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It takes between 6,000 and 9,000 caterpillars to raise one brood of chickadees, Poecile atricapillus.

Each adult brings between 390 and 570 caterpillars to the nest each day for 16 days, until the nestlings fledge.









THE WEIGHT OF

Oceans & Elephants

Note: I wrote this before COVID-19 was affecting our lives in the U.S. With this extra weight on our shoulders, I hope you are still getting outside and visiting Belwin. We all need more time in nature, now and always.

RECENTLY, I WAS DRIVING HOME

WITH MY SON, WILL, both of us quiet in the car when he piped up and asked, "Why don't my wishes ever come true?" My heart broke a little in that moment, but I kept my cool and asked him what wishes he

was thinking about. He replied, "To clean up the ocean and that elephants don't go extinct." I was struck by the magnitude of his thoughts. This seven-year-old was carrying the weight of the oceans and the elephants.

Many of us have big wishes like Will's.

Cleaning our waterways, protecting wildlife, stopping climate change, or bringing back the prairie and savanna that used to envelon our landscape. The weight

used to envelop our landscape. The weight of these enormous concepts sits on all of us, and it can be overwhelming.

By some counts, Belwin is large. This year we're celebrating the addition of 37 acres of land to our holdings — a total of 1,472 acres dedicated to wildlife habitat and access to nature. Tens of thousands of people each year visit Belwin to hike, explore, play, and connect to the natural world.



My son, Will, in 2019 on a family trip to the coast of northern California.

By some measures though, Belwin is small, just a little dot on the world map. Our land amounts to less than 1% of Washington County. Can a place that small make a difference?

Each day, with each person who visits Belwin, a connection is made — some that grow into a foundation of environmental stewardship.

We see these connections in the student from St. Paul that spots their first nuthatch climbing down a tree and is inspired to ask about what it eats, where it lives, and how it fits in our ecosystem. They manifest in the volunteer who finds a new friend on a guided hike, bonding over the awe of hearing the cacophony of frogs in the springtime. New associations are formed when a child walks the trails with their grandparent, exploring nature without any agenda, only curiosity to guide them. It's these personal connections that will lead to the collective care for nature that our world needs.

My heart is heavy when I think of those grand wishes my son has. I don't know if we'll ever get all the plastic out of the oceans or if elephants will survive for future generations. I do know that if we are going to accomplish any of those things, we'll only do it together. By nurturing a community and expanding our reach, we're finding more people who will collectively care for our natural world. If you meet my son sometime, please tell him you're working on some big wishes too.

Katic Bloome

Katie Bloome

Executive Director, Belwin Conservancy katie.bloome@belwin.org

Direct: 651-435-0848

You can see more numbers and stories related to Belwin's impact in our 2019 annual report. Find it online at <u>belwin.org/about/financial</u>.

SPOTTED IN THE WILD



Minnesota-based Aveda Corporation conducted a photo shoot for its Spring 2020 hair color campaign at Belwin's Stagecoach Prairie.



For their Community Give Back Day, Royal Credit Union (RCU) volunteers worked hard at Belwin pulling fence, collecting seeds, and stuffing mail. We got a lot done to help protect wildlife and restore land, and made a lot of new friends. Thanks, RCU!

Creating Living Landscapes: Why They Matter and What You Can Do to Help

By Lynette Anderson, Belwin Conservancy Interpretive Naturalist





Monarch butterflies are one of a handful of species that have a long tongue ideally suited to the tube-shaped nectaries of *Liatris aspera*, or Blazing Star.



Part of restoring Stagecoach Prairie involved removing hundreds of red pine trees in 2011. After large-scale restoration efforts are complete, plants that have been suffocated by an overabundance of invasives now have space to breathe, collect sunlight, and draw nourishment from the soil.

AS YOU DRIVE DOWN ANY STREET IN ANY TOWN, you likely see squares of mowed green grass. These are dead landscapes as far as insects, reptiles, amphibians and birds are concerned. A bird needs cover to get from a nesting site to a food source without being harassed or eaten by some predator. A skink uses brush piles to escape the claws of a neighborhood cat. In fallen piles of oak leaves, insects lay eggs, which hatch and become an important pollinator.

Nature is not neat and tidy, and to help wildlife, we should follow her lead where we can.

Many insects and plants have specific relationships because of the shape of a plant's bloom, like *Liatris aspera*, or Blazing Star. Our imperiled monarch butterflies are one of the many insects that are drawn to this plant because of its tube-shaped nectaries that only accommodate the long tongues of critters like monarchs, hummingbirds, miner bees, painted lady butterflies, swallowtail butterflies and more!

The presence of *Liatris aspera* ensures that these and other species have the best and most appropriate food available to them to thrive and reproduce. These relationships create strands in the web of life in the prairie habitat.

