

NATURAL AREA PRESERVATION **2022** YEAR END REPORT



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CONSERVATION OPS 2022



Becky Hand
Stewardship Specialist



Ethan Glassman
Conservation Crew
*left NAP in 2022



Leah Jones
Outreach Assistant



Remy Long
Deputy Manager, NAP and Land Acquisition



Beth Weiler
Conservation Crew



George Hammond
Field Biologist



Matthew Spoor
Park Steward Coordinator



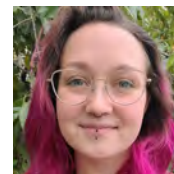
Renée Hytinen
PR & Special Events



Brady Friss
Crew Leader



Jessica Einck
Conservation Crew



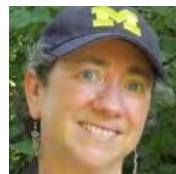
Megan Livingston
Conservation Crew



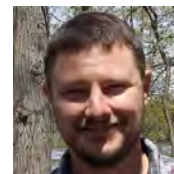
Rosie Pahl Donaldson
Land Acquisition Supervisor



Chloe Hernandez
Conservation Crew



Juliet Berger
Field Biologist



Mike Hahn
Stewardship Specialist



Tina Stephens
Volunteer & Outreach Coordinator



Dana Novak
Workday Coordinator



Kathryn Beauchamp
Workday Coordinator
*left NAP in 2022



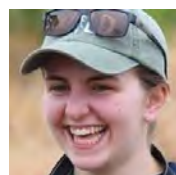
Morgan Boyer
Conservation Crew
*left NAP in 2022



Travis Wilcox
Conservation Crew
*left NAP in 2022



Dave Borneman
Deputy Manager, NAP
*left NAP in 2022



Kirstin Palumbo
Conservation Crew



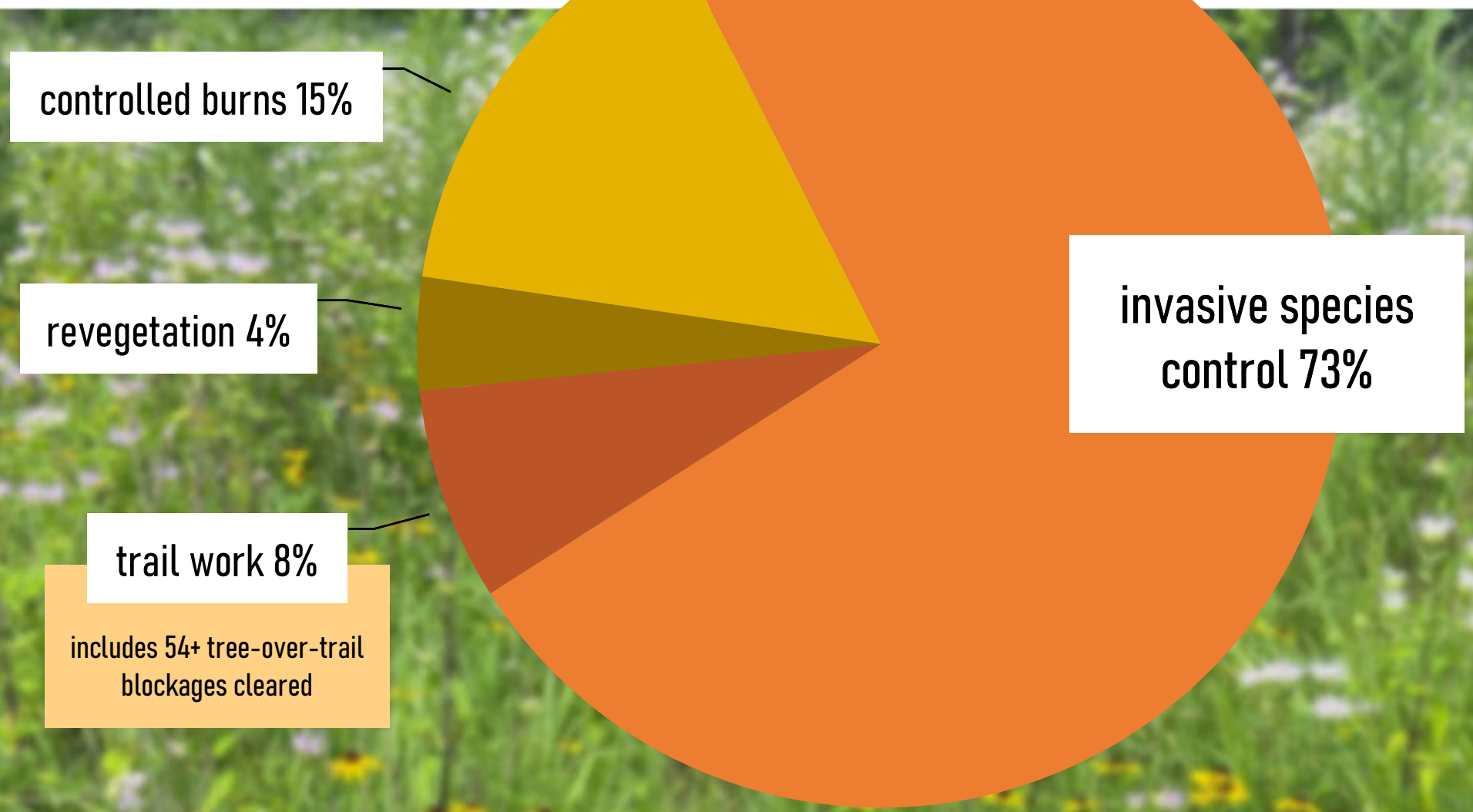
Murphy Harrington
Conservation Crew
*left NAP in 2022



CONSERVATION CREW



2,814 hours worked



“I’ve already signed up for two more events. *The work was hard but rewarding.*”



“This was our second volunteer day with NAP and we loved it. Always a great time enjoying the outdoors, learning new things, and helping preserve our parks! Thank you for another successful event.”

