



Preserve!

FRIENDS OF THE LAKESHORE NATURE PRESERVE

WINTER 2019-2020

Moonlight Marsupial: Opossum in the Preserve

MJ Morgan



Adam Gundlach

A young Virginia Opossum at Willow Creek Savanna.

Through shadows cast on snow by leafless oaks, a male opossum trundles into view. Although it is a chilly twenty degrees in Eagle Heights woods, opossum emerge for nightly foraging. They keep to home ranges as the temperature falls; when it is lower than 15 degrees Fahrenheit they stay very close to shelter. Opossum have vulnerable, hairless ears and tails that often show signs of frostbite. They also have trouble putting on fat, and as they do not hibernate, must search woods, rocky soil, and shorelines nightly for food. If you are walking in wooded areas and spy strange tracks in snow – a hindprint showing a large, slanted thumb-like toe – you may be following an opossum. If night foraging has been poor, they will venture out in daylight.

The male opossum forages farthest. Females stay closer to the transient shelters they adopt: rock shelves, brush piles, hollow logs, or old mammal burrows. Bearing two litters a year, in midwinter and spring, North America's only marsupial, *Didelphus virginiana*, has a 12-day pregnancy; after birth, opossum babies the size of dry beans struggle to reach the safety of their mother's pouch. Many do not make it. Although a female opossum can nurse 13 babies in her pouch, more than seven rarely survive. After two months, when they leave the pouch and milk supply, they travel on their mother's back or sometimes hang from her long, prehensile tail. Although most of us glimpse opossum moving slowly across a dusk landscape or, unfortunately, lying by the roadside, these tough survivors are usually described as skilled tree climbers. They are also aquatic, plunging into frigid lake water after any form of food. In fact, because of their constant nightly searches, opossum may not return to the same shelters. This helps to explain why a southern marsupial has gradually increased its range into Canada.

In the Preserve, opossum have been caught on night cameras, photographed by walkers, and even observed swimming in Lake Mendota. The varied habitats provide many foraging finds.

Because of their odd defensive behaviors, hissing, teeth-baring, and playing dead, we can overlook their importance in the Preserve. For while opossum eat anything, carrion is a prime food. Opossum have a difficult time keeping enough calcium in their systems, so consuming the skeletal remains of rodents, birds, and fish is critical. In summer, they voraciously eat ticks; one yearly estimate is as high as 5,000 ticks and tick larvae per animal! They also like poke berries, grapes, blackberries, bird and fish eggs, as well as dead fish and shoreline invertebrates. A mature opossum has fifty teeth, enabling it to crunch up carrion. Like turkey vultures, opossum are nature's cleaners.

In Wisconsin and farther north, opossum fur is whiter; their name actually comes from an Algonquian Indian word meaning, "white animal." These often unappreciated marsupials rarely live longer than two years. But while they live, through bleak midwinter nights in the Preserve, they are preparing the environment for spring.



LEARNING FROM THE PAST

The Life History of the Class of 1918 Marsh Part II: the Fields and the Water

MJ Morgan



The first fertilizer drill used in the experimental fields. This photo, identified only as Experimental Field F, may depict the old sedge meadow, 1920. Image courtesy of the UW-Madison Archives, #2017s00107.

The bibliography for this article may be found on the Friends website, at <https://www.friendslakeshorepreserve.com/marshbibliography.html>.

By 1921, the College of Agriculture had drained the sedge meadow using submerged tiles and pumps. What were the immediate and long-term results? First, intricate relationships among wetland plants, insects, and birds were permanently disturbed. Even with the creation of an actual dredged marsh in the late 1960s, the natural flow of water had stopped. For millennia, runoff and spring water had pooled and shimmered on the surface of black soil; sometimes it washed into Lake Mendota or lake water flooded back over a sandbar. But University Bay Drive was now acting as a dike, and the exchange of water-dependent life forms halted. The agricultural era saw the

end of seed and husk migration, of tiny traveling fish and insect eggs, floating spores, buoyed tadpoles, and waving lengths of aquatic vegetation. The shared exchange was over.

In addition, new substances entered the environment. Experimental plots of corn and alfalfa defined the former wetland. In records from "Madison Experimental Farms" in the 1920s and 1930s, agricultural students added nitrogen, potash, phosphorous, and lime in many concentrations. Before the discovery of fungicides and pesticides in the 1940s, farmers sought to control weeds by altering soil salinity and its pH.

