**The Grace of Birds**

I HAVE A CONFESSION TO MAKE: I FIND BIRDS FRUSTRATING. But as a naturalist at a bird sanctuary, they’re part of my work. In spring when the Garden opens, what birders care about is warblers: they’re tiny, they’re fast and I can’t ever find them. So I’m left standing there, craning my neck, wishing I knew what everyone else was so excited about.

This year, though, I was converted. I saw three types of warblers, and they are literally pieces of tropical forest on the move. They look like winged zebras. They have breasts like blazing sunsets.

So what happened? How did I get from frustrated to fascinated? Here’s the secret: this year, American redstarts and black-and-white warblers chose to spend long hours right next to the boardwalk, at eye level. Despite the company and guidance of expert birders here at the Garden, I know I’ll come to birding only one way — by the grace of birds. – Kyla Sisson

**A Favorite Something**

EVERY DAY, IT SEEMS, I HAVE A DIFFERENT FAVORITE SOMETHING in the Garden. A common thread that connects most of my ‘favorites’ is that they are often small, unassuming details you might not notice if you were walking quickly from one station to the next. Like the perfect symmetry of a budding rosinweed, or the way the late summer groundnut blooms infuse the air in the upland garden with their sweet scent. Or a bumble bee squeezing its plump body into the closed mouth of a red turtlehead blossom, or a group of adolescent robins clumsily bathing on a warm summer afternoon. Today I watched a turkey walk up the woodland path leading what appeared to be a spontaneous tour for half a dozen garden visitors. Tomorrow? Maybe I’ll get an invitation to the fresh fruiting of a slime mold. – Maia Campbell

**Humic Sheen**

THE SHIMMERY SUBSTANCE ON THE SURFACE OF THE WATER has been the most frequently remarked on feature of the wetland Garden. Is it some sort of runoff, some spilled chemicals? Or maybe it is natural, but what causes it? It turns out this shiny stuff is part of the wetland carbon cycle.

Bacteria in other parts of the Garden can use oxygen to help break down plant or animal tissue into its smaller pieces – much like how our digestion works. Bacteria in the wetland follow a different process. They are in an anaerobic environment (without oxygen), so rather than producing carbon dioxide gas, they produce methane. The methane either evaporates or turns into larger hydrocarbons (molecules of carbon and hydrogen) that form an oily layer on the water’s surface. This layer is called a humic sheen, which means it is a hydrocarbon but not a petroleum product. This sheen will break up into separate floating pieces if you poke at it with a stick; oil or gas spilled on water will stay connected in one large shape.

continued on page 3
Dear Friends,

On May 19 I enjoyed two weddings. The first was a global phenomenon and took place in the wee hours (on this side of the pond) amidst pageantry and pomp. It was a see-and-be-seen event with as much attention paid to the guests as to the bride and groom. The second wedding (to which I was actually invited) took place here later the same day, in a “basement church” filled with long folding tables, royal purple balloons and lilacs in bouquets and vases. I enjoyed the small local wedding, full of charm and sincere good wishes, where all attention was on the happy couple.

The Friends Annual Meeting was held the day after the marriage fest. That morning I had been contemplating the two weddings, and the contrast of Butchart Gardens with our Garden surfaced spontaneously in my mind. Butchart Gardens, on Vancouver Island, B.C., is easily the largest and most formal garden I’ve ever visited. It is structured, colorful and designed to impress. Our fine little Garden is relatively unstructured, modest and so subtle in its lushness that one doesn’t immediately notice all of its richness. The Garden doesn’t make you stand back and consider the scene like Butchart does — it rather invites you in to be part of it.

A royal wedding and Butchart Gardens have their allure and are fine to see once in a while. A homey wedding and a wildflower garden are appealing in a more relatable way. Visitors sometimes come to the Garden and are disappointed because their expectation is more Butchart than Butler. I wish I could greet these people and bring them to the quiet corners of the Garden where the wild plums stand, and to the bright oak knoll where the indigo buntings perch. I would take them to the overlook where wild rose and false blue indigo paint the meadow, and to the innermost part of the Garden where the marsh marigolds shine. There is beauty here, and it will transform you if you come into the quiet and open your heart to what lies before you.

I was overwhelmed by the devotion of those members and board who were able to attend our 2018 Annual Meeting. We did important work and had fun and shared good conversations. We held elections and learned our board members and officers will remain in place for another year. Thanks to them all! We voted to fund the second and third phases of boardwalk construction. Over 95% of our income goes to fund programs and projects such as this, with administrative and fundraising costs taking only 4.5% of our total revenues. We are especially proud of these figures, considering we ask only $15 for individual memberships.