“I had a really lovely time. It was great to be in the woods, and to help with the restoration of the natural area. I think the leaders did a really good job putting our work in context and talking about the importance of invasive species removal.”

PARK STEWARDS

2,862
hours volunteered

54
stewards

19
parks



Alyssa Pozniak
Ann Hubbard
Bill Rosen
Brian Glass
Brooks Curtis
Catherine Riseng
Curtis Vinceze
David Clipner
David McAlpine
Deb Vandebroek
Don Giacherio
Doug Wood
Douglas Allen
Ellen Ward
Eric Russell
Jason Frenzel
Jason Shellhaas
Jean Kluge
Jeannine Palms
Jeff Vornhagen
Jen Rutkiewicz
Jim Vinceze
Jim Young
Joann Constantindes
John Lawter
Jonathan Parker
Judy Schmidt

Karin Monnett
Libby Davenport
Lisa Johnson
Liz Giessner
Manfred Schmidt
Margot Mehringer
Mary Duff-Silverman
Molly Brookshire
Peter Allen
Peter Smith
Ray Hunter
Richard Geglio
Rita Mitchell
Rob Davenport
Robin Damschroder
Ron Emaus
Scott Rosencrans
Shannan Gibb-Randall
Shawn Severance
Stacie Printon
Stephanie Hunter
Ted Hejka
Tiffany Ng
Tim Damschroder
Tom Armstrong
Victor Morales-Rios



CONTROLLED BURNS

154 hours  volunteered

69
acres

11
parks

20
volunteers





“It was wonderful to see how Miller Park is so much improved since my last work day, maybe 4 years ago. These efforts really make a difference! Love the rain garden too!”

“The workday leader was great with our group and we had a great time volunteering with NAP!”



HERPETOLOGICAL SURVEYS



2,341
observations

1,810 👁️👁️
visual observations

531 👂
listening observations (frogs)

8 frog & toad
6 salamander
6 turtle
5 snake
species observed

Left: Red-backed salamander
Right: Brown snake

995
hours volunteered

28 frog & toad
41 salamander
21 turtle
survey volunteers

48
sites

'Did you know Ann Arbor employs experts to track turtles, birds and frogs?'

Check out this August 2022 MLive article featuring NAP's Inventory programs.

HERPETOLOGICAL SURVEYS



Intrepid herp volunteer, Antoni Wierzbicki

Over the last 3 years, a very knowledgeable and enthusiastic high school volunteer, **Antoni Wierzbicki**, has put in hundreds of hours surveying for reptiles and amphibians in our parks. Antoni has found species we didn't know were present in some parks, and has especially added to our knowledge of the wildlife in parks in the northeast part of the city.

One of the species Antoni has been helpful in finding is **Butler's garter snake**, which is listed by the State of Michigan as a Species of Special Concern. We now have records of it in half a dozen different nature areas, and we know it is breeding in at least two (and probably the others). This snake looks a lot like the much more common **eastern garter snake**, and Antoni is adept at looking closely at the position of the stripes on the snake's sides and the shape of the head to tell them apart.



*Top: Butler's garter snake
Bottom: Eastern garter snake*



The salamander survey identified a new breeding site for blue-spotted salamanders in a city nature area!

We knew the pool existed, we didn't know salamanders were breeding there. The pool is in an unrestored lower priority area; we recently started removing invasive shrubs so that eventually the whole area around the pool will have a more natural community of shrubs and trees, better for bugs and the salamanders that eat them.



This year the Turtle Stewards program had **more volunteers surveying from kayaks and canoes** on the river than ever before. This is very helpful, as turtles are less afraid of people approaching from the water, so you can often get closer and make a more accurate identification from a boat than you can on land.



BREEDING BIRD SURVEY

12,610

🐦 observations

197

🐦 species

45

🐦 parks



559

🐦 hours volunteered

49

🐦 volunteers

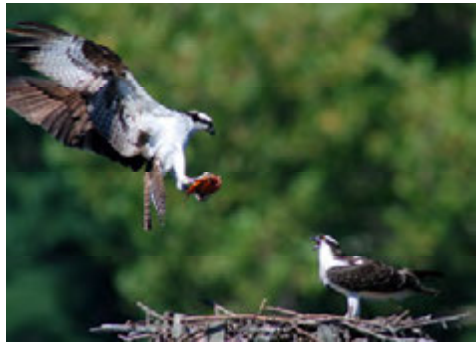
***Did you know**
Ann Arbor
employs experts
to track turtles,
birds and frogs?*

Check out this August 2022 MLive article featuring NAP's Inventory programs.

BREEDING BIRD SURVEY

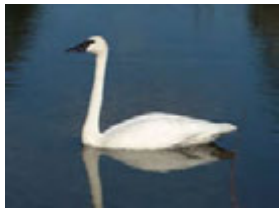
Endangered, Threatened, and Special Concern Bird Species

IN 2022, ANN ARBOR PARKS AND PROPERTIES HOSTED THESE 8 SPECIAL AVIAN SPECIES



1. OSPREY

After almost succumbing to DDT in the mid-20th century, this species was reintroduced and has come roaring back. They feed on fish, and in our area, get many of their prey along the Huron River. The river goes through many of our parks and preserves in which NAP has restored habitat.



