



SEVERSON DELLS
NATURE CENTER

NOTES FROM THE DELLS

Calendar & Newsletter

January - April 2024 | Volume 45 No. 1

Rockford, Illinois





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Just \$20 a month makes a \$240 impact in yearly education programs.

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FOR THE PLANET
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Severson Dells is a proud member of 1% FOR THE PLANET



1% FOR THE PLANET represents a global network of businesses, individuals and nonprofit organizations tackling our planet's most pressing environmental issues.

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ONEPERCENTFORTHEPLANET.ORG

NOTE FROM THE DIRECTOR

Photo by Andrea Wallace Noble



Director Ann Wasser,
Photographed by Asia M. Peters

Happy 2024!

It is with great enthusiasm that I welcome you to the latest edition of our newsletter, a window into the heart of the Nature Center's vibrant community.

In this edition, we aim to bring the wonders of nature closer to you, sharing stories of discovery, conservation efforts, and the myriad ways in which our natural world continues to inspire and awe us. As you read through the pages of this newsletter, I encourage you to embark on a journey with us – a journey that celebrates the rich biodiversity of our region, delves into the fascinating lives of its inhabitants, and explores the vital importance of environmental education and stewardship.

As you well know, our mission goes beyond the borders of the woodlands, prairies, and scenic trails. We are dedicated to fostering a deep and enduring connection between people and nature. Through our educational programs and community events, we strive to ignite the spark of curiosity and instill a sense of responsibility towards our environment.

This newsletter is a testament to the passion and dedication of our team, comprised of knowledgeable naturalists, enthusiastic educators, and committed volunteers. Their collective efforts are showcased in the stories and programs you will find among these pages, stories that highlight the impact of our education programs and the sense of wonder that nature instills in all of us.

Two new programs that you won't see among these pages are;

- 1) our new partnership with the City of Rockford and Four Rivers Sanitation Authority to provide watershed education programs to RPS 205 and private school 5th graders in Rockford, incorporating stormwater and sanitary sewer water management and their relationship with ecosystem health and
- 2) our new partnership with RPS 205 21st Century Learning Centers after school program to provide 18 weeks of science and nature programs at three elementary schools this winter and early spring. We look forward to bringing more environmental education opportunities into the classroom and school grounds.

This spring, we are particularly excited about a program with Ingersoll Cutting Tools and the Giant Magellan Telescope. Attendees will learn about the manufacturing of the telescope that is happening here in Rockford and learn from scientists about what they hope to learn from this new telescope that will be a part of the Las Campanas Observatory in the Atacama Desert in Chile. It's exciting to see Rockford manufacturing taking such a significant role in international astronomical research.

Your support, whether through participation in our events, volunteering your time and skills, or spreading the word about our mission, is invaluable and helps us in our efforts to improve environmental stewardship and science literacy in our community.

Thank you for being a part of our community. Together, we can make a difference. I hope this newsletter inspires you to explore, learn, and appreciate the beauty of the natural world that surrounds us.

We look forward to seeing you out on the trails or at a program soon!



Ann Wasser & Board of Directors' President Chris Samuelson at Golden Hour in the Grove 2023



SUPPORTER SPOTLIGHT: SUE MOLYNEAUX

Meet Sue Molyneaux, an extraordinary nature-lover, mother, educator, and long-time supporter of Severson Dells Nature Center. Sue's unwavering commitment to nature education is an inspiration and serves as a powerful reminder of the immense impact of supporting nature programming.

Building a Connection with Nature

One could say that outdoor education was an avocation for Sue, rooted deep in her heart. During her college days and an early teaching summer, she had been a camp counselor in northern New Jersey and the Adirondacks, experiences that had increased her love for the natural world: In the late 1950's she took Girl Scout groups canoeing down the Delaware River and camping along its banks, and in the early 1960s, she led canoe trips and mountain climbing adventures in the Adirondack Mountains, creating lasting memories for the teenage Scouts under her care.

Sue's involvement with outdoor education began prior to her work as a camp counselor. Hailing from upstate New York, Sue's fondest memories were of picnics and park and camp adventures, instilling in her a lifelong love for nature. "How children grow up makes a difference", Sue says; loving nature and working with kids helps to make that impact. She passed on this love to her own children, raising them to appreciate and connect with the outdoors. Several of her children, including a daughter and son, are actively engaged with their local communities. Sue's daughter is a trail guide at Mission Trails Regional Park in the San Diego, California area, and her oldest son is a Community Naturalist at Fairfield Osborn Preserve in Sonoma County, California. Overall, all 6 kids, 11 grandchildren, and many other extended family members are important to Sue, as is spreading the love of nature amongst them.