Thanks to all our members and volunteers whose many contributions help make the experience of this Garden meaningful, immersive and intimate, like a small Minnesota wedding.

Sincerely,
Kathy Connelly

Friends Website Tucks in Surprises

By Gary Bebeau

Whether you’re looking for facts on native plants, Garden history, or Friends news and features, our comprehensive website friendsofthewildflowergarden.org offers up a trove of fascinating and useful material.

In our popular Photo Gallery, readers will find detailed information and photos of 640 flowering plants, shrubs, trees, ferns and sedges. Some species are historical to the Garden but no longer present and several have never been planted in the Garden but are easily grown in Minnesota. Web pages on invasive species can help users identify and eradicate these plants. Of particular importance are newcomers such as Japanese hedge parsley (Torilis japonica) and fool’s parsley (Aethusa cynapium).

Browse the Garden Information files to find links to events “This Month” in the Garden and images of the landscape “Then and Now.” The section on Eloise Butler tells the story of her life and work in the Garden. Those interested in digging further into the background of the Garden and the Friends can turn to the Archive for history files from 1907 on.

Each week the Home page features a new Garden Plant of the Week, a historical comment and a poem appropriate to the season. The expanded second edition of our Plant Identification Guide is available in our online Shop. Click on tabs for Membership, Donations and Volunteering to learn how to join the Friends and support the Garden.

Gary Bebeau is Friends Treasurer, Memorials Chair and Website Coordinator.
In a humic sheen, we see evidence of bacteria transforming carbon from one type of molecule to another. While there are some parts of the carbon cycle we can measure scientifically, processes like decomposition also reveal the mystical nature of element cycling. Solids become gas! Things turn into other things! My favorite aspect of element cycling is that it so clearly illustrates this coexistence of the known and unknown. – Annelise Brandel-Tanis

THE FROGS HAVE BEEN CALLING IN THE GARDEN. As a little girl, I fell asleep to a lullaby of chorus frogs singing with spring peepers and American toads in the pond outside my bedroom window. At its peak, it was a deafening sound. I didn’t realize at the time the multiple social interactions taking place at the water’s edge – males “advertising” for females and other males calling back in contest. To me, it was a symphony of chirps, peeps and trills that seemed almost ingrained into my very DNA. Now as an older version of that little girl, I’ve chosen to live next to a pond so my children can have the same opportunity to fall asleep to this lullaby and also, so I can be close to the beloved sounds of my own childhood. – Jill Druckman

DO FERNS FLOWER? Believe it or not, you won’t ever find a flower on a fern. Ferns are earth’s ancient terrestrial plants – they first grew over 400 million years ago, in dinosaur times, before plants had evolved flowers and seeds. Ferns reproduce using spores instead of seeds. During the summer months at the Garden, take a moment to look at the underside of a fern frond – if you spy a line of polka dots, you’ve found the spores!

Spore patterns are also a way to identify ferns. Spores on the underside of a frond indicate a species such as bracken fern or Goldie’s fern. Other ferns, like the ostrich fern and cinnamon fern, produce large spore-bearing stalks in the center of the plant. And on the interrupted fern, look for dark-colored spore-bearing parts, appearing like clusters of dried brown grapes, that “interrupt” the frond partway down the stem.

Identifying ferns, for me, is a bit of a brainteaser – like a jigsaw puzzle laid out on a table at a summer cabin. I pause, lean over, and fit another piece into my picture of the Garden. – Danielle Decock

I AM A NEW NATURALIST AT THE GARDEN THIS YEAR, and each day I walk through the gates, the landscape becomes more familiar. I have found comfort and peace in a multitude of spaces here, but one place in particular has drawn me in. As I walk the upland trails, the young quaking aspens wave their excited greetings from high overhead. I am carried along on their enthusiasm, as if they are guiding me to the deep magic that lies just around the corner. The path softens, a misting of stillness unfolds around me, and I come into the ancient space of a stand of Norway spruce. I pick up on the quiet strength of their trunks, the storms they have endured, the branchlets that have accumulated like drops of wisdom over the years. As I tilt my head upward, sunshine peeks through cascading shelves of branches and needles. I shelve my thoughts there, too, and settle in beside these gentle giants. – Danielle Decock

Annelise Brandel-Tanis, Laura Bretheim, Maia Campbell, Danielle Decock, Jill Druckman and Kyla Sisson are Interpretive Naturalists in the Garden. Their comments appear courtesy of the Minneapolis Park & Recreation Board.
Baby Songbirds Have Hardworking Parents

By Tammy Mercer

Years ago when I was learning to identify birds by their songs, I remember hearing the “yank-yank-yank” of a white-breasted nut-hatch. The bird sounded distressed, and I found it clinging to a tree trunk and calling frantically. Soon another nuthatch landed beside it, stuffed a fat caterpillar into its mouth, and the noise stopped briefly. When the second bird took off, the first one “yanked” even louder and followed its parent to the next tree for more food.

