

THE FRINGED GENTIAN™

A PUBLICATION OF FRIENDS OF THE WILD FLOWER GARDEN INC.

Climate Change – What Difference Can One Person Make? By Carolyn J. Sampson

Carolyn holds a Ph.D. in environmental engineering from the University of Minnesota and has served on several public boards and committees concerning sustainability and environmental protection. She is a member of the Climate Reality Leadership Corps, one of over 20,000 leaders in over 150 countries.

While it is sometimes hard to know what to do in the face of a global issue, there are meaningful actions one person can take regarding climate change. Two main ways to address climate change are: 1) prevention by reducing greenhouse gases that are currently in or will be added to the atmosphere, and 2) preparation for changes that are anticipated or already under way by creating a robust climate-resilient ecosystem. Taken together, prevention and preparation can be thought of as sustainability.

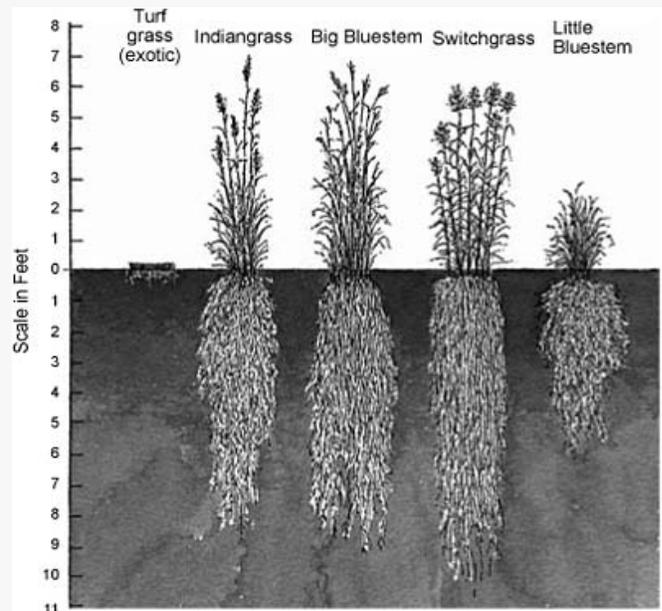
Aside from raising your own food and composting organic waste, gardening activities that can prevent climate change include:

Enhancing soil health. Several studies estimate that soil could sequester, i.e. take up and store, as much as 10% of current carbon emissions.



Big Bluestem & Indian Grass in the Upland Garden. Photo Friends.

The practice of building soil carbon is a major focus of regenerative agriculture, which is among sustainability strategies used by major food companies such as General Mills and Cargill. Gardeners can use regenerative agriculture techniques such as incorporating compost into the top layers of soils, using mulch, and planting cover crops to prevent erosion and to provide habitat for beneficial insects.



Root systems of native grasses. Courtesy University of Tennessee Institute of Agriculture

Using less artificial nitrogen fertilizer. Most of us are aware that over-fertilization and run-off can negatively impact water quality, causing algal blooms that result in ‘dead zones’. Not many people also know that nitrogen fertilizer is created using a very energy-intensive process, the Haber-Bosch process. One study estimates that the use of artificial nitrogen fertilizer accounts for about 50% of the energy used in commercial agriculture. Under certain field conditions nitrogen fertilizer can also transform to nitrous oxide gas, which is 300 times more powerful than carbon dioxide as a greenhouse gas. Instead of artificial nitrogen fertilizer, use composted manure to provide necessary nutrients as well as organic carbon.

Planting trees and native grasses. In addition to providing shade and local cooling, trees sequester a large amount of carbon in their trunk and canopy. A recent study that generated a lot of excitement suggested that planting half a trillion trees could reduce atmospheric carbon by about 25%. Forest ecologists like to point out that ‘trees can’t walk’ to more favorable conditions so ensure that tree species you plant now are adapted to future conditions. Many native grasses have extensive root systems that also sequester significant amounts of carbon. Integrate native grasses into your garden now to help ensure the continuity of vegetative cover as the climate shifts to one more favorable for grasses.
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Letter from the President

By: Kathy Connelly

Our thanks to the dedicated employees of the MPRB for their thoughtful responses to our public health emergency. The members of the park board are also tirelessly working to respond to this unprecedented situation. While our heroic health care workers, and health care facilities staff are working to care for those who are ill or injured during this upheaval, others take care of the health and well being of the rest of us. Institutions like the MPRB, the Minnesota DNR, the Three Rivers Parks District, the US Forest Service, US Department of the Interior, countless city and county and other local parks and recreation departments, and public gardens have absorbed the excess energy of home-bound school kids, and provided physical and mental space for those in need of a respite from too much togetherness at home. These natural resources are necessary for our health, now more than ever. Opportunities to enjoy nature and take exercise outdoors can figure in all of our strategies to maintain health and optimism in the coming months. Minneapolis parks will be a great place to take a moment to remember that life is beautiful, impermanent and to be cherished so long as we can. Please, when you encounter parks workers in the coming weeks, go out of your way to thank them, from a safe distance. They are also helping to save us.