2. TRUMPETER SWAN

After having been reintroduced in Washtenaw County in the 1990's, Trumpeter Swans are doing well in our region. Last summer a pair of Trumpeter Swans nested at the Ann Arbor Water Treatment Plant settling pond. Three adorable young hatched from their nest. You can tell a Trumpeter Swan from the invasive Mute Swan by looking at their bills. Mute Swans have an orange bill with a black knob, and Trumpeters have a sloping, all-black bill.



3. BLACK-CROWNED NIGHT HERON

These fun looking plume-headed birds show up at dusk during the summer at Mary Beth Doyle Park. This year we think they had at least one nest nearby. We saw two young-of-the-year feeding alongside their parents and another sub-adult, in the shallow ponds. Thanks to the work of NAP and the Washtenaw County Water Resources Commission, this wetland habitat was created in the early 2000's and the resulting ponds are used by troves of wildlife.



4. RED-SHOULDERED HAWK

A threatened species in Michigan, these hawks find refuge in swampy woods, feeding on small mammals, snakes, amphibians and even fish. A pair of Red-shouldered Hawks has nested at the Wheeler Service Center for at least the last 4 years.



BREEDING BIRD SURVEY

Endangered, Threatened, and Special Concern Bird Species

IN 2022, ANN ARBOR PARKS AND PROPERTIES HOSTED THESE 8 SPECIAL AVIAN SPECIES



5. DICKCISSEL

Lots of male and female Dickcissels arrived at the Ann Arbor Airport to nest this summer. Grassland species are declining faster than any other habitat specific birds in North America, so it's great to know Dickcissels have a safe place to nest in Ann Arbor.



6. MARSH WREN

This species nested in good numbers at Mary Beth Doyle Wetland and Nature Preserve in the cattail marsh. Marsh Wrens need an expansive marsh in which to nest, without invading trees and broad-leaved plants. The restoration work that NAP does in conducting prescribed burns in the marsh here helped the Marsh Wrens to find a suitable home for nesting.



7. HENSLOW'S SPARROW

Henslow's Sparrow nested again this year at the Ann Arbor Airport. This species is endangered in Michigan, and NAP has an agreement with the airport about managing the grasslands there. Generally the southeast corner of the Airport is left unmowed until late summer so that grassland birds can nest and thrive.



8. HOODED WARBLER

This colorful yellow warbler with a black hood nests in mature woodlands with shrubby understory and ravines. Traditionally found at Marshall Nature Area, this species nested at Bluffs and Bird Hills Nature Areas in 2022. Thanks to the work NAP does restoring native species to our woodlands, this Species of Special Concern for Michigan has a welcoming place to nest.

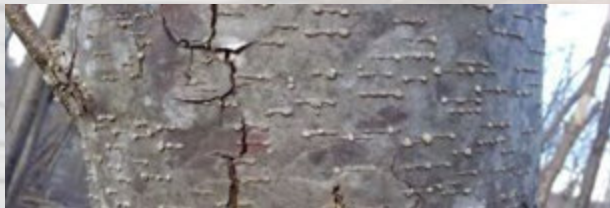


WILDLIFE SUCCESS STORY

Beavers along the Huron River

Over the past four-to-five years, NAP staff and volunteers have seen increasing signs of beaver activity in Ann Arbor natural areas, along the river and in wetlands. October of this year brought a big jump in beaver signs, specifically signs of feeding; the NAP crew reported seeing numerous black alders – some as large as 15 inches in diameter – with the telltale gnawed-hourglass shape left behind by fall-foraging beavers at the [Gallup Park wet prairie](#), and all along the river at [Furstenberg Nature Area](#). Additional sightings have been made at [South Pond Nature Area](#) and other parts of Gallup.

The recent feeding signs are the most accessible (to human observation) we've seen and are visible from the river as well as on land. So much feeding activity in the area means there is probably at least one family living nearby – while in the past it was likely just isolated individuals. This is especially exciting because a beaver family might mean beaver babies in the spring!



Bark detail of black alder

Black alder, also called European alder, is invasive in Michigan. NAP has been working to remove black alder and other woody species that thrive in wet areas. The opened space in the Gallup wet prairie has been especially helpful in allowing beavers to access more of their preferred food sources. Because black alder is a soft wood, beavers are more than willing to use their own removal technique of gnawing with very large, very sharp incisors. A few NAP crew members noted that it's almost as if the beavers have paid forward the extra help by chopping down even more of the invasive alders. It's been remarkable to witness the changes the beavers have brought to the landscape.



During spring and summer, beavers generally eat shrubs, ferns, aquatic plants, grasses, and blackberries. When these food sources drop in supply during fall and winter, beavers focus more on the inner bark and twigs of soft deciduous trees like aspen, alder, cottonwood, and willow.