During these years, rabbit, blackbird, and pheasant populations exploded in the natural areas around the cornfields. Drawn by juicy, emergent stalks, pheasants became serious crop pests. They were avidly hunted

and, under Aldo Leopold's direction, trapped by the hundreds and removed. Leopold noted later that with the 1940s advent of fungicides and insecticides, the area saw a severe drop in pheasants, likely poisoned. Southern Wisconsin also experienced the searing drought of the Dust Bowl years, when rainfall was four inches below normal. In the late 1930s, spraying began for weed control in Dane County. Then an outbreak of army worms and grasshoppers saw 40,190 tons of sodium arsenite applied to the fields. By the 1950s, chemicals added to experimental plots produced lush crops but affected insects, invertebrates, and birds. Although Wisconsin banned DDT in 1969, fifty years of soil alteration lay behind.

Then came a silent, unstoppable phenomenon, a miraculous revitalization. Between 1965 and 1970,

the old drainage tiles began rising up to the surface as the peat subsoil dried out. After the pumps were turned off in 1967, the agricultural fields were abandoned...and the wetlands surged back. Despite five decades of harsh additives, chemicals, drought and relentless drainage, water reappeared, inviting in a freshet of life. The old wetland basin stored again winter's runoff. Even with the absence of lake flooding, key activity began.

It may have seemed almost happenstance: one day, a few mallards and pintails flew in to begin wading and dabbling. Some frogs showed up on the wet hummocks, followed by water skaters and water beetles. Thin green strands of algae trailed from the legs of arriving ducks. Smartweed found a niche in an old furrow. When the frogs stayed on, one morning a great blue heron stood in a tiny pond. Still the water rose. A Friends member, Eleanor Crawford Blitzer, MD, recalls going to the "big wet field" to catch frogs and turtles

with her siblings. Wally Niebauer, one of the undergraduates who fought to save the marsh in 1968, remembers floating vegetation and small islands across nearly an acre of water. Wally's census of life forms observed in 1968 is a trumpet call of resurgence.

On November 12, 1969, Wally and team members noted in the former corn fields:

1033 waterfowl including hooded merganser, American widgeon, green-winged teal, and lesser scaup...

...feeding on smartweed, bulrushes, foxtails, duckweed, and wild millet. During that November, students also confirmed American bittern, rabbits, pheasants, mice, blackbirds, crows, turtles, and muskrats...and the muskrats had built 32 lodges...

...amid the tracks of fox, raccoon, and opossum.

It had taken less than three years for teeming wetlands to appear. When the pumps were shut down, a watery, spongy, thronging ecosystem began to re-create itself, with no human direction. We were only witnesses to this power.

Thank you to Genni Blitzer and Wally Niebauer for sharing their memories.



An aerial photo of Picnic Point and the reappearing marsh now filled with aquatic life. This historic image and others may be found on the website of the UW-Madison Lakeshore Nature Preserve, <https://lakeshorepreserve.wisc.edu/>



FRIENDS OF THE LAKESHORE NATURE PRESERVE

2019-20

Winter field trips



Mike Bailey

December

7 Birding Madison Lakes
(Saturday, 7:30–11:00 a.m.).
 As the smaller ponds and lakes in south-central Wisconsin freeze, migrating birds become concentrated on Madison's large lakes, which remain open longer. We will look for waterfowl, gulls, winter birds, and the magnificent tundra swans! Dress warmly and bring a scope, if you have one. Meet at the UW Parking Lot 60, 800 Walnut Street. From there, we'll drive around Lakes Mendota and Monona. Leader: Quentin Yoerger (608-449-5261, harrierqman@gmail.com).

22 Bird and Nature Outing: Sentimental Journey
(Sunday, 1:30–3:00 p.m.).
 Celebrate the (day after) Winter Solstice and share memories of Picnic Point on this walk with the Friends of the Lakeshore Nature Preserve. Tundra swans will be afloat in University Bay. Leaders: Doris Dubielzig and Paul Noeldner. See box lower right.