Sue's story took an exciting turn in May 2014 when, after working for 39 years in workforce



development in the Rockford area, she retired and redirected her focus to her community and the pursuit of volunteer work. While she had always known about Severson Dells and frequented its trails, her busy work schedule had prevented her from getting involved in programs. It was her friend Francie Barnes, a dedicated Severson volunteer, who became the catalyst for Sue's relationship with Severson Dells Nature Center. Sue joined the volunteer roster in November of 2014 and has been with Severson Dells ever since.

Sue's Relationship with Severson Dells Nature Center

Severson Dells Nature Center plays an integral role in Sue's life. It became a sanctuary where she could escape to the trails, finding solace in the natural surroundings. Sue is able to connect with the natural world and explore the trails through Severson and the connecting Colman Dells and Funderburg preserves.

For Sue, Severson feels like a second home. She eagerly attends lectures and events, embracing the sense of belonging that the center provided her. Sue finds herself particularly drawn to supporting the Severson Dells Nature Center's education programs, a cause close to her heart. Over the years, Sue watched with pride as Severson's educational programs became more visible in the community while becoming involved





as a volunteer on field trips, special programs, and even working front desk shifts.

Appreciating nature and understanding its importance is one of Sue’s central goals. She wants people to realize that nature is delicate, and the consequences of our actions could be irreversible: “It’s just knowing that if we knock down trees, they’re not going to grow back that fast.” Through her work as an education volunteer, Sue feels a deep responsibility to inspire both children and adults to cherish the outdoors and, above all, to enjoy it. One vivid memory that continually fuels her drive was a young student exclaiming, “This has been the best day of my life.” It is moments like these that motivates Sue to ensure others experienced the same joy at Severson Dells.

Sue loves introducing children to the wonders of the natural world. Whether it’s playing “Pooh Sticks” by the stream, observing frogs, or turning over leaves to explore the hidden world beneath, Sue’s enthusiasm is infectious. She believes in hands-on, exploratory learning, not just for children but for their parents on field trips as well.

Supporting Severson Dells

Sue doesn’t just support Severson through volunteering, she is also a member and a financial supporter of Severson. As a member of Severson Dells, Sue understands the significance of financial contributions, citing her membership as a way to provide financial support for Severson’s mission. She states that she believes in what is being done here. Sue says her membership with Severson is rewarding, not just for the support of nature education, but also for the camaraderie. Sue loves the opportunities to meet new people and share the same love for nature.

As a member of Severson Dells, Sue is involved with Shelter in a Sense of Place, a group that meets regularly to read books and discuss pressing environmental topics. This group started in the beginning of the COVID pandemic and has continued to meet regularly more than three and a half years later. The group’s current read, “The Book of Hope” by Jane Goodall and Douglas Abrams reminds Sue of the importance of preserving hope for the environment and its conservation. Sue says “we’re all good friends” in the group, and she’s grown close with other members while exploring the beauty of the natural world through literature.

As for the future of Severson Dells, Sue envisions more community involvement to deepen the impact of nature education. For her, this would come with a larger facility, additional staff, and expanded programming. With the support of impassioned members like Sue, this vision of expanding the reach of nature education is possible through continued financial support.

Sue’s life is an inspiring journey, marked by achievements like running six marathons, guiding youth through the Adirondacks, obtaining a master’s degree in English Education, volunteering in church and community activities, nurturing a love for nature in her children, and helping our community connect with the nature around them through her support of Severson Dells. Her wish is that her passion for the outdoors would inspire others to support nature education.



Sue’s story reminds us of the impact of supporting nature education. We urge you to join Sue in her mission to support Severson Dells Nature Center. Volunteering and contributions play crucial roles in expanding nature education and preserving our natural world. Your time and talent are an investment into the future of our planet and the well-being of our communities.

As a final note, Sue has two messages:

1. **Spend more time outdoors, and read more books, especially a variety of books. Maybe both at the same time.**
2. **Remember that support of Severson Dells serves the community and raises awareness about the beauty and importance of nature.**

CALENDAR OF EVENTS

Register for programs at seversondells.org/events or call 815-335-2915

For the most up-to-date information on programs please visit our website at www.seversondells.org. Registration is required for all programs.

Photo by Jessie Crow Mermel

New Years Day Hike

Monday, January 1 | 10:00am - 11:30 am
Start the new year off on the right foot with a cup of tea or hot chocolate and walk in the woods. Please dress for the weather. \$3 members / \$5 general admission

Family Shelter Building

Saturday, January 20 | 9:30am - 11:00am
A great way to spend time together outdoors in the winter is to build a shelter! Join us in our shelter-building area to learn how to build an emergency shelter that will keep you out of the elements if you get separated from your group while out on a hiking adventure. Families with children ages 7 and up. Dress for the weather. \$10 member family / \$15 non-member family