PHOTO MONITORING

563
photos

26
parks

23
volunteers

165 hours
volunteered

HILLTOP NATURE AREA PRECISE POINT 1

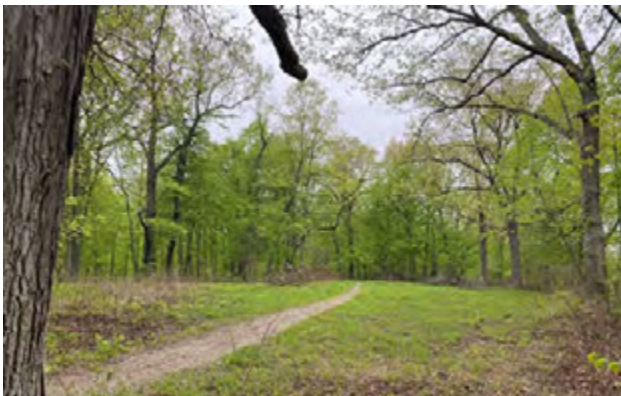
BEFORE AND AFTER SPRING
CONTROLLED BURN 2022



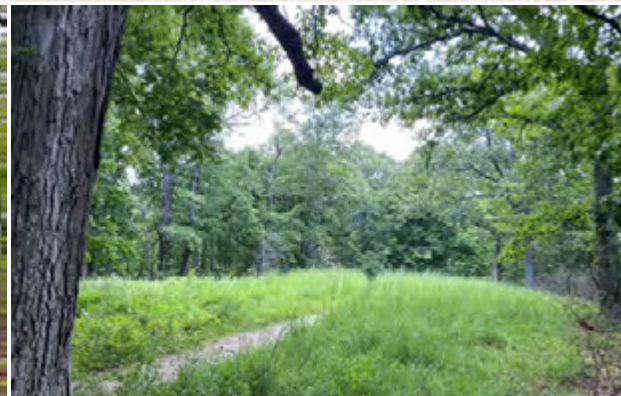
APRIL 27



APRIL 29, AFTER CONTROLLED BURN



MAY 18



JULY 20



AUGUST 24

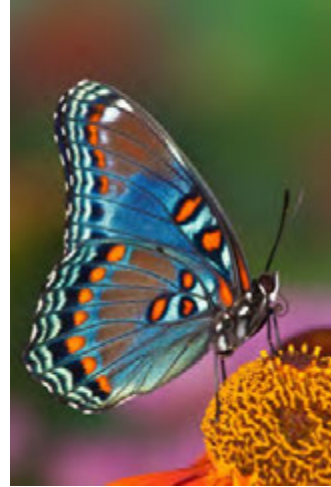
To see full galleries of photos taken at precise points in Ann Arbor natural areas, check out the [Photo Monitoring Web Map!](#)



BUTTERFLY SURVEY



88
hours
volunteered



6
volunteers
11
parks

41
species
156
observations



Top (left-to-right): *Acadian hairstreak*, *red-spotted purple*, *harvester*, *cecropia moth caterpillar*
Bottom (left-to-right): *Eastern tiger swallowtail*, *saddleback caterpillar moth*



GREENBELT AND PARKLAND ACQUISITION



The Greenbelt program is an innovative land preservation program that has protected thousands of acres of farmland and open space surrounding the city of Ann Arbor, and has leveraged millions through grants, landowner donations and other locally funded programs.

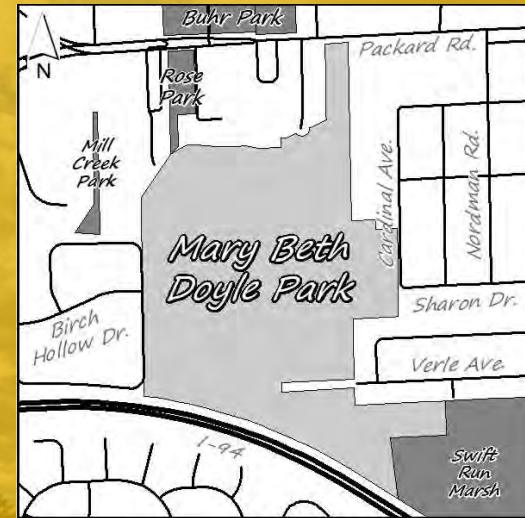
More about the Greenbelt and Parkland Acquisition: [FY2022 Report \(PDF\)](#) [Greenbelt Strategic Plan \(PDF\)](#)



Check out this [interactive map](#) of the Greenbelt properties.

The role of the Land Acquisition Supervisor

In 2022, Parks and Recreation welcomed **Rosie Pahl Donaldson** as Land Acquisition Supervisor for the Open Space and Parkland Preservation program – commonly called the Greenbelt. While the Greenbelt and Parkland Acquisitions aren’t NAP (and the programs are still funded by separate millages) we are now one Conservation Operations team. The Land Acquisition Supervisor’s role has been positioned closely with NAP so that we can collaborate more fluidly on our common missions: **land preservation and protection**. In this report, we are keen to highlight some accomplishments by our Greenbelt colleagues from Fiscal Year 2022.



Parkland Acquisition: Mary Beth Doyle Park Expansion

City Council unanimously authorized the purchase of a 3.77-acre property adjacent to **Mary Beth Doyle Park** – the property scored in the 96th percentile of all parkland acquisition applications on record. The City closed on the \$1.48M purchase in August 2021, increasing the size of Mary Beth Doyle to 85.17 acres and the City’s total parkland to a staggering 2,210 acres.



GREENBELT AND PARKLAND ACQUISITION

Greenbelt Acquisition: Maisel Property

The 220 acre property in Northfield Township presented the rare opportunity to purchase **more than 200 contiguous acres** at once, including 90 acres of what is likely primary growth forest.