January

11 Climate Change in the Preserve
(Saturday, 1:30–3:00 p.m.).
 Climate change affects our everyday lives. From warming trout streams to decreasing snow pack, changing lake levels and extreme weather, the Wisconsin Initiative on Climate Change Impacts (WICCI, <https://www.wicci.wisc.edu>) helps people understand how climate change is affecting Wisconsin. One of the ways WICCI does this is through telling stories. Join Prof. Dan Vimont as he tells the "stories" of the Preserve. Meet at the Picnic Point entrance next to the kiosk (2004 University Bay Drive). Leader: Dan Vimont (608-263-3420, dvimont@wisc.edu).

26 Bird and Nature Outing: Green Dorm & Greenhouse Tour
(Sunday, 1:30–3:00 p.m.).
 Tom Bryan will lead us along the Lakeshore Path to the LEED Gold-certified Leopold Residence Hall. See the efficiency and sustainability features of this building, which houses the GreenHouse Learning Community and a 1000 sq. ft. rooftop greenhouse. Leader: Tom Bryan. See box to the right.

February

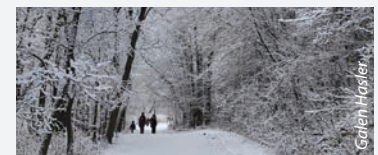
23 Bird and Nature Outing
(Sunday, 1:30–3:00 p.m.).
 See box below.

25 It's in Our Nature Open Mic Night
(Tuesday, 7:00 p.m.).
 Bring your original nature-inspired poetry, prose, or a song to share, or listen to a variety of spoken word pieces with your friends. Meet in the Memorial Union. Poet Robin Chapman will MC. Coordinator: Olympia Mathiapparanam (920-809-4248, omathiapparan@wisc.edu).

March

22 Bird and Nature Outing
(Sunday, 1:30–3:00 p.m.).
 See box below.

4th SUNDAYS BIRD AND NATURE OUTINGS



Galen Foster

4th Sunday of the month, 1:30–3:00 p.m.—The Friends co-sponsor bird and nature outings in the Preserve with the Friends of Urban Nature and Madison Audubon Society on the 4th Sunday of the month, 1:30–3:00 p.m. (visit <https://www.friendslakeshorepreserve.com/> for details). Meet at the kiosk by the entrance to Picnic Point, 2004 University Bay Drive. Contact: Paul Noeldner (608-698 0104, paul_noeldner@hotmail.com).

SAVE THE DATE

April 7, 2020
Friends Annual Meeting
 UW Arboretum

Expect more details in the spring newsletter, including an introduction to our fascinating speaker.



Thanks to our many volunteers— together we care for the Preserve

A special thank you to our many volunteers. More than 35 of our members volunteered in the field and on Friends projects this past year. The Friends' impressive field trip offering was made possible by 20 non-member volunteers and 18 Friends. In addition, over 20 volunteers worked countless hours on organizational tasks, committees and board activities. **All in all, over 50 individual members volunteered this past year**, making the Friends the vibrant non-profit organization it is.

Consider joining the growing number of our members who serve as Volunteer Stewards in the Preserve and engage in a regular, on-going, volunteer activity: **Ann Burgess, Janis Cooper, Glenda Denniston, Kennedy Gilchrist, Roma Lenehan, Steve Sentoff** and **Glen Teschendorf**. After initial training by Preserve staff, Stewards work independently in the Preserve with staff support.

Our thanks also go to the Preserve staff: **Bryn Scriver**, coordinator of volunteer events in the Preserve; **Adam Gundlach**, field project coordinator and supervisor of the summer interns; **Laura Wyatt**, Preserve program manager; and **Gary Brown**, Preserve director.

We invite our members to become actively involved. Please consider these volunteer opportunities—you will enjoy working with and meeting other Friends:

- **Citizen Science:** the bluebird trail or purple martins, Lake Mendota water quality
- **Friends committee work:** such as education, communication, membership, outreach
- Written and photographic contributions to the **newsletter** and **website**, including our **blog**

Email us at PreserveFriends@gmail.com.