Winter Tree ID

Saturday, January 27 | 9:00am - 2:00pm
Hone your winter naturalist skills during this Winter Tree ID workshop with Zach Grycan. We will spend the day learning the different characteristics to look for and head out on the trails to practice our id skills. Please bring a lunch and be prepared to be outside for an extended period of time. \$30 members / \$35 non-member

Parents Night Out

Friday, February 9 | 5:00pm - 9:00pm
A Friday night date night the weekend before Valentine's Day sounds like a treat, right? But what to do for childcare? Let us help as we take the kids for the night so you can enjoy a night out, or a night on the couch! \$25 member / \$30 non-member + Second child discount of \$10/each

Family Tracking

Saturday, February 17 | 1:00pm - 3:00pm
Join Severson staff on this fun family adventure where we learn some different animal tracks, and then head out to the forest to see who we can follow! \$10 member family / \$15 non-member family

School's Out! President's Day

February 19 | 9:00am - 3:00pm

Let's hit the trail with classic camp activities and go off trail to experience exciting new challenges! We will explore our favorite hidden corners of the forest and put our outdoor skills to the test. Ages 6 - 10

\$40 members / \$50 non-members



Plan Your Native Plant Garden

Saturday, March 16 | 10:30am - 12:30pm
Are you interested in incorporating native plants into your home garden, but not sure where to start? Spend the morning learning about plants that will do best in your yard given your space, soil type, & amount of shade. We will have Wild One Plant Sale information so you can order your plants that day (plants available early May for pick-up). \$15 members / \$20 non-member



Watercolor Painting w/ Jenny Mathews

Saturday, March 23 | 10:00am - 11:30am
Enjoy a morning of watercolor with local artist, Jenny Mathews, as she walks you through the basics & helps hone your painting skills. All supplies provided. \$30 members/\$35 non-members

Special Event Series

Yoga At the Dells

Join Cassie Piske for a relaxing and rejuvenating morning of yoga. All abilities welcome. Please bring your own mat and it's helpful to have a water bottle, too.



\$10 members / \$15 non-members

Saturday, January 20 8:30-9:30 am

Saturday, February 17 8:30-9:30 am

Saturday, March 16 8:30-9:30 am

Saturday, April 20 8:30-9:30 am

Full Moon Hikes

You won't want to miss this rare opportunity to wander our woods under the moonlight!

\$3 members / \$5 non-member

Thursday, January 25 5:30-7 pm

Saturday, February 24 5:30-7 pm

Monday, April 22 7-8:30 pm

Conservation Crew Restoration Workdays

Join Severson staff as we restore and maintain balance to our ecosystem as we remove invasive species--primarily Bush Honeysuckle. No experience necessary, training and tools are provided. Bring a water bottle, wear layers, prepare to get dirty and have some fun!

RSVP to Liz at liz@seversondells.org

Saturday, January 13 9am - 12pm

Saturday, February 10 9am - 12pm

Saturday, March 9 9am - 12pm

Saturday, April 13 9am - 12pm

More Events!

For Science Saturdays, Travelouges, and Snackin' on Science Speaker Series, visit pg. 8



Homeschool Programs

We believe nature education should be hands-on, exploratory, engaging, and memorable. Bring your student to come play and learn with us for a themed homeschool program!

Ages 5-8 from 10:00-11:30 am | Ages 9-12 from 1:00-2:30 pm

\$10 for members, \$15 for general admission

Wonderful Watersheds

Thursday January 18

Experience the wonders of watersheds through hands-on models, build your own watershed, and take a virtual tour of local watersheds!

Remarkable Rodents

Thursday, February 15

Almost half of mammals are rodents! Learn more about these incredible creatures- both small and large- as we play games and categorize them.



Properties of Water

Thursday, March 21

For being a common substance, water has a ton of exceptional properties. We'll explore cohesion, adhesion, surface tension, and more with hands-on activities!

Marvelous Migrations

Thursday, April 18

In anticipation of spring migrations, we will play games to simulate birds' migration north before heading out into the field to look for new feathered arrivals!

Spring Break Camp

Monday, March 25 - Friday, March 29 | 9:00am - 3:00pm
\$130 members / \$160 non-members Ages 5-12

Whether we frolick in snow or squish in mud, there's no better way to bring in Spring than Spring Break Camp! We will build incredible forts, explore the wonders of the woods, play games, engage our imaginations, and make new friends along the way.



THE SCIENCE AND ENGINEERING OF GIANT MAGELLAN TELESCOPE

SATURDAY, APRIL 20 | 9AM-12PM

Join us at Ingersoll for an exclusive behind-the-scenes look at the engineering of the Giant Magellan Telescope!

LIMITED SPOTS AVAILABLE. Pre-Registration REQUIRED
FREE TO MEMBERS \$15 NON-MEMBERS

GIANT MAGELLAN
TELESCOPE



INGERSOLL



Image sourced from NOIRLab/NSF/AURA at https://noirlab.edu/public/media/archives/images/large/GMT_Rendering_at_Night-CC.jpg

snackin' on



SCIENCE

Coyote Conversations
with Dr. Fran Santiago-Avila
Tuesday, February 6th

We welcome Dr. Fran Santiago-Avila as he talks about his work with the ReWilding Institute and Project Coyote.