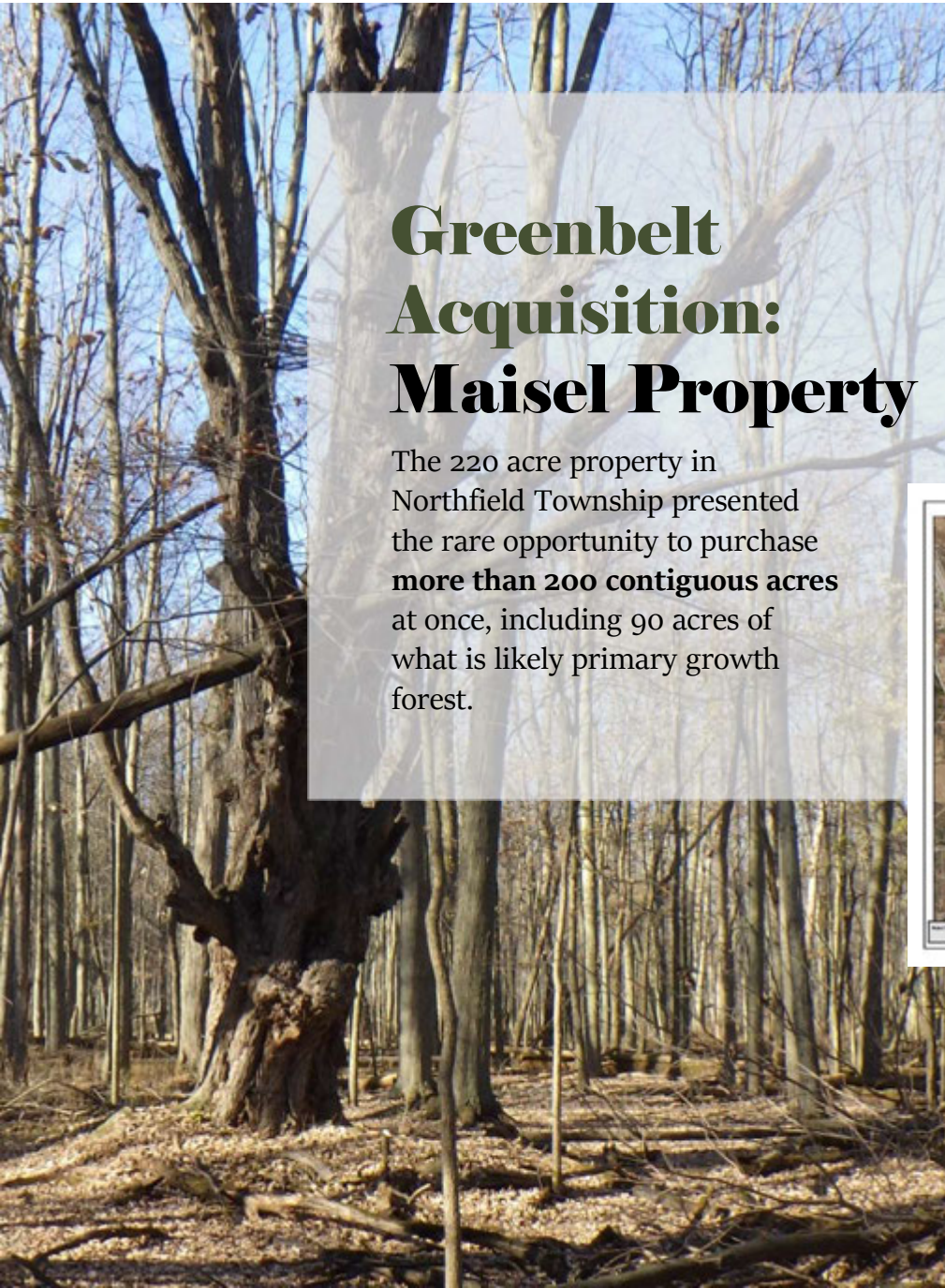


“\$1.4M conservation purchase sets up one of largest nature preserves in Ann Arbor area”

Check out this December 2022 MLive article highlighting the significant purchase of the Maisel property.



The very large block of forests contains many **swamps, vernal pools, buttonbush shrub swamps**, but also **oak forests** – both wet and dry systems. There are also known **heron rookeries** nearby.



Photos from Maisel Greenbelt Application



GREENBELT AND PARKLAND ACQUISITION

In 2021, the Greenbelt worked with a **UM SEAS** team to assess the carbon storage capacity of the Greenbelt's portfolio of protected lands. The **assessment** calculated carbon storage of forested and wetland acres, both above and belowground.

Aboveground Carbon Storage on the Maisel Property



If the property was **clear-cut, slashed-and-burned** (not the kind of burns NAP conducts), the **carbon stored aboveground** would be released.

10,803,518
kilograms of carbon
stored at Maisel Property

equivalent to
↔

39,613.26
metric tons of
carbon dioxide

This amount of carbon dioxide is equivalent to **greenhouse gas emissions** from:

98,327,359 miles
driven by an average gasoline-powered
passenger vehicle

equivalent to
↔

lifetime miles of
492 cars*

* average gasoline-powered
passenger vehicles

This is equivalent to the **carbon sequestered** by:

655,003 grown for
10 years
tree seedlings

equivalent to
↔

46,879 acres
of U.S. forests in one year

\$51

2021 EPA SOCIAL COST
OF CARBON (METRIC
TONS OF CARBON DIOXIDE)

\$1,010,138.12

TOTAL EPA SOCIAL COST
OF CARBON ON SITE

The social cost of carbon represents the societal costs, in terms of the long-term damage done to both the environment and human health, that are associated with the emission of one extra ton of CO₂ (U.S. EPA, 2016).