This newsletter carries a beautiful reflection from Garden Curator Susan Wilkins that helps soften the difficult separation from the Garden that we all feel. We also enjoy a lovely piece on the 50th anniversary of dedication of the Martha Crone Shelter. Most of the rest of this Gentionian concerns climate change. It is a weighty topic for our little newsletter, but the subject directly impacts the Garden, and so is important for us to consider.

In 1982 one of my professors lectured about how excess carbon in the atmosphere had been altering climate. Background readings for the class described how climate change had been observed for many decades before that. It has been remarkable in recent years for me to hear people deny the reality of climate change as though it is a recent fabrication created for political reasons or for ratings by media.

In early February I went to a Mexican village called Zitácuaro. In the mountains nearby are sites where hundreds of thousands of monarch butterflies from Minnesota and further north spend winters, before setting out again northward. It will take their descendants four generations to reach Minnesota. Recent instances of excessive cold in those mountains, loss of habitat and forage have resulted in mass



Monarch on Coneflower. Photo Bob Ambler

die-offs of the butterflies. Each species exists because it fills an important eat-and-be-eaten niche. Species decline amounts to environmental Jenga – we just don't know which piece when removed will result in a collapse.

I don't have answers. I am not a climate scientist, but I don't need to be. I am not a doctor but I do rely on their expertise in obtaining care for myself and my loved ones. I am not an accountant but I do rely on their expertise in keeping the books for my business and preparing my taxes. I am listening to the climate scientists and listening to the answers. In the meantime, I want to believe that keeping my 2010 Prius hybrid instead of replacing it, walking more, flying less, buying less, reusing more, wasting less are meaningful ways I can address climate change on a micro scale, and hope that more people are embracing the changes that could collectively make a difference. I think it helps also to press our leadership to be brave, and to pay attention to the numerous voices voicing concern about climate change reversal and response.

Wishing you peace, *Kathy Connelly*

Now Available

The third edition of the Friends' Garden Plant Photo Identification Book is now available. Enlarged from the previous edition, it retains its 8-1/2 x 5-1/2" size with a spiral binding. With 264 pages, it contains 1,949 thumbnail photo of 787 species of wildflowers and small shrubs, ferns and trees of the Eloise Butler Wildflower Garden and Bird Sanctuary - plants contemporary and historical to the Garden. Details on the Friends website:

<https://www.friendsofthewildflowergarden.org>

The Spring Garden

by Susan Wilkins, Garden Curator

It is with a tender heart that I share a few words this spring about the Wildflower Garden.

First off, the Garden has such a good feeling about it this spring. The mother fox has been raising her kits, three as far as I can tell, in the Garden again this spring. She found the return of staff in mid-March quite the nuisance and quickly moved her little bundles of fur out beyond the fence line. As I watched her harrowing journey, climbing over fallen logs with a kit clenched in her jaw not long after being chased by off-leash dogs (and more than one in a single afternoon), I was so impressed by her instincts and her acumen. She made it out successfully and the Garden felt diminished without her. I was deeply relieved to find her back in the Garden with her young a couple of days later. She seems a bit more settled, slightly more accepting of this new arrangement. She still barks at staff when we come upon her unexpectedly. I hope that she will stay put here until her kits are old enough to venture off into the semi-wilds of this urban habitat they call home.

On a similar note, the Garden looks divine. Early spring has begun to slowly and steadily unfold here. The

tips of the wild leeks are poking up through the damp dark soil close to where the skunk cabbage grows and is also off to a running start. The smallest patch of snow trillium just down the path is in bud. The hepatica leaves overwintered well and already, many of them, bear a green gloss that brightens the dullness of the fallen leaves around them. And the earliest maroon-purple hued trout lily leaves are still not visible, unless you move a tuft of duff, and then they are everywhere.



Yellow Trout lily. Photo Friends

All of these species, introduced to the Garden by Eloise Butler over 100 years ago, have been doing well in recent years. Some, like the wild leeks and skunk cabbage, have been spreading vigorously over the past 10 years. With buckthorn, garlic mustard, and dame's rocket nearly continuously removed in Garden areas where they grow to make room for their spread.