Critters of all kinds need your support in your own backyard.

Loss of habitat that provides food, water and cover is one of the biggest threats to native creatures, be it the rusty-patched bumblebee, the little brown bat, Karner blue butterfly or Blanding's turtle.

Belwin Conservancy works on large-scale landscapes that cover dozens or hundreds of acres, but critters of all kinds also need your support in your backyard.

To improve your property's wildlife habitat potential, begin by walking your site — be it a small square of yard or five acres. Take your time and get the lay of your land. Look for animal signs and listen for the sounds. Draw a map and mark where activity is happening.

Think about where you could put a small garden in a dry, sunny spot and plant with native flowers like *Liatris aspera*, which would help a few more monarchs make their migration. Maybe you have a corner that could host a trio of fragrant native flowering shrubs, like Chokecherry, which birds will love. Is there a place for a small brush pile? Can you add a water feature closer to the ground so amphibians can take advantage of the moist environment?

We don't have to give up all of our tidiness, but if we can soften the edges and create pathways that offer cover and food, we can go a long way toward creating a living landscape that supports native plants and critters, and enriches our lives as well.

For more information, Belwin's staff recommends checking out Douglas Tallamy's book "Bringing Nature Home: How You Can Sustain Wildlife with Native Plants."

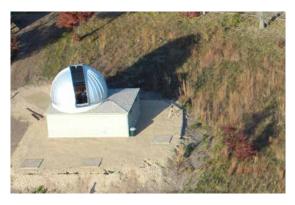


Reflecting On 10 Years: The Joseph J. Casby Observatory

IN 2010, THE MINNESOTA ASTRONOMICAL SOCIETY opened the doors — and the dome — to the Joseph J. Casby Observatory at Belwin Conservancy. Since its opening, Minnesota Astronomical Society (MAS) members have guided thousands of people, including students from Saint Paul Public Schools and Belwin's members, in observing our universe and deepening their connection with our natural world through astronomy.

Josh Leonard, education director at Belwin Outdoor Science, brings his third grade classes into the observatory for science as well as inspiration. "For people who don't feel at home in nature or in the sciences, at Belwin we are able to guide them to connect with nature in a place where they feel safe. MAS is a huge extension of that philosophy."

We are grateful for our partnership with MAS and are looking forward to the next ten years—and beyond!



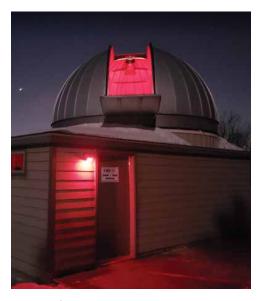
The Joseph J. Casby Observatory is located next to the Belwin Education Center, facing southwest. "In astronomy, you want to be facing the southern skies. That's where all the fun stuff is located," says Merle Hiltner, an MAS member who serves on the observatory's committee, overseeing and maintaining the observatory along with Site Manager Jon Hayman and several other MAS members. MAS member Lauren Nelson took this photo in October, 2010, using a homemade drone.



Kurt Casby, an MAS member since 1992, loves the public outreach aspect of the group's mission. "Most people who have never looked into a telescope, if they see Saturn, it's like seeing heaven," he says. Kurt's mother, Sylvia, is the generous donor of funds to build the observatory at Belwin, which is named after her husband, and Kurt's father, Joseph. Kurt and his wife, Louise, are pictured here.



MAS members carefully placed the eight foot long 10" TMB Apochromatic Refracting Telescope on its pier. The observatory officially opened in August 2010 and houses one of the finest telescopes the state.



Hundreds of events have been held at the Joseph J. Casby Observatory, in partnership with the Minnesota Astronomical Society. MAS is an entirely volunteer-run organization. Since its inception in 1972, its members have made high-quality astronomical equipment and facilities available to thousands of people.



The observatory's 16-foot dome was made by Ash-Dome in Illinois, and was pieced together on top of the observatory. Other parts of the building were constructed inside Belwin's shop, and trucked up to the Education Center. MAS member Merle Hiltner designed the observatory and, together with many MAS members and some Belwin staff, built the observatory from November 2009 to March 2010. Site manager Jon Hayman performed the interior wood finishing.



The pier for the telescope is buried deeply underground, ensuring a stable base for the instrument.

This page: MAS photos by Lauren Nelson and Merle Hiltner; observatory at night by Greg Seitz. Opposite: Property of Belwin Conservancy.

2019 Artist in Residence: Rory Wakemup's Installation

AS PART OF BELWIN'S ARTS, CULTURE AND ECOLOGY PROGRAM, we invited Rory Wakemup to be our 2019 Artist in Residence. His work resulted in the creation of the first sculpture on the land of the Creative Center.

"My mission in life is to use art to help educate folks of all ages and ethnic backgrounds, and to create community bonds," said Rory. "This project is part of my larger effort to help move the dial toward a healthy environment and racial equality."