**“I love how I always learn stuff at these events,
*both from staff as well as other volunteers.”***



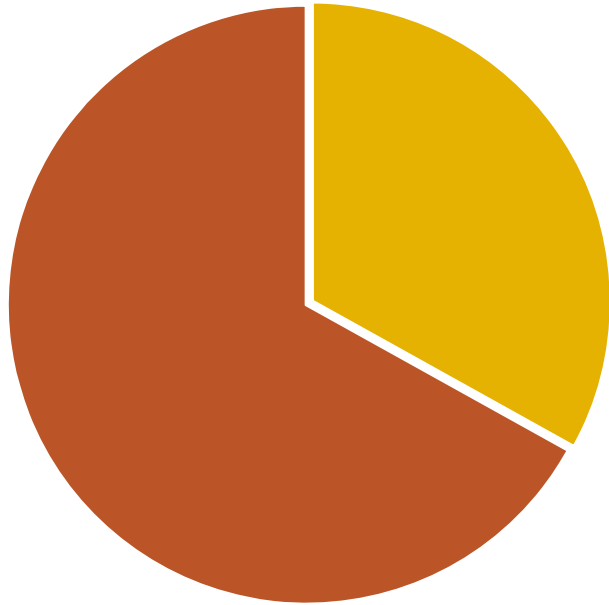
“Great learning experience.”

“I REALLY APPRECIATED HOW EDUCATIONAL THE EXPERIENCE WAS. ESPECIALLY THE NATURE WALK AT THE END.”

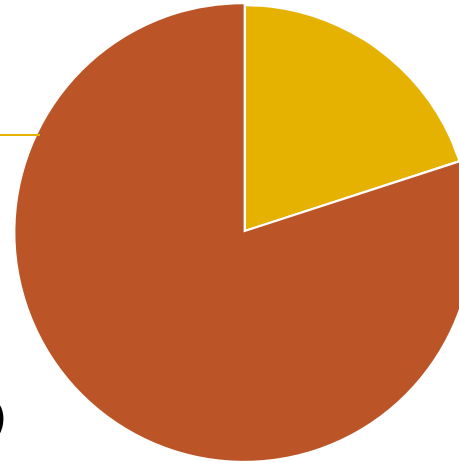
“This was great! I appreciated getting to hear about volunteer prescribed burn crews from the event leader and another volunteer and hope to get involved. We saw nesting red-tailed hawks and an oriole! It was a great morning.”



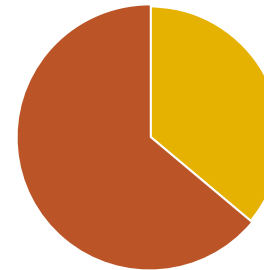
STEWARDSHIP WORKDAYS



5,758
hours volunteered
3,854 public
1,904 private



1,601
workday
volunteers
1,023 public
578 private



105
workdays
84 public
21 private



WITNESSING RESTORATION

Ruthven Nature Area kame, July 2021

What does 20 years of work look like?

Many natural areas look completely different than when NAP started restoration work in 1993. One volunteer recently attended a workday at **Ruthven Nature Area** – returning after working with NAP at the park 20 years ago! He told us he found the event on social media and was curious what the park looked like all these years later. He was more than impressed with the change he saw, specifically at the kame, which is now completely cleared of the buckthorn shrubs that used to cover the glacially-formed hill. “I didn’t remember it looking like this!”

Ruthven is one of the staff’s favorite success stories as well, after many years of “Ruthven Fridays” where the conservation crew dedicated every Friday to cutting and removing more of the buckthorn shrubs on the kame. Now anyone can witness the impact of the countless hours put in by volunteers and staff alike – cutting invasive shrubs and conducting controlled burns - the hill is now covered in thriving native grasses and flowers, busy with pollinators and other wildlife.

Did you find all the critters hiding on this page? Check the links page for the list.



PRIVATE GROUP VOLUNTEERING



34
private groups



1,904
hours volunteered

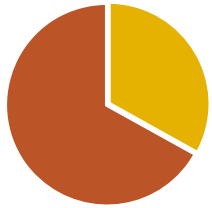


- Community High School
- Criteo
- Emerson Eagle Corps
- Emerson School
- EMU Beta Alpha Psi/Accounting Club
- EMU Delta Zeta
- EMU Women's Swim & Dive
- Parks Project
- Relief Society Latter Day Saints
- St. Mary Student Parish
- Stantec Architecture
- Toyota R&D Saline
- Treetown Tech
- Girl Scout Troop 7
- UM Beta Alpha Rho
- UM Chi Psi
- UM Delta Epsilon Mu

- UM Epsilon Eta
- UM Indian American Student Association
- UM Kappa Alpha Pi
- UM Michigan Community Scholars Program
- UM Mosher Jordan Residence Hall
- UM Muslim Chaplaincy Ann Arbor
- UM Neuroscience Student Association
- UM Program in the Environment Club
- UM Redefined
- UM Running Club/Mrun
- UM Sigma Gamma Tau Aerospace Eng. Honor Society
- UM Sigma Nu
- UM Tau Beta Pi
- UM Theta Alpha Psi
- UM Treasurer's Office
- Youth for Understanding
- Youth Volunteer Corps



BEST OF BOTH WORLDS



5,758
workday
hours
volunteered

3,854
public

1,904
private

Socializing (or not) at workdays

Many volunteers have found that NAP workdays offer even more than conservation activities. Once the training and orientation are done, and volunteers start cutting shrubs or pulling weeds, relationships begin to form. “The volunteers are sort of bound together and forced to interact,” noted one staff member, “everyone has something in common, they just need enough time to figure out what it is.”