Bird song. I'll be honest, it's a bit quiet and it is still a bit early. Of course, a lone cardinal is singing his heart out in preparation for the weeks ahead. There are the sweet calls of the chickadees and a screech here and there from a raptor above, though nothing to match the shriek of the mother fox when she is disturbed.

And now, on to the obvious heartbreak of the times we are in. With the uncharted days and weeks

ahead, Minneapolis Park & Recreation Board leadership and staff are working with great care and effort to devise a plan that will allow the Garden to open this season during the COVID-19 pandemic while protecting this precious resource and all of the people who visit, volunteer and work here. This is not an easy task given the circumstances, but I am hopeful that with the cooperation and understanding of the public, we will find a way, soon enough, for the Garden gates to swing open and the peace and delight of this place to embrace you again, and again.

Wishing each and all a bounty of best wishes for an easeful spring, full of joyful and meaningful moments. May nature brighten your days.

This article appears courtesy of the Minneapolis Park & Recreation Board



Damselfly. Photo Bob Ambler

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Sharp-lobed Hepatica. Photo Friends

A 50th Anniversary - The Martha E. Crone Shelter

By: Gary Bebeau



“A hope was again expressed that a more adequate building could be obtained for this lovely setting...we need places to teach the love of Nature.”

With those words in the Summer 1968 issue of this newsletter former Garden Curator Martha Crone let out the news that something might be afoot to replace the old Garden office of 1915 that had served Eloise Butler, herself, and the current curator, Ken Avery. Indeed, something was about to happen.

A project committee of The Friends was formed that Fall to develop ideas for a new shelter. Those ideas were presented to Park Superintendent Robert Ruhe and his staff, the idea being that the Board of Park Commissioners (BPC) would provide for the funding and construction of the Shelter. (In 1970 the BPC was renamed to the Minneapolis Park & Recreation Board - MPRB) But the BPC lacked funds to allocate, at least until 1976, so Mr. Ruhe and staff suggested that The Friends produce a design of their own, submit it for approval and raise the money. Which was done! Friends' president Catherine

(Cay) Faragher took charge of the process. Hiram Livingston was hired to design a rustic shelter. The BPC agreed to do the excavation and run in the wiring and water - the Friends were responsible for everything else, from the footings on up. The final design was approved by Mr. Ruhe on March 25, 1969 and construction could begin in the Fall - IF the Friends had the funds.

Cay Faragher wrote to the membership in April 1969:

“We can do this, do it right now and do it the way we want to, if we all get in there and pitch. There are only 200 of us; some will be unable to contribute, but those of you who can will be richly rewarded with the knowledge that you have helped to safe-guard and keep for future generations the Eloise Butler Wild Flower and Bird Sanctuary.”

Joe Peterson Construction of South Minneapolis did the build. On October 23, Martha Crone was present at the building site to hammer in a “golden nail” but it was not until October 27 that enough funds were available to actually finish the project over the Winter - the final cost being \$25,168.92.

Cay Faragher wrote again to the membership in April 1970:

“We have accomplished what seemed impossible. Your Directors hope that you will be as pleased as we are with the "Shelter" as you are the ones who have done this through your enthusiastic contributions.”

On May 13 1970, Friends, BPC officials and the interested public gathered for the dedication. The dedication plaque mounted on the front pillar reads: *“The Martha E. Crone Shelter was planned, financed and erected by The Friends of the Wild Flower Garden, Inc and it was given to the City of Minneapolis through the Board of Park Commissioners and dedicated May 13, 1970 at 4:30 PM.”*

Martha Crone wrote to the Friends in July 1970:

“I take this opportunity to express my appreciation and extend my heartfelt gratitude to all members and friends who made possible the beautiful shelter building in the Eloise Butler Wild Flower Garden and Bird Sanctuary and dedicated it to me. This is really the culmination of many years of my life devoted to the Garden.”



Since then the building has stood the test of time. Now, with the addition that the MPRB has proposed, we look forward to the first major change to the building in 50 years. May it last another 50!

Photos: Martha Crone from the Martha Crone Collection, Minnesota Historical Society. Shelter: Friends.