FIELD AND PROJECT VOLUNTEERS

Dan Anderson	MJ Morgan
Ann Burgess	Tom Morgan
Matt Chotlos	Genevieve Murtaugh
Janis Cooper	Karen Nakasone
Diane Dempsey	Biss Nitschke
Glenda Denniston	Paul Noeldner
Doris Dubielzig	John Pfender
Peter Fisher	Paul Quinlan
Pam Fornell	Steve Rasmussen
Galen Hasler	Marjorie Rhine
Cyndy Galloway	Marcia Schmidt
Kennedy Gilchrist	Monica Sentoff
Chuck Henrikson	Steve Sentoff
Arlene Koziol	Susan Slapnick
Jeff Koziol	Glen Teschendorf
Gisela Kutzbach	Mitch Thomas
Roma Lenehan	Lillian Tong
Olympia Mathiaporanam	David Ulery
Seth McGee	Will Waller
Nicole Miller	

FIELD TRIP AND OUTREACH LEADERS

Aaron Bird Bear	Trina McMahan
AJ Binney	Dave Mickelson
Tom Bryan	Tom Morgan
Susan Carpenter	Paul Noeldner
Matt Chotlos	Paul Quinlan
Glenda Denniston	Amy Rosebrough
David Drake	Jackie Sandberg
Doris Dubielzig	Bryn Scriver
Eve Emshwiller	Steve Sentoff
Dane Gallagher	Alex Singer
Tracy Hames	Edgar Spalding
Dave Harring	Glen Stanosz
Chuck Henrikson	Emily Steinwehe
Alex Kerr	Lillian Tong
Gisela Kutzbach	Marie Trest
Roma Lenehan	Ryan Treves
David Liebl	Paul Quinlan
John Magnuson	Quentin Yoerger
Olympia Mathiaporanam	Kenny Younger
Seth McGee	

ORGANIZATIONAL VOLUNTEERS

Tom Bryan	Steve Loheide
Amanda Budyak	Olympia Mathiaporanam
Susan Carpenter	Seth McGee
Matt Chotlos	MJ Morgan
Sarah Congdon	Paul Noeldner
Linda Deith	Paul Quinlan
Diane Dempsey	Marcia Schmidt
Doris Dubielzig	Steve Sellwood
Eve Emshwiller	Steve Sentoff
Peter Fisher	Mitchell Thomas
Galen Hasler	Lillian Tong
Gisela Kutzbach	
Roma Lenehan	

SPECIAL ANNOUNCEMENTS

Arriving in January to your mailboxes: a letter and request from our president, Steve Sentoff

At the start of a new decade, the Friends board invites you to complete a short survey mailed after the holidays. We'll include a stamped, self-addressed envelope – and there will also be directions for completing the survey online, if you prefer. As the survey states, we are seeking improved communication with our membership as well as ideas and suggestions for the areas so important to all of us: our field trips and community outreach, volunteer work, and supported projects. We hope to hear back from all of you, as every idea, no matter how small, will be important.

For Interested Students: Prairie Partner Internship Applications for Summer, 2020

Please check our website, <https://www.friendslakeshorepreserve.com/>, in January for posted information about applying to be a Prairie Partners Intern next summer. **Applications will be due in February.** These three-month internships provide exceptional opportunities to work in restoration and other guided environmental projects, and they are paid positions. Five interns will be selected from a competitive pool.

Check out our new **OPEN MIC EVENT FEBRUARY 25!**
See page 4 for more details.

Friends Participate in the South Madison Community Partnership

Olympia Mathiapararam



Olympia Mathiapararam welcomes a special guest to the natural history table.

On September 12, Lillian Tong, Steve Sentoff, and Olympia Mathiapararam represented the Friends at a unique outreach opportunity hosted in the Villager Mall: the South Madison Community Partnership event. This was just one occasion in which the UW-Madison initiative allows the South Madison community to develop connections with the campus in a meaningful and accessible way. Our Friends trio shared some of the joys of the Preserve with South Madison in their "Exploration!"—themed table. Using a collection furnished by Tom Morgan, community members of all ages could observe a variety of insects, both dead and alive (with the living milkweed bugs,

aphids, and squash bugs all safely tucked inside a handy jar, of course!) Visitors also appreciated a magnified viewing of flowers and lake dwelling organisms. Friends volunteers sought to encourage community members to visit and appreciate the simple beauty of Wisconsin's lakeshore environment. They reported many interesting conversations! With over twenty participating partners, including Literacy Network and the Urban League of Greater Madison, this was an exciting and fruitful experience. The Friends trio appreciated sharing the wonders of the Preserve with the richly diverse South Madison community.