Pollination Fiesta of Flavors
with Jillian Neece
Tuesday, March 5th

Join Jillian Neece, a Severson Dells AmeriCorps member, as we talk about all things pollination! Learn about the critical role these creatures play in our everyday lives.

Bison Conservation & Cultural Collaboration
with Cody Considine
Tuesday, April 2nd

Join Cody Considine from The Nature Conservancy's Nachusa Grasslands as he talks about the bison program and their work with the Inter Tribal Buffalo Council.

Join us for a special edition of DellSpeak Speaker Series hosted at Lucha Cantina in Rockford!

Grab a bite to eat from Lucha Cantina (not included) and join us for a great lecture.

All talks are 6:30-7:30pm, but we encourage you to arrive at 6pm if you're planning on ordering food!

\$3 members, \$5 non-members

TRAVELOGUES

FROM THE PEAKS OF THE CASCADES TO THE DEPTHS OF THE GREAT BARRIER REEF,
THESE SPEAKERS HAVE CHASED ADVENTURE ACROSS THE GLOBE.
GET INSPIRED BY THESE TRIPS AT A TRAVELOUGE!

AUSTRALIA WITH MICHELE & JON FASSETT
SUNDAY, FEBRUARY 11
1 PM - 2 PM

WASHINGTON WITH EMMA ZIMMERMAN
SUNDAY, FEBRUARY 25
1 PM - 2 PM

FINLAND WITH ANN WASSER
SUNDAY, MARCH 10
1 PM - 2 PM





Join us the first Saturday of each month for Science Saturday!

Meet local experts, take home crafts, and expand your knowledge of nature's wonders!



Winter Wonderland January 6th 10am-2pm

What do animals do in winter? How do they stay warm? Where do they go? Try out some of their wonderful adaptations for yourself!



Meteorological Madness February 3rd 10am-2pm

Illinois has some amazing weather, from thunderstorms to sunny skies, from hot to cold. Come learn all about these weather phenomena and take home your own tornado in a bottle!



Insect Insanity March 2nd 10am-2pm

Insects don't need to be scary, they are actually really cool! Try out your bug-eyed vision, make your own insect to take home, and learn about these cool creatures!



Sounds of Spring! April 6th 10am-2pm

The Dells are alive with the sound of music! Join us for a spring awakening chorus as we tune into the natural world around us.



For more information, visit SeversonDells.org/Science-Saturdays



EVENT MADE POSSIBLE WITH FUNDING FROM






SUMMER CAMP

Register at: SeversonDells.org/SummerCamp

AGES 4-6

\$100 members \$115 non-members

June 10 - June 14 *Little Creators:* Paint, dance, sing, and craft! Your little creator will get to explore nature through the arts and deepen their appreciation for the outdoors.

June 24 - June 28 *Little Scientist:* Grab your lab coat! Let's see the scientific method in action as we experiment with all sorts of exciting ecology geared for our young learners.

July 29 - August 2 *Little Pirates:* Join our pirate crew for swashbuckling adventures on the high seas of Severson! We will catch critters, make boats, & search for lost treasure.

AGES 7-11

\$130 members \$160 non-members

June 17 - June 21 *Peek in the Creek:* A Severson Dells Classic! Every day campers are in the creek, catching critters, exploring, and learning about this amazing ecosystem.

July 8 - July 12 *Fire & Ice:* Have a rock-ing good time, learning about what shaped our planet, and our own backyard! From volcanoes to glaciers, we will cover it all!

August 5 - August 9 *Peek in the Creek:* A Severson Dells Classic! Every day campers are in the creek, catching critters, exploring, and learning about this amazing ecosystem.

AGES 12-16

\$185 members \$215 non-members

July 15 - July 19 *Blazing Paddles:* Explore the rivers of Winnebago County by canoe, build teamwork & leadership skills, and jump into some classic camp activities.

July 22 - July 26 *Adventure Squad:* Join us for a different land adventure every day. We will go hiking, creek walking, exploring and more!

GRANDPARENTS CAMP

varies by # of family members

July 2nd: *Terrestrial Habitats* Make crafts, catch insects, romp through the prairie, and spend time making priceless memories.

July 3rd: *Aquatic Habitats* Make boats, catch crayfish, explore the creek, and spend time making priceless memories.