Workday leaders experience this at most events – overhearing or participating in conversations where people are finding shared interests and then exchanging contact information. A wide range of connections have been made, prompted by everything from chatting about mountain biking, to students new to the area simply breaking the ice. “There are also the people who just want to put their headphones in and find some isolation and peace. It’s cool that we can offer the best of both the social aspect and the chance to be somewhat alone in nature.”

“I think I enjoyed this event the most out of the several I've participated in (all great). This one stood out though because there was a lot of interaction among the volunteers and there were quite a few children present. I think the increased socializing was because many of us had worked together before, but also because the work didn't require us to be spread out very much (also some aspects required people to work together).”



DISCOVERING NEARBY NATURE



“I live right here, and didn’t know it was here.”

NAP workdays can introduce parks and natural areas to people who may not have discovered these places otherwise. We get a fair number of folks who come to workdays because they are required by their university to participate in volunteer activities or even conservation work. These volunteers often remark that they are thankful to discover parks and natural areas accessible from campus, or in the part of town where they live. Even people who have lived in Ann Arbor their whole lives have mentioned that “I live right here and didn’t know it was here.”





LINKS AND SOURCES

Page 9

- Eastern red-backed salamander - <https://www.inaturalist.org/taxa/27186-Plethodon-cinereus>
- Brown snake - <https://www.inaturalist.org/taxa/28562-Storeria-dekayi>
- Stanton, Ryan. “Did you know Ann Arbor employs experts to track turtles, birds and frogs?” *Mlive.com*, Aug. 01, 2022, <https://www.mlive.com/news/ann-arbor/2022/08/did-you-know-ann-arbor-employs-experts-to-track-turtles-birds-and-frogs.html>. Accessed Wednesday, Dec. 21, 2022.

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- Butler’s garter snake - <https://www.inaturalist.org/taxa/28423-Thamnophis-butleri>
- Eastern garter snake - <https://www.inaturalist.org/taxa/28362-Thamnophis-sirtalis>
- Blue-spotted salamander - <https://www.inaturalist.org/taxa/52354-Ambystoma-laterale>

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- Stanton, Ryan. “Did you know Ann Arbor employs experts to track turtles, birds and frogs?” *Mlive.com*, Aug. 01, 2022, <https://www.mlive.com/news/ann-arbor/2022/08/did-you-know-ann-arbor-employs-experts-to-track-turtles-birds-and-frogs.html>. Accessed Wednesday, Dec. 21, 2022.

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- Osprey - <https://ebird.org/species/osprey>
- Trumpeter Swan - <https://ebird.org/species/truswa>
- Black-crowned Night Heron - <https://ebird.org/species/bcnher>
- Red-shouldered Hawk - <https://ebird.org/species/reshaw>

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- Dickcissel - <https://ebird.org/species/dickci/>
- Marsh Wren - <https://ebird.org/species/marwre/>
- Henslow’s Sparrow - <https://ebird.org/species/henspa/>
- Hooded Warbler - <https://ebird.org/species/hoowar/>

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- Gallup Park - <https://www.a2gov.org/departments/Parks-Recreation/parks-places/Pages/Gallup.aspx>
- Furstenberg Nature Area - <https://www.a2gov.org/departments/Parks-Recreation/parks-places/Pages/Furstenberg.aspx>
- South Pond Nature Area - <https://www.a2gov.org/departments/Parks-Recreation/parks-places/Pages/SouthPond.aspx>

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- Photo Monitoring Web Map - <https://experience.arcgis.com/experience/2ab179c8b6c24b4ebbodeoce31692262>

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- Acadian hairstreak - <https://www.inaturalist.org/taxa/198805-Satyrrium-acadica>
- Red-spotted purple - <https://www.inaturalist.org/taxa/58585-Limenitis-arthemis-astyanax>
- Harvester - <https://www.inaturalist.org/taxa/81729-Feniseca-tarquinius>

- Cecropia moth caterpillar - <https://www.inaturalist.org/taxa/81582-Hyalophora-cecropia>
- Eastern tiger swallowtail - <https://www.inaturalist.org/taxa/60551-Papilio-glaucus>
- Saddleback caterpillar moth - <https://www.inaturalist.org/taxa/122228-Acharia-stimulea>

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- Ann Arbor’s Greenbelt program - <https://www.a2gov.org/greenbelt/Pages/greenbelthome.aspx>
- Greenbelt and Parkland Acquisition FY2022 Report - <https://www.a2gov.org/greenbelt/Documents/FY%202022%20Annual%20Report.pdf>
- Greenbelt Strategic Plan - https://www.a2gov.org/greenbelt/Documents/Greenbelt_Strategic_Plan_2019.pdf
- Greenbelt map - <https://www2.a2gov.org/GIS/MapAnnArbor/Greenbelt/>
- Mary Beth Doyle Park - <https://www.a2gov.org/departments/Parks-Recreation/parks-places/Pages/Brown.aspx>

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- Smolcic Larson, Lucas. “\$1.44M conservation purchase sets up one of largest nature preserves in Ann Arbor area” *Mlive.com*, Dec. 2, 2022, <https://www.mlive.com/news/ann-arbor/2022/12/144m-conservation-purchase-sets-up-one-of-largest-nature-preserves-in-ann-arbor-area.html>. Accessed Wednesday, Dec. 21, 2022.