Golden Valley City Council Approves Pollinator Resolution

By: Jeanne Iverson and Barb Ego

On October 2, 2019, the Golden Valley City Council approved a “Pollinator Protection and Promoting Habitat” resolution with the support of the Golden Valley Garden Club. Included in the resolution were creation of a pollinator garden near City Hall, creating new pollinator habit through construction of public and private work, planting more milkweed, and controlling buckthorn and non-native plants within nature areas. The resolution acknowledges the need for use of chemical controls, while establishing the goal of minimizing their use. Helping support pollinators in these ways also addresses climate change by promoting the health, diversity and resilience of plant communities that remove carbon dioxide from the atmosphere. For the complete text visit <http://www.goldenvalleymn.gov/about/sustainabilityandresilience/pdf/Endorse-Pollinator-Protection.pdf>

People for Pollinators Golden Valley is hosting a free family-friendly “Pollinator Party” on June 23rd, 2020 at the Golden Valley Library, 830 Winnetka Avenue North. Adults and children will have an opportunity to meet a beekeeper and learn how bees make honey. Activities range from face painting, wearing a beekeeper’s suit, trying on butterfly wings, crafting, and more. Information will be available on steps to take to help pollinators and the environment. Check the Hennepin County Library website for schedule updates.

The Golden Valley Garden Club promotes native and pollinator-friendly practices in Golden Valley, and offers



Having fun at the Golden Valley Arts and Music Festival. Photo by Jeanne Iverson.



speakers on a variety of topics at their regularly scheduled public meetings, an annual May plant sale, (canceled for 2020) and garden tours in and around Golden Valley.

People for Pollinators Golden Valley is a citizen-led group advocating for pollinator-friendly practices in Golden Valley since 2017 with the goal of increasing healthy pollinator habitats and raising awareness about ways to protect pollinators. Pollinator-friendly practices can help insects such as the Rusty Patched Bumblebee, an endangered species which was named Minnesota’s state bee in 2019.

Left: Parade for Pollinators. Photo by Jeannie

Silent Invasion

By Colin Bartol

Under your feet a silent fight is going on. A foreign invader is taking over, becoming the most common animal in most areas of Minnesota forests including Wirth Park. The effects of this invasion have serious consequences for soil health and structure, yet few are aware of this fight. The invader is the familiar earthworm and it damages our forests by destroying the layer of leaf litter that covers the forest floor.

Most people believe that earthworms have always been in Minnesota, but this is not the case. During the last ice age 10,000 years ago any earthworms in Canada and the glaciated area of northern states were wiped out. Plants and soils imported from Europe probably first introduced earthworm species to North America in the late 1800's and early 1900's. From their original placement, earthworms expanded their territory at a rate of about 30 feet per year. Fishermen taking earthworms with them to new ponds, and displacement of soil during construction projects have helped accelerate this expansion.

Our forest ecosystems evolved in a unique, glaciated setting with a deep layer of leaf litter. This layer of "duff" is habitat for native insects and animals. By mixing the soil in damaging ways, necessary conditions for growth and germination of plants are destroyed by earthworms. With earthworms eating the leaf litter, young plants lack the nitrogen and other nutrients that they need to grow. It is now known that minute fungal connections in soil enable the exchange of minerals from soil to plant roots. Absence of the duff layer decreases these mycorrhizal associations, making it more difficult for herbaceous and woody plants alike to absorb necessary nutrients

from the soil. As a result, there is decreased understory and canopy vegetation, reducing available food for all forms of wildlife, leading to reduced insect and small mammal populations and decreased biodiversity. Forest plants and soils have long been sinks for atmospheric carbon. By consuming leaf litter in forested areas, earthworms impair the ability of forests to absorb carbon because the forests become less productive. Invasive earthworms are a root cause contributor to conditions that worsen climate change.



Our silent invader. Photo by Kelli Bartol

Earthworms are persistent in soils; there is not yet a method for eliminating them that would not also be damaging to the creatures and plants that are desirable. The only response possible at this point is to stop spreading them. There are some options to help. The Minnesota DNR has started education programs in bait shops about the risks of earthworm release. It is illegal to dump your unused fishing bait anywhere other than in the trash where it cannot escape into the environment. Spreading the words about the harmful effects of earthworms and debunking the myth that earthworms improve soil can also help.

By following these steps you can make your area more beautiful and make the world a better place. Navigate to the Great Lake Worm Watch for more information:
<http://greatlakeswormwatch.org>

Climate Change –Continued from page 1

This leads into the idea of preparing for future climate conditions. Actions you can take include:

Enhancing biodiversity. Planting species that are adapted to warmer conditions, increasing diversity in plantings, and removing invasive species creates a resilient plant population. Although future conditions might not be favorable for our current native species, some 'can walk' and their range can shift. Providing habitat so that desirable plants, insects, and animals can build healthy populations now will increase the likelihood that they can establish and thrive in future suitable ranges.