SERVICE OPPORTUNITIES

WITH SEVERSON DELLS

Photo by Jessie Crow Mermel

VOLUNTEER POSITIONS

Nature Center Host Volunteers staff the front desk on Saturdays and Sundays in 4-hour shifts or for occasional weekdays, depending on the need. Duties include answering the telephone, greeting visitors, conducting gift shop sales, and assisting members in checking out library materials. Ability to use multi-line telephone and give directions to Severson Dells Forest Preserve from various locations in the area are a must. General awareness and appreciation of nature helpful. Warm and welcoming personality a definite plus. Apply online at www.seversondells.com/volunteer

Education Volunteers help lead programs for school groups at our onsite education programs. Group size ranges from 10 to 20 students, and are mostly preschool through 5th grade. **We currently have a great need for guides on our Discover Nature Hikes, which last about 90 minutes and focus on enthusiasm for nature! No background knowledge required.** We provide training and opportunities to shadow staff or other volunteers. School programs take place Tuesday through Friday from approximately 8:30 a.m. to 1:30 p.m., and are concentrated in the spring and fall. If you would like more information about becoming an education volunteer, please contact Andrea: Andrea@seversondells.org



WILDFLOWER WALKABOUTS

RETURN
APRIL 2024

EXPLORE THE WILDFLOWERS OF OUR REGION
WITH HIKES LED BY EXPERT NATURALISTS!

VISIT US ONLINE FOR DATE ANOUNCEMENTS
www.seversondells.org/wildflower-walkabouts



BOOK NOOK:

IN THE NAME OF WILD

ONE FAMILY, FIVE YEARS, TEN COUNTRIES, AND A NEW VISION OF WILDNESS

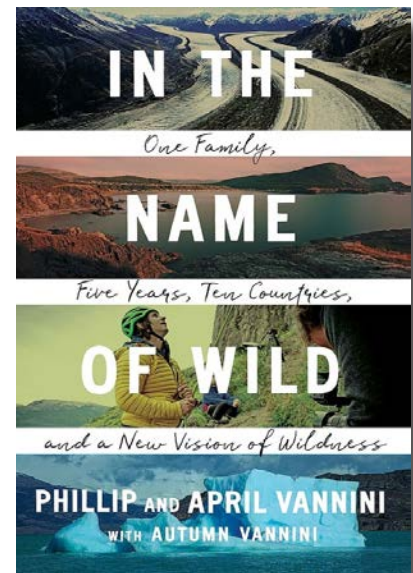
BY PHILLIP & APRIL VANNINI, WITH AUTUMN VANNINI

UBC PRESS, ON POINT PRESS

Five continents. Ten countries. Twenty Natural World Heritage sites in five years. When one family set out to consider what wildness and wilderness mean to people around the world, their journey revealed something very different from the picture-perfect notion of untouched nature they imagined. In the Name of Wild is the story of what they learned.

What draws us to seek out wild places? Do they mean the same to everyone? The Vannini family expected to encounter pristine landscapes, but from the moment they set foot on the Galápagos Islands, romantic ideals crashed up against tourist-clogged realities. The wilderness is a busy place. Adventurers are there to conquer it. Conservationists are there to protect it. Tourism operators are there to make a dollar off it. TV crews, bloggers, and Instagrammers are there to record it.

Part travelogue, part ethnography, In the Name of Wild takes us into the lives of people who call places like Tasmania, Patagonia, and Iceland home. As we meet local residents we learn that wildness has never been about the absence of people. This brilliantly conceived, beautifully told account reveals that wild is instead really about connections, kinship, and coexistence with the land.



For those that are interested, there is also a documentary film that can be found at <https://www.inthenameofwild.com/>

NEW FACES: MEET EMMA ZIMMERMAN



Meet Emma: our new Environmental Education AmeriCorps Member here at Severson Dells! Emma grew up in the stateline area, and is happy to be back home and in the place she loves most - the forest! Emma graduated last spring from Beloit College with a degree in Environmental Biology. She is interested in forest ecosystems and deep ecology, and is passionate about people and our relationship with nature.

Emma recently moved back to Illinois after serving an AmeriCorps term as a botany member in the Mt. Baker-Snoqualmie National Forest in Washington State conducting plant surveys and removing invasive species. During her off time, Emma is an avid backpacker and hiker, and is always looking for her next adventure!

2024
City
Nature
Challenge

ROCK RIVER VALLEY



WE NEED YOUR HELP

People around the world are taking pictures of nature in their backyard and uploading it to a free and fun app called iNaturalist. The city with the most posts wins! Help put the Rock River Valley on the top of the list!

1. OBSERVE NATURE

Anything counts, from plants to animals to fungi!

2. TAKE PHOTOS

of nature in your backyard, local park, forest preserve, or natural area between April 26 - 29

3. UPLOAD PHOTOS TO INATURALIST

to automatically add them to our project! Your observations will be shared with scientists around the world.

4. ID OBSERVATIONS

All observations will need help identifying them. Not sure how to identify things? No worries! Join us for an ID party! Date, time, & location will be announced early April!