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- University of Michigan School of Environment and Sustainability - <https://seas.umich.edu/>
- Edinger, J; Einck, J; Kasparian, S; Pagano, L 2021, *Assessing and Communicating Climate and Water Ecosystem Services of the City of Ann Arbor Greenbelt Program*, Master’s thesis, University of Michigan, <https://deepblue.lib.umich.edu/handle/2027.42/167368>. Accessed Wednesday, December 21, 2022.
- Environmental Protection Agency Carbon Equivalencies Calculator - <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

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- Ruthven Nature Area - <https://www.a2gov.org/departments/Parks-Recreation/parks-places/pages/ruthven.aspx>
- Can you find the native fauna hiding on this page: bats, a songbird, a spider web, butterflies, moths, a dragonfly, bees, a rabbit, a snake, a grasshopper, and a vole?

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- NAP Group Volunteering Form - <https://www.a2gov.org/departments/Parks-Recreation/NAP/volunteering/Pages/Volunteer-Sign-Up-Form.aspx>

PHOTO CREDITS

Cover Mary Beth Doyle Park, October 2022, by Photo Monitoring volunteer, Alena Aniskiewicz

Page 2 Furstenberg prairie, July 2022, by NAP Photographer

Page 4 Bee balm and black-eyed Susan at Ruthven, July 2022, by NAP Photographer

Page 5 Volunteers hauling large trash out of Bluffs, March 2022, by NAP Photographer; Volunteers at Bird Hills, October 2022, by NAP Photographer

Page 6 Barton Precise Point 39, September 2022, NAP Photo Monitoring volunteer Lissa Spitz

Page 7 Argo Cascades Burn, March 2022, by NAP Staff; South Pond Burn, March 2022, by NAP Staff; Conservation Crew Intern Indira Sankaran at Furstenberg Burn, August 2022, by NAP Staff; Burn Crew at Kuebler Langford Burn, March 2022, by NAP Staff

Page 8 Volunteers during nature walk with Park Steward Lisa Johnson at Miller, April 2022, by NAP Staff; Junior volunteer gets lopper training at Miller, March 2022, by NAP Staff

Page 9 Eastern red-backed salamander by Conservation Crew; Brown snake by Conservation Crew

Page 10 Herp Survey volunteer Antoni Wierzbicki, courtesy of Antoni; [Butler's garter snake](#) © Josh Vandermeulen ([CC BY-NC-ND 4.0](#)), via [iNaturalist](#); [Eastern garter snake](#) ©Patrick Randall ([CC BY-NC-SA](#)), via flickr

Page 11 Black-crowned Night Heron at Mary Beth Doyle, August 2022, by Breeding Bird Survey volunteer Corey Haselhuhn

Page 12 *Osprey Dad Bringing Dinner*, by Jane Purslow from NAP's 2008 Photo Contest; Trumpeter Swan at Gallup, 2018, by Photo Monitoring volunteer Harry Frank; Black-crowned Night Heron at Mary Beth Doyle, August 2022, by Corey Haselhuhn; [Red-shouldered Hawk](#) © Andy Morffew ([CC BY 2.0](#)), via Wikimedia Commons

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Page 14 [North American beaver](#), public domain, Glacier National Park Service; Bark detail of black alder, by former NAP staff Amy Lipson; Beaver gnawed aspen stump in a pond © Arbyreed ([CC BY-NC-SA 2.0](#)), via flickr

Page 15 Photos from NAP Photo Monitoring Program

Page 16 Acadian hairstreak, by NAP Photographer; Red-spotted purple, Shutterstock; Harvester at Black Pond Woods by Ronda Spink of the Michigan Butterfly Network; Cecropia moth caterpillar by NAP Photographer; *Tiger Swallowtail Sweet Landing*, by Michael Gay from NAP's 2008 Photo Contest; Saddleback caterpillar moth, by former NAP staff Steven Parrish

Page 17 Mary Beth Doyle Park, October 2022, by Photo Monitoring volunteer Alena Aniskiewicz

Page 18 Photos from Maisel Property Greenbelt Application

Page 20 Volunteers smiling at Bandemer, October 2022, by NAP Staff; friends giving a thumbs up at Miller, March 2022, by NAP Staff; Community High School students give a thumbs up, May 2022, by NAP Staff

Page 21 Emerson School students celebrate at Olson Park, June 2022, by NAP Staff; UM Indian American Student Association volunteers pose at Mary Beth Doyle Park, October 2022, by NAP Staff

Page 22 Ruthven Nature Area kame, July 2022, by NAP Photo Monitoring volunteer Mike Stander

Page 23 All by NAP Staff: EMU Women's Swim and Dive Team at Marshall, October 2022; Indian American Student Association at Mary Beth Doyle, October 2022; UM Muslim Chaplaincy at Furstenberg, July 2022; Community High School volunteers at Sunset Brooks, May 2022; UM Delta Epsilon Mu at Argo, September 2022; EMU Delta Zeta at Fuller, March 2022; Criteo at Bird Hills, September 2022; UM Running Club at Bluffs, April 2022; UM Chi Psi at Bluffs, April 2022

Page 24 Volunteers pull weeds at Onder, April 2022, by NAP Staff; Park Steward Liz Geissner at Furstenberg prairie, July 2022, by NAP Staff

Page 25 Barton Nature Area tall grass the summer after a fall burn, September 2021, by NAP Photo Monitoring volunteer Shifrah Nenner; Kuebler Langford Nature Area ironweed, August 2022, by Photo Monitoring volunteer Steve Lyskawa