It Takes a Village: Citizen Science and Friends Volunteers Commit to Lake Health

Matt Chotlos



Matt Chotlos documented aspects of lake monitoring over the summer.

If you took a walk or bike ride along the lakeshore path during the heat of summer, you probably noticed the distinct funk of our lake's algae blooms. Madison's blooms are primarily the result of agricultural runoff from the Yahara watershed's many farms, but urban runoff from the yards and streets of Madison also contributes to the problem. Not only is the bright green algae 'scum' unsightly and pungent, but some blooms produce neurotoxins harmful to wildlife and human users of the lake. To contribute to the solution of this broadscale issue, the Friends offered our people power to the Clean Lakes Alliance. Members became lakeshore monitors at the University Bay boat launch this summer. Our team was Steve Sentoff, Diane Dempsey, Doris Dubielzig, Olympia Mathiaparanam, Nicole Miller, Genevieve Murtaugh, and Matt Chotlos.

Twice a week, these Friends volunteers collected information on water temperature and clarity, monitored beach conditions, and identified potentially harmful cyanobacteria blooms. They then

submitted this information to the Clean Lakes Alliance, displayed at <https://lakeforecast.org/>. Anyone who wanted to make a trip down to the lake could look up the conditions at the University Bay boat launch or the many other monitoring sites in Madison, then plan trips according to regularly updated water condition information.

Our data not only provided a useful public tool but also supported future research. Especially in ecology, large data sets consistently collected over time allow scientists to address questions about our changing world. With that clearer understanding, we can strive to be more responsible members of our natural community. Although they might like to be, ecologists cannot be everywhere collecting data at all times. Citizen science efforts offer the next best thing: many passionate individuals contributing a small amount of their time each week to take a few simple measurements of the world around them. Collectively, citizen scientists generate data sets with a consistency

and scope that would be impossible for a small handful of full-time scientists to gather by themselves.

The people of Madison feel a deep connection to their lakes. The Lakeshore Nature Preserve plays a central role in that connection. However, the Preserve's 4.3 miles of uninterrupted Mendota shoreline also furnish a unique opportunity for lake stewardship. Although Madison's algae blooms are an intimidating problem, the Preserve and its friends can play a role in raising awareness of this issue and inspiring a solution.



Matt Chotlos is a UW-Madison biology major (class of 2020). For the past three summers, Matt has studied the ecology

of inland lakes with the Center for Limnology and plans to continue his studies in graduate school. Matt is a Madison local and has been serving on the board of directors for the Friends since April, 2019.

Friends of the Lakeshore Nature Preserve

P.O. Box 5534
Madison, WI 53705

Ideas and *Friends* announcements for our newsletter and website are welcome. If you'd prefer to go paperless and receive your newsletter electronically, please email us at **PreserveFriends@gmail.com**

President: Steve Sentoff

Vice President: Seth McGee

Secretary: Paul Quinlan

Treasurer: Steve Sellwood

Field trips: Doris Dubielzig, Paul Noeldner

Newsletter: Sarah Congdon, MJ Morgan

Friends Volunteer Coordinator:

Steve Sentoff

Preserve! Vol. 19, no. 1,
Winter 2019-2020

Friends of the Lakeshore Nature Preserve is a 501(c)(3) non-profit organization.

Please visit our website: www.FriendsLakeshorePreserve.com

Did You Know....?

Roma Lenehan

The black-capped chickadee is a year-around resident, easily located by its "chick-a-dee-dee-dee" scolds. Beginning in 1988, Jack Hailman, a UW zoologist, and his graduate students caught, color banded, and, with the help of volunteers, observed individual chickadee behavior in the Preserve and surrounding areas. For 15 years, they published papers about behavior and communication. For instance, chickadee fledglings disperse in summer, so winter flocks include the resident breeding pair and immigrant subordinates.



Mike Bailey

Black-capped chickadee.

CONTENTS | WINTER 2019-2020

Opossum in the Preserve	1
Class of 1918 Marsh Part II	2
Winter Field Trips	4
Thanks to our Volunteers	5
Special Announcements.	6
Community Outreach	6
Citizen Science	7



Mike Bailey