Questions? Contact Severson Dells at 815-335-2915 or visit www.seversondells.org/city-nature-challenge



NATURALIST NOTES:

BENEATH THE FROST: A CLOSER LOOK AT TREES' WINTER SURVIVAL SECRETS

BY JILLIAN NEECE

Each year as winter approaches, we take certain steps to prepare ourselves for the cold months ahead. We break out the heavy coats and snow boots, stock up on lip balm and hand lotion, dive back into our winter hobbies (yay knitting!). For animals, the arrival of cold weather often signals the time for hibernation, torpor (basically 'hibernation-lite'), or migration to warmer places. But for trees, curling up in an insulated cave or flying off to a gentler climate are not reasonable options. Instead, they have to rely on some ingenious chemistry and structural adaptations to make it through the freezing winter months.

There are two main obstacles that trees must overcome to survive the winter: freezing temperatures and lack of water. Because liquid water is mostly unavailable during the winter, trees have to hold on to as much water as they can to keep from drying out. However, if the water inside plant cells freezes, the sharp ice crystals can cause the cells to burst and die. Luckily, tens of millions of years of evolution- including through a few million years of ice ages- has given our local trees the adaptations they need to overcome these hurdles.

The best way to deal with having less access to water is to use less water! Trees need water for photosynthesis, transporting sugars and other nutrients throughout the plant, and for maintaining their structure. When water is inaccessible in winter, trees enter a kind of dormancy where photosynthesis and nutrient transport are limited. This means trees 'spend' less water and can focus on retaining the water they already have.

But unfortunately, retaining water isn't as easy as it sounds. Leaves contain little pores called stomata where carbon dioxide enters the plant and oxygen produced during photosynthesis exits the plant, usually with some water vapor tagging along. In very dry conditions, plants can lose a lot of water through their stomata. So over the winter, when conditions are often dry and windy, many trees lose their leaves to prevent that water from escaping. This makes for a massive energy investment down the line when they need to grow all new leaves, but at least the tree won't dry out before then!

Trees that retain their leaves throughout the winter invest in an extra waxy coating on their leaves to hold water in. Hanging on to their leaves through the winter lets these evergreen trees take advantage of late- or early-season warm spells for some last-minute photosynthesizing and energy storage, but it also leaves them vulnerable to using up their water storage too soon. Dealing with winter water loss- like everything in nature- involves a careful balancing of tradeoffs, but the fact that we have both trees that lose their leaves and trees that keep them means that both strategies can be successful.



Photo by Andrea Wallace Noble at Severson Dells

Now that we've dealt with the dryness of winter, let's dive into the cold. The first line of defense that trees have against the cold is one we are all familiar with: bark! The outer bark insulates the important living tissues within the tree and prevents them from being damaged by wind, snow, or other harsh weather conditions. But bark is not enough to keep the living tree cells from freezing and dying.