Rory's "Buckthorn Buffalo" is constructed entirely of buckthorn, an invasive species. The ephemeral work of art is meant to be burned, said Belwin Program Director Susan Haugh. "In this piece are Rory's thoughts and prayers for the resurgence of native species."

Over the next three years, we will pilot different residencies at the Creative Center as we develop our Arts, Culture and Ecology program. Watch for more information!



A student from Anishinabe Academy holds tufts of milkweed pods gathered on the lands at the Creative Center, where a new partnership with the Minneapolis-based school is taking place.

A Convergence of Arts, Culture and Ecology

Last October, attendees of the U.S.-based Alliance of Artists Communities' annual meeting were invited to an all-day workshop at Belwin's Creative Center. Led by Indigenous artists/activists Sharon Day and Rory Wakemup, they engaged in art making focused on water and invasive species. This was followed by a discussion about Belwin's unique Artist in Residence partnership with Anishinabe Academy where Rory is also Artist in Residence and works with the students.

Leaders from Anishinabe Academy, a public, primary school that specializes in Dakota and Ojibwe language and culture, joined Belwin staff to discuss our new and exciting partnership focused on arts, culture and ecology.

"We thought it would be a great experience for people from around the country to learn about a collaboration and partnership that's outside the box," says Susan Haugh, Belwin program director.



Honey Bee Dancing at Belwin

IN A PAPER PUBLISHED LAST WINTER, University of Minnesota Researcher Morgan K. Carr-Markell, along with Cora M. Demler, Margaret J. Couvillon, Roger Schürch, and Marla Spivak, shared results of a honey bee study that they conducted in 2015 and 2016 at Belwin's Stagecoach Prairie and Carleton College.

Their results suggest that the presence of certain prairie flowers in reconstructed prairies may increase the chances that honey bee colonies will use those prairies as major food sources, especially during times when the colonies are growing and producing the most honey.

Honey bees have a unique communication signal called a waggle dance, which indicates the locations of the flower patches that foragers perceive as highly profitable food sources.

The researchers held sugar-water feeders and marked the honey bees as they visited the feeders, then recorded the bees as they went back to their observation hives and waggle danced.

"That gave us calibration data, or the relationship between distance and waggle run duration in their dances, that we used when mapping waggle dances for flowers," said Morgan.

"While we did not find evidence that reconstructed prairies provide a highly attractive resource for honey bees in May, June, and July, we did find evidence that reconstructed prairies can become very attractive in the later season, potentially leading to significant health benefits to honey bee colonies," she continued. In addition, they found that honey bee foragers

perceived seven native prairie plants found in reconstructed prairies as worth advertising to their nestmates.

High densities of certain plants, especially purple prairie clover (*Dalea purpurea*), white prairie clover (*Dalea candida*), and giant hyssops (*Agastache sp*). may make prairies more attractive to honey bees in late summer.

The group is currently examining the full diets of honey bee colonies located near reconstructed prairies to provide more information about the most attractive prairie species for honey-bee friendly plantings.

Read more online: https://tinyurl.com/Belwin-Bees-2020.

Celebrating Nature's Resilience

SPRING IS FIRE SEASON AT BELWIN. Anyone who's witnessed a prairie burn knows the resilience of nature. Just beneath the surface of scorched earth lies a verdant landscape waiting to emerge. The 50th anniversary of Earth Day this year offered proof of resilience and recovery, a valuable reminder for us all right now.

This spring, we had planned to launch a fund-a-need to refresh Belwin's Bison Tower. But if our growing trail usage is any indicator, the more urgent need for many of us is simply more time spent in nature.

Belwin is committed to keeping our natural spaces healthy and available for you to explore throughout this challenging season. Though we understand many in our community may not feel able to give right now, support from our friends and neighbors is still vital to our prairies, watersheds, and woodlands.

When you feel ready, we hope you will count Belwin among the causes closest to you. We are grateful for everything you've done to ensure wild spaces are here for us in this extraordinary time. Thank you!



Learn more about how your support matters.

Visit belwin.org/support.

Bonding at Belwin

By Kate Seitz, Belwin Conservancy Communications Partner

THE BOHACEK-HANSEN FAMILY are big proponents of spending time in the outdoors, especially in the winter. Kris Hansen, a lab manager at 3M, is also the cross country ski coach at Stillwater High School (Olympic Gold Medalist Jessie Diggins went through her program) Kris

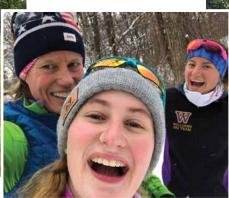
Diggins went through her program). Kris and her family live in Afton and have been active in youth ski programs around the St. Croix Valley for years. But it was the summer months that finally drew them to Belwin Conservancy.

years. I loved the physically rewarding work of pulling invasives, especially the Grecian foxglove!