Summer is when the familiar bird songs change and we begin to hear peeping and begging sounds in the woods and meadows. If we’re lucky, we might come upon a young bird on its first foray beyond the nest. Ducklings swimming with their parents are some of the first youngsters to be seen. Like wild turkeys, shorebirds and all waterfowl, ducklings are precocial. This means they hatch out of their eggs covered in downy feathers and with their eyes open. By the time their feathers are dry they are ready to follow their parents from the nest in search of food. Precocial chicks are able to feed themselves with little or no help, but it will be two months or so before they can fly.

On the other hand, songbirds, like chickadees, robins, finches and blue jays, have altricial young. Their chicks hatch with few if any feathers and with their eyes closed. They are very weak and can barely hold up their heads. They are completely dependent on their parents and will remain in the nest for about two to three weeks. For the first few days, one of the parents must keep the nestlings warm. The other parent must provide a constant supply of protein-rich food for the family. As the chicks’ feathers fill out, both parents can leave the nest and forage for increasing supplies of insects to feed their young, especially fat caterpillars, spiders and other invertebrates. As an example, a robin might make 100 feeding visits to its nest each day.

There is great competition among nestlings. At the slightest hint of movement approaching the nest, they open their little beaks wide and make begging sounds. They wing their siblings out of the way to get the next caterpillar. As they grow stronger and larger, the nest becomes crowded and the nestlings noisier. Near the end of the nestling phase, chicks in tree cavities or bird houses will climb up to the entrance hole to be the first in line for feeding. Chicks in a stick nest clinging to the edge of the nest to exercise their wings and those in trees may climb out on branches. When they have grown enough to leave the nest and fly, they are called fledglings. Nearly as big as their parents, fledglings may be colored just like the parents or have subtler coloring to help hide from predators.
The first flight can be dangerous for newly fledged birds. Landing is especially tricky, and may require several attempts before the first awkward success. Fledglings often end up on the ground where they are vulnerable to predators like house cats. Newly fledged chicks keep up their begging calls to be sure their parents will find them. Their parents bring them food wherever they land and try to protect them from predators as best they can. While the adults forage, fledglings exercise their wings, practice short flights and landings, and explore the world with their beaks, discovering what may or may not be edible. When they have mastered flight and landings, they begin to chase their parents around, begging incessantly. They eventually start watching their parents hunt and learn to hunt for themselves. In just a few more weeks they will be on their own.

Walking through the Garden and South Wirth Park in summer, watch for adult birds carrying food and listen for the soft peeping of nestlings and the not-so-soft begging of older chicks. Look for the clumsy antics of the fledglings and listen for the alarm calls of the parents when, as curious birders, we get too close.

Tammy Mercer is a Minneapolis Park Board staff member and Garden naturalist and currently leads the Early Birders walk.

1 Laura Erickson, “Baby Robins,” Journey North, Spring 2018, Annenberg Learner. For a Q + A on how baby robins grow, see https://www.learner.org/jnorth/robins/resources/article/facts-baby-robins

Ed. note: Short, informative essays on bird biology and behavior, including nesting, fledgling and parenting behavior and diet and foraging practices, can be found on a website maintained by Stanford University, http://web.stanford.edu/group/standfordbirds/text/uessays/essays.html

25 Birds Commonly Seen in the Garden During Breeding Season

- Wood Duck
- Mallard
- Cooper’s Hawk
- Great Horned Owl
- Ruby-throated Hummingbird
- Red-bellied Woodpecker
- Downy Woodpecker
- Hairy Woodpecker
- Pileated Woodpecker
- Eastern Wood Pewee
- Great Crested Flycatcher
- Red-eyed Vireo
- Blue Jay
- Black-capped Chickadee
- White-breasted Nuthatch
- House Wren
- Blue-gray Gnatcatcher
- American Robin
- Gray Catbird
- Scarlet Tanager
- Northern Cardinal
- Indigo Bunting
- Brown-headed Cowbird
- Baltimore Oriole
- American Goldfinch

**EARLY BIRDERS**

Join the Early Birders any Saturday at 7:30 a.m. for a walk around the Garden as we identify birds by sight, sound and behavior. Our group of new and experienced birders meets April through October to watch birds in migration and throughout the breeding season. Bring binoculars!
**Limiting the Impact of Invasive Earthworms in the Maple Glen**

By Liz Anderson

When the Friends Invasive Plant Action Group (FIPAG) began clearing garlic mustard and buckthorn from the Maple Glen in 2016, they already had 10+ years of experience removing invasive plants in the perimeter of the Garden. This newer site (also known as the Maple Bowl) is a beautiful deep ravine and Big Woods remnant just to the southeast of the Garden, and it brings new challenges. Some things are the same, and some things are different.

