



NATURAL AREA PRESERVATION

Protecting and restoring Ann Arbor's natural areas and fostering an environmental ethic among its citizens

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Autumn 2019

Park Focus: A New Nature Area!

Krissy Elkins, Outreach Assistant

Pulling up to the shaded parcel of land at the end of Hickory Point Drive, I was happily greeted with enormous oak trees, shimmering maple leaves, and an abundance of excitement to explore this recent addition to our parks system. This new nature area is a piece of land edged near the corner of Nixon Road and Dhu Varren Road, tucked between a condominium development to the east, M-14 to the north and Foxway Drive to the west.

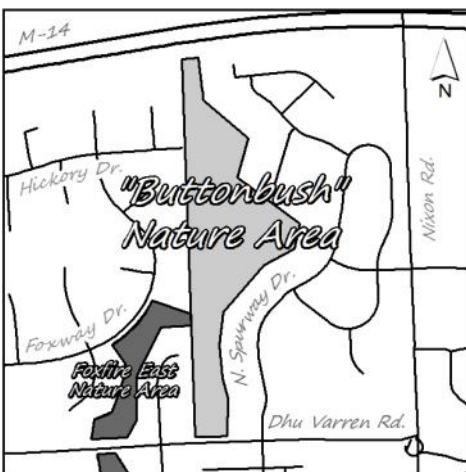
This nature area officially became a park in March of this year, but it is not yet officially named. The proposed name is "Buttonbush" after the beautiful buttonbush swamp