How does Belwin's mission resonate with you?

Siri Bohacek: While I didn't realize this initially, I think Belwin's work to engage the community with their local ecosystems is the most impressive and important. When I was home over Christmas break. I came to the annual Winter Solstice Bonfire. The fire was spectacular, but I was also amazed by how many people had come to Belwin to stand outside during the cold Minnesota winter to talk, eat cookies, hear stories shared by Indigenous youth, and appreciate the unique place we live in. In a world where preserving natural lands can feel like a relentless uphill battle, engaging and uniting a community reminds us that it is a team battle, not a solo one. It is a communal effort that makes work like Belwin's







Belwin Conservancy: Tell us how you began volunteering at Belwin.

Kris Hansen: We got involved with Belwin when my oldest daughter, Siri (19), was looking for a way to exercise her commitment to the environment last summer. She talked to a number of organizations in the area and ended up "discovering" the gem that is Belwin almost literally right in our backyard. Siri started volunteering, pulling invasives, and then my younger daughter, Mari (18), decided to help out. With the two of them so enthusiastic about what they were doing, it was easy for me to join them.

Siri Bohacek: Most of my work I did with [Interpretive Naturalist] Lynette Anderson. We spent a lot of time on invasive species prevention. This meant hand-pulling many invasives and collecting the seeds of native plants to promote their growth in future

sustainable and worthwhile, and I feel so fortunate to have been a part of it.

Kris Hansen: Being a scientist, of course I want to share the joy of science with kids. But, for me, the environment has always been a super compelling foundation upon which to base education. I chose to become a scientist when my college professor challenged our introductory chemistry class to pursue a degree in science to help devise a solution to acid rain. At that moment, I really appreciated the potential for science to effect a meaningful change in the world. At Belwin, there is huge potential for creating a similar transformational moment for children while they are standing in a copse of trees or looking at a critter in a pond. Science education at Belwin teaches kids the tools to understand the natural environment and that's the first step in appreciating how special it is and learning how to protect it.



4 Ways You Can Help Belwin

"Everybody needs beauty...places to play in and pray in where nature may heal and cheer and give strength to the body and soul alike."

— John Muir

Wondering how you can help Belwin share the healing power of nature in this challenging time? Here are a few ideas:

- Make a donation. Renewing your support or making a slightly larger contribution this year is the most powerful way to help Belwin protect our natural spaces for today and tomorrow.
- Share Belwin. Tell a friend about our trails, and share our emails and social posts. Encourage your friends to sign up for email updates and donate too!
- 3. Stay in touch. Sign up for Belwin's regular emails, and follow us on social media. If you intend to make your gift later in the year, let us know so we can plan with your support in mind.
- 4. Done it all, and still want to help more? Like many organizations, we are focusing on meeting the current needs of our community. However, donations beyond your annual gift can help us address acute needs and keep special projects, like our bison tower refresh and trail improvements, on track.

To learn more, contact Angie Eckel at angie.eckel@belwin.org.

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1553 Stagecoach Trail South Afton, Minnesota 55001-9703 P: (651) 436-5189 F: (651) 436-2899 belwin.org

Inspiring through Nature

The mission of Belwin Conservancy is inspiring our connection to the natural world.



EVENTS UPDATE

Forging Ahead with You In Mind

To ensure the health of our community, we've decided to cancel Belwin public programs and events through May, including the Belwin Bison Festival.

But the bison are still coming! Follow us on social media to see video of the bison taking to the land and come visit them on the prairie this summer.

We will add events after May as we are able, based on Minn.
Governor Walz's directives. Check belwin.org and social media for updates, or contact Program Director Susan Haugh with questions: (651) 425-1147.



Every Saturday from Memorial Day weekend through Labor Day weekend, explore and hike the trails around the Education Center (the building will remain closed until COVID-19 restrictions are lifted). Please note: Dogs are not allowed anywhere on the Education Center trails.

Our public trails remain free and open!

We recently invested \$3,000 in installing new gravel at trailhead parking lots, and will continue maintaining infrastructure so you have easy access to the places you love.

Stagecoach Prairie Natural Area features 4.5 miles of hiking trails. Parking is available at the Stagecoach Trail S. and 11th St. entrances.

There are 2.5 miles of prairie trails encircling **Belwin's Lucy Winton Bell Athletic Fields**. Parking is available at the Bison Observation Tower lot.



Did you know?

We welcome your four-legged friends on our trails at Stagecoach Prairie and on trails encircling Lucy Winton Bell Athletic Fields; however, ground-nesting birds can be disturbed and many people feel threatened by dogs off leash. Please keep your furry friends on leashes and clean up after them. Thank you!

Stay healthy and stay connected!