Supporting the Garden and similar spaces. Minnesota is comprised of mostly fragmented landscape, with widely dispersed pockets of relatively undisturbed land. In such a landscape, gardens, parks, and natural reserves serve as

regional 'nodes' of ecosystem diversity. Creating physical or operational connections between nodes will build an interconnected web that results in a more resilient landscape overall. Understanding how our gardens and the Garden fit within a larger context is a key first step; doing and supporting activities that create a sustainable regional ecosystem can have a meaningful and lasting impact in our response to the threat of climate change. We can make a difference.

Further reading:

https://bwsr.state.mn.us/sites/default/files/2019-09/ClimateChangeTrends%2BActionPlan_Sept2019.pdf

<https://www.climateactionproject.org/blog/what-regenerative-agriculture>

<https://www.unenvironment.org/news-and-stories/story/why-nitrogen-management-key-climate-change-mitigation>

<http://www.startribune.com/climate-change-threatens-minnesota-s-forests/502090221/>

<https://climatechange.ucdavis.edu/news/grasslands-more-reliable-carbon-sink-than-trees/>

<https://academic.oup.com/bioscience/article/69/1/80/5145587>

Membership - Memorials - Donations

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 2020 undesignated donations will be used to fund the Student Transportation Grant Program. 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 or honorarium has been received.

Donations Received Nov. 2019 to March 2020

Amazon Smile	Dan & Vi La Belle
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for Sara Graffunder from Deborah Boehm

for Barbara Pickering from Jean Artig, Elaine Bellew, Amy Bohaty, Jan Campbell, Robyn Corson, Sharon Faber, Bonita Galush, Helen Glenn, Nancy & Don Heinrich, Kris & Tom Miller, Audrey Mix, Jeanne Pearson, Beth Pickering, Jill Solem, Deborah & Randall Spotts, Jon Thorstenson

In-honor-of Ann Lebens from Mary Abbott

In-honor-of Nancy Banks from Betsy Mc Nerney

Grow your legacy: Remember the Garden in Your Estate Plan

Please consider a gift in your estate plan to benefit the Garden. Gifts to Friends of the Wild Flower Garden are tax deductible to the full extent allowed by Minnesota and federal law for gifts to charitable organizations. Friends of the Wild Flower Garden has been approved by the IRS as a 501(c)(3) charitable organization since 1953.

Gifts can be made through your will, revocable living trust, retirement plan or life insurance. Leave a gift for the Garden in your will or revocable living trust by a provision such as "I give \$ to Friends of the Wild Flower Garden, Inc., to benefit the Eloise Butler Wildflower Garden." Or name Friends of the Wild Flower Garden as a beneficiary of a portion of your life insurance or retirement account.

If you have questions, please call Friends Board member Steve Pundt at 612-333-1900 or email steven@pundtlaw.com. Thank you for helping us fulfill our mission to preserve and protect the Garden.

New Members:

SPONSOR
Matthew Wood
Marsha Qualey

LIFE
Mary Bolla & David Dayton

Membership is open to any interested person or organization that wishes to support the Garden. Our Student Transportation Grant Program pays for bus transportation of Minneapolis Public School students to the Garden for educational programs. The Friends provide funding to support the Garden plant community and infrastructure.

Membership Form

Individual \$15 Duo/Family \$25 Sponsor \$100 Sustaining \$200 Life

Memberships can be placed 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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The recipient of your gift will receive a letter of welcome from the Friends of the Wild Flower Garden

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Thank you for helping to sustain the Eloise Butler Wildflower Garden and Bird Sanctuary. All gifts are tax-deductible.

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The Eloise Butler Wildflower Garden and Bird Sanctuary comprises cultivated but naturalistic woodland, wetland and prairie environments, 2/3 mile of mulch covered pathways and a rustic shelter where educational programming and materials can be found. It is the oldest public wildflower garden in the United

States, established 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 one hour before sunset. Weekends only October 15 to October 31.

For updates on the Garden's 2020 schedule, visit
<https://www.minneapolisparcs.org>



A bee pollinating a Purple Coneflower. Photo by Bob Ambler

The Friends of the Wild Flower Garden, Inc. is a non-profit organization of private citizens whose purpose is to protect, preserve, and promote the interests of the Eloise Butler Wildflower Garden and Bird Sanctuary for its unique beauty and as a sanctuary for native flora and fauna of Minnesota, and to educate and inspire people of all ages in relating to the natural world.

The Fringed Gentian™ is published for members and supporters of the Friends. For changes to your mailing address or email address, please email

Membership Coordinator

Christi Bystedt at:

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or mail to:

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