For one thing, working on steeply sloped terrain with a vernal pool at the bottom meant devising new strategies to minimize erosion of the slopes and disturbance to the pool. For another, it was perplexing at first to see the bare slope on the shaded side of the Maple Glen. We knew that buckthorn doesn’t do well in deep shade, but the slope had very little ground vegetation at all – mostly just trees, bare soil and few plants of any sort, native or invasive.

Fortunately for us, Dr. Lee Frelich, Director of the University of Minnesota’s Center for Forest Ecology and a leading researcher on causes of change in plant communities in North American forests, lives in Minneapolis and visits the Garden. He advises and supports the work of FIPAG. He explained to us that one of the reasons the slope looks strange is due to the presence of non-native, invasive earthworms, a subject he has studied extensively as part of an international team of scientists. In an article he co-authored in 2017, he states:

> he has studied extensively as part of an international team to the presence of non-native, invasive earthworms, a subject of scientists and researchers globally, but this is a complex topic being studied by

> This is a complex topic being studied by scientists and researchers globally, but FIPAG is working with the situation as it’s currently understood. Dr. Frelich recommended a number of plants he felt were reasonably resistant to earthworms that could help populate some of the bare slopes in the Glen. One of them is Pennsylvania sedge. Under the direction of Garden Curator Susan Wilkins and Friends President Kathy Connelly, the Friends of the Wild Flower Garden purchased a small number of these plants. They were put in on May 20 and we’ll see how they fare over the coming months.

Working the slopes of the Maple Glen has given us first-hand experience as “thoughtful and educated stewards of change” as our Garden Curator articulated in the Fall 2017 Gentian. Even in the midst of such serious business, FIPAG volunteers are a cheery bunch, enjoying the chance to be outside, choosing to work in groups or on their own. We are a mix of new volunteers and veterans who’ve participated for years. Please join us for the first time—or again—for our buckthorn pulls this fall. It’s a great way to ensure you carve out time to be in the woods, and with this group, it never feels quite like work.

Liz Anderson is an Invasive Plant Coordinator for the Friends Invasive Plant Action Group. To reach FIPAG, email invasives@friendsofeloisebutler.org.

Memorials & Donations ~ February 2018 / May 2018

Memorials and donations to the Friends are tax deductible and constitute an important part of keeping the Garden a special place for generations of people to enjoy. In 2018 undesignated donations will be used for the Student Transportation Grant Program and for phase II of the wetland boardwalk. Project update information is on the Friends website. An acknowledgment of donation will be provided to all donors. Note on Memorials: Please give a name and address for the person honored, or their family, so that we can acknowledge to them that a memorial has been received. Memorials and donations should be sent to: Friends of the Wild Flower Garden, P.O. Box 3793, Minneapolis, MN 55403. Checks are payable to Friends of the Wild Flower Garden, or donate on our website, www.friendsofthewildflowergarden.org

Gifts received in support of our programs from:

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Memorials received for Alice Lindquist Lundblad from Joy Davis; for Edwin H. Ross from John and Joan Haldeman; for Glendora Margaret Setterberg Lanning from LouAnn Lanning; for Heather Reuth from Carol Jordan and Bob Callahan (this is a correction to our fall 2017 issue)

Membership Form

Memberships can be ordered online at www.friendsofthewildflowergarden.org or mailed with a check payable to:

Friends of the Wild Flower Garden Membership
P.O. Box 3793
Minneapolis, MN 55403-0793

Please specify if the membership is a gift.

Each membership is tax-deductible to the extent allowed by law.

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Donations of gifts or memorials may be made at www.friendsofthewildflowergarden.org or mailed with a check payable to:

Friends of the Wild Flower Garden Membership
P.O. Box 3793
Minneapolis, MN 55403-0793

Thank you for helping to sustain the Eloise Butler Wildflower Garden and Bird Sanctuary.

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in 1907. The 15-acre site is located within the city of Minneapolis and is owned and operated by the Minneapolis Park & Recreation Board. The Garden is open from April 1 through October 15 from 7:30 a.m. to a half hour before sunset. Weekends only October 15 to October 31.

BEHIND THE GARDEN TOOL SHED, trays of woodland and prairie plants wait to go in the ground. The sedges and goldenrods have been planted along the trails from the front gate down to the Shelter. Amsonia was planted in a variety of locations in the upland garden. Look for these plants on your walks!