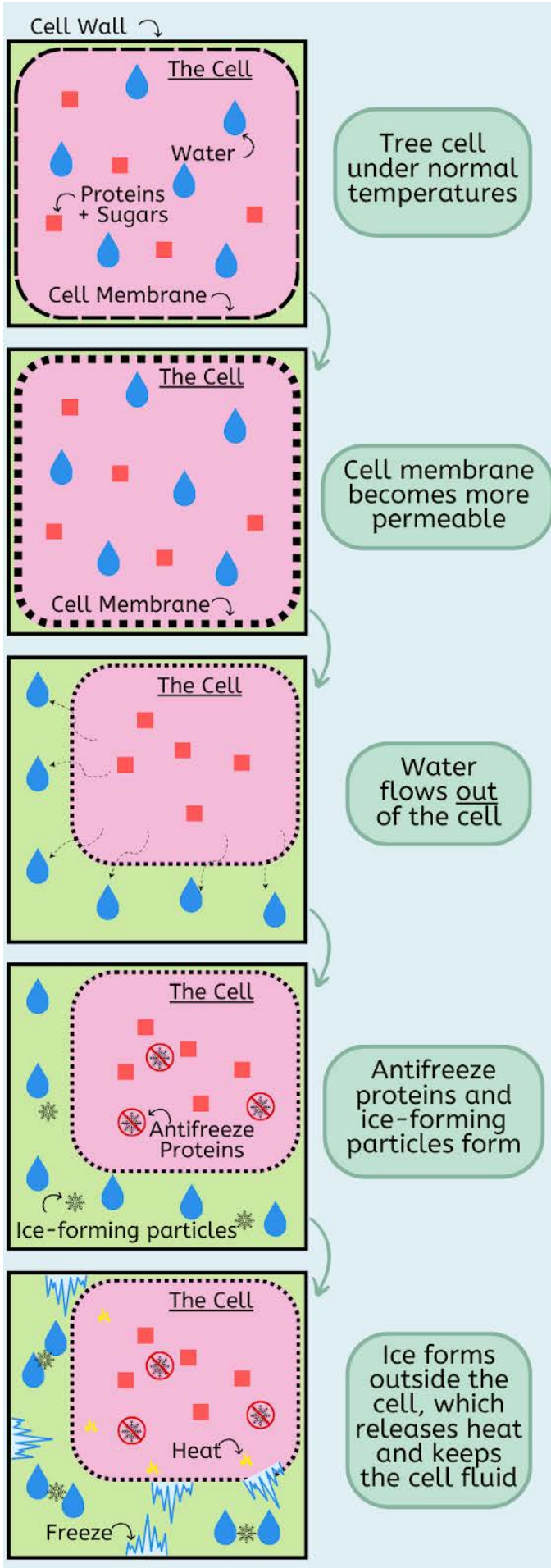


Photo by Jessie Crow Mermel at Severson Dells

To do that, trees actually control where ice crystals can form to minimize damage to their cells. Under normal circumstances, tree cells contain a lot of water to help with cellular processes like photosynthesis, but as we mentioned before, these processes slow or stop during the winter. Because of the lower demand, water doesn't need to be as readily available, and it can instead be stored outside the cell. A special molecule called abscisic acid makes the cell membrane more permeable, which lets water flow out of the cell and into the intercellular (or between-cells) space.

With most of the water evacuated from the cell, the inside of the cell becomes highly concentrated with other molecules. Just like how water with salt in it freezes at a lower temperature than freshwater, cells packed with all of these molecules will freeze at a lower temperature than the surrounding watery space. Then, to give the physics an extra boost, they will also produce special antifreeze proteins that prevent ice crystals from forming inside the cell.

Meanwhile, outside the cell, the trees are actually encouraging ice to form! Ice can't form willy-nilly anywhere it wants; rather, it has to form around some kind of particle. Snowflakes, for example, usually crystallize around pollen or dust particles from the atmosphere. Trees produce 'ice nucleator proteins' outside of their cells that serve as the particles that the ice crystals can grab onto. Amazingly, the reaction that occurs to condense liquid water into ice produces a small amount of energy in the form of heat, which is then used to keep the neighboring cell just a little bit warmer!

Even after accounting for the cold and dry conditions, winter can be a dangerous time for trees. If temperatures get really cold, the cells can still freeze and die. There is also the potential for physical damage from heavy snow and ice accumulating on the branches or road salt being spread too closely and damaging the bark and leaves.

(Continued on pg. 16)



(Continued): Beneath the Frost: A Closer Look at Trees' Winter Survival Secrets

On sunny days, there can even be a threat of bark splitting after sunlight heats it up and causes it to expand despite cold temperatures. Once the sun goes down and the bark tries to shrink back to normal size, the rapid change can cause large vertical cracks that leave the tree vulnerable to weather and disease.

For many of us, winter is the time to slow down, rest, and prepare for the busyness of spring. For our local trees, cold weather may mean slowing down processes like photosynthesis, but there is still a lot going on under the surface. So in the spring when you see trees starting to bud out, take a moment to feel the full awe of how much those trees had to overcome to make it to another spring.

Jillian Neece is an AmeriCorps Natural Resources. Born and raised in Winnebago County, Jillian is passionate about the local environment, science communication, accessible research, and environmental justice. Jillian holds a degree in Plant & Microbial Biology, and minored in Entomology and Sustainability Studies. She recently worked on the Save Bell Bowl Prairie campaign.



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OUR IMPACT

“The instructors were wonderful. Very knowledgeable, funny, and engaging. The children had an amazing time and can’t wait to go back.” - Field Trip Participating Teacher

“I loved the additional tidbits of information that were provided along the way. The general instruction was provided, and as the children were actively participating, the instructors would notice things and use those instances to provide additional instruction and educational moments.”
- Field Trip Participating Teacher

“THE MAGIC! Our two came home brimming with stories of their adventures- from Humphrey’s dragon scales and notes, to those tricky bridge trolls (still trying to figure out how to paint their toes purple overnight hah!), to their beloved camp counselors wearing crayfish as earrings. Our girls often commented on funny or kind counselor stories. All of these moments are cherished memories for our girls. The photos truly captured the harmony and magic of youth in nature.
THANK YOU.” - Summer Camp Parent



Heron Heritage Society

Severson Dells honors those **extraordinary** people who have included Severson Dells in their estate plans through our exclusive **Heron Heritage Society**.

Legacy gifts ensure that we are able to **serve the community for generations to come**.

Your gift will help us raise the next generation of Earth stewards.

If a legacy gift to Severson Dells is part of your estate plan, we would love to discuss this with you to ensure that your wishes are fulfilled. Please visit seversondells.org/legacy-giving for more information or contact our Community Engagement Manager Rebecca Rankins: becca@seversondells.org | (815) 335-2915

We highly recommend that you contact your attorney or financial advisor to discuss the best way to achieve your goals and for all legal advice. Severson Dells is a non-profit organization and all donations are tax-deductible as allowed by law.

