 million stars, and in about 4 billion years astronomers say this will collide with the Milky Way

✦ **Polaris** – the North Star, about 400 light years away, a binary star, and 46 times the size of our sun!

✦ **Pleiades** – open star cluster, 100 million years old, and only 17.5 light years away

✦ **Orion** – a famous constellation found on the celestial equator. This is a stellar birthplace and other fascinating objects will be shown to you, including the Great Orion Nebula.



Pleiades Star Cluster by: Tony Hallas



The Great Orion Nebula by: Francesco Battistella

Thank you to the following who have donated to the Friends of the Crawford Park District:

August 12, 2021 through November 12, 2021



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The Dr. Laurie Anne Rhodebeck Memorial Scholarship

The Dr. Laurie Anne Rhodebeck Memorial Scholarship was established by the Friends of the Crawford Park District in memory of Dr. Laurie Anne Rhodebeck. Applicants can be entering any level of their educational attainment, attending any college, university, technical or vocational school, and entering any field of study. Preference is given to those studying environmental sciences or other studies that correlate with the mission of the Crawford Park District and to those who can display community service activities. An essay on the environment is required. This scholarship is renewable for the entire time a student is in school as long as they reapply each year. Interested applicants must visit the Community Foundation for Crawford County's website at www.cfcrawford.org/scholarships. Deadline to apply is March 1, 2022 by 5pm.

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Trails Newsletter



Crawford Park District Abbreviated Calendar

Park/Program Location Key:

LVP (Lowe-Volk Park); **UP** (Unger Park); **HNP** (Heckert Nature Preserve); **UP** (Unger Park);
SHP (Sandusky Headwaters Preserve; **SW** (Sears Woods); **DS** (Daughmer Savannah);
BE (Bob Evans in Bucyrus)

Date	Program/Event	Time	Park	Date	Program/Event	Time	Park
				Sat. Jan. 22	Viewing the Night Sky	6:30pm	LVP
Thurs. Dec. 2	Homeschool In Nature	9am, 11am, 2pm	LVP	Sun. Jan. 23	Feeding Day	1pm	LVP
Sat. Dec. 4	Winter Indoor Bird Watching	8am	LVP	Wed. Jan. 26	Book Club	6pm	LVP
Sat. Dec. 4	Animals Face to Face: Frogs	10am	LVP	Thurs. Jan. 27	Little Explorers: Ice	5pm	LVP
Sat. Dec. 4	Winter Bird Feeding Workshop	10am	LVP	Sat. Jan. 29	Bird Watching Field Trip	7am	LVP
Sat. Dec. 4	Stewardship	1pm	SHP	Sat. Jan. 29	Viewing the Night Sky	6:30pm	LVP
Sun. Dec. 5	Holiday Decorations	1pm	LVP	Tues. Feb. 1	"Nature's Rainbow" Opening	6pm	LVP
Sat. Dec. 11	Waterfowl Watch	9am	LVP	Feb. 1-Feb. 28	"Nature's Rainbow" Exhibit	8am-4pm	LVP
Sat. Dec. 11	Owl Prowl	6pm	LVP	Thurs. Feb. 3	Homeschool In Nature	9am, 11am, 2pm	LVP
Fri. Dec. 17	Movie in the Park	5:30pm	LVP	Sat. Feb. 5	Animals Face to Face: Snakes	10am	LVP
Sun. Dec. 19	Nature Hike	3pm	SW	Sat. Feb. 5	iNaturalist Tutorial	2pm	LVP
Wed. Dec. 29	Book Club	6pm	LVP	Wed. Feb. 9	Woodpeckers	7pm	LVP
Thurs. Dec. 30	Little Explorers: Puppet Show	5pm	LVP	Sat. Feb. 12	Winter Indoor Bird Watching	8am	LVP
Sun. Jan. 2	Audubon Christmas Bird Count	7am	BE	Sat. Feb. 12	Stewardship	11am	DS
Thurs. Jan. 6	Homeschool in Nature	9am, 11am, 2pm	LVP	Sat. Feb. 12	Ootheca Collection Hike	2pm	UP
Sat. Jan. 8	Winter Indoor Bird Watching	8am	LVP	Sat. Feb. 19	Native American Artifacts	10am-12pm	LVP
Sat. Jan. 8	Animals Face to Face: Tarantulas	10am	LVP	Sun. Feb. 20	Snow Insects	2pm	LVP
Sat. Jan. 8	Stewardship	11am	LVP	Mon. Feb. 21	Cardinals	5:30pm	LVP
Sat. Jan. 8	Lichens of Lowe-Volk	3pm	LVP	Wed. Feb. 23	Book Club	6pm	LVP
Sat. Jan. 8	Owl Prowl	6pm	SHP	Thurs. Feb. 24	Little Explorers: Animal Tracks	5pm	LVP
Wed. Jan. 12	Sneaky Squirrels	5:30pm	LVP	Sat. Feb. 26	Viewing the Night Sky	7pm	LVP
Sat. Jan. 15 & 29	Rock Tumbling	10am-12pm	LVP	Sun. Feb. 27	Feeding Day	1pm	LVP
Mon. Jan. 17	Snowy Owls	4pm	LVP	Sun. Feb. 27	Nature Hike	3pm	HNP