**BECOME A MEMBER OF
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SEVERSON DELLS ACTIVITIES

Please register at least two days in advance by phone 815-335-2915
or on our website: seversondells.org

JANUARY

New Years Day Hike
Monday, January 1 | 10:00 AM - 11:30 AM

Science Saturday: Winter Wonderland
Saturday, January 6 | 10:00 AM - 2:00 PM

Conservation Crew
Saturday, January 13 | 9:00 AM - 12:00 PM

Homeschool Program
Thursday, January 18 | times vary by age

Yoga at the Dells
Saturday, January 20 | 8:30 AM - 9:30 AM

Family Shelter Building
Saturday, January 20 | 9:30 AM - 11:00 AM

Full Moon Hike
Thursday, January 25 | 5:30 PM - 7:00 PM

Winter Tree ID
Saturday, January 27 | 9:00 AM - 2:00 PM

FEBRUARY

Science Saturday: Meteorology Madness
Saturday, February 3 | 10:00 AM - 2:00 PM

Snackin' on Science: Coyotes
Tuesday, February 6 | 6:30 PM - 7:30 PM

Parents Night Out
Friday, February 9 | 5:00 PM - 9:00 PM

Conservation Crew
Saturday, February 10 | 9:00 AM - 12:00 PM

Travelogue: Australia
Sunday, February 11 | 1:00 PM - 2:00 PM

Homeschool Program
Thursday, February 15 | times vary by age

Yoga at the Dells
Saturday, February 17 | 8:30 AM - 9:30 AM

Family Tracking
Saturday, February 17 | 1:00 PM - 3:00 PM

School's Out Pres Day Camp
Monday, February 19 | 9:00 AM - 3:00 PM

Full Moon Hike
Saturday, February 24 | 5:30 PM - 7:00 PM

Travelogue: Washington
Sunday, February 25 | 1:00 PM - 2:00 PM

MARCH

Science Saturday: Insect Insanity
Saturday, March 2 | 10:00 AM - 2:00 PM

Snackin' on Science: Pollination
Tuesday, March 5 | 6:30 PM - 7:30 PM

Conservation Crew
Saturday, March 9 | 9:00 AM - 12:00 PM

Travelogue: Finland
Sunday, March 10 | 1:00 PM - 2:00 PM

Yoga at the Dells
Saturday, March 16 | 8:30 AM - 9:30 AM

Plan Your Native Plant Garden
Saturday, March 16 | 10:30 AM - 12:30 PM

Homeschool Program
Thursday, March 21 | times vary by age

Watercolor Painting w/ Jenny Matthews
Saturday, March 23 | 10:00 AM - 11:30 AM

Spring Break Camp
March 25 - March 29 | 9:00 AM - 3:00 PM

APRIL

Snackin' on Science: Bison
Tuesday, April 2 | 6:30 PM - 7:30 PM

Science Saturday: Sounds of Spring
Saturday, April 6 | 10:00 AM - 2:00 PM

Conservation Crew
Saturday, April 13 | 9:00 AM - 12:00 PM

Homeschool Program
Thursday, April 18 | times vary by age

Yoga at the Dells
Saturday, April 20 | 8:30 AM - 9:30 AM

Magellan Telescope
Saturday, April 20 | 9:00 AM - 12:00 PM

Full Moon Hike
Monday, April 22 | 7:00 PM - 8:30 PM

City Nature Challenge Observation Period
April 26 - April 29

City Nature Challenge ID Period
April 30 - May 5

NOTES FROM THE DELLS

Severson Dells Nature Center
8786 Montague Road
Rockford, IL 61102-9713

ADDRESS SERVICE REQUESTED

**NONPROFIT ORG.
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CONTACT Us!

Telephone: 1-815-335-2915
web: www.seversondells.org
e-mail: info@seversondells.org

**Open Monday - Saturday:
8 a.m. to 4:30 p.m.**



**SEVERSON DELLS
NATURE CENTER**

Severson Dells Nature Center, in compliance with the Americans with Disabilities Act, will assist in providing for those individuals with special needs. (Please notify us in advance of your needs that may require special staffing.)

SEVERSON DELLS NATURE CENTER STAFF:

Ann Wasser - Director
Rebecca Rankins - Community Engagement Manager
Laura Sjoquist - Administrative Assistant
Andrea Wallace Noble - Youth Programs Coordinator
Liz Wiener - Public Programs Coordinator

AMERICORPS MEMBERS:

Alex Lunde - Education
Jillian Neece - Natural Resources
Emma Zimmerman - Education

BOARD MEMBERS:

Chris Samuelson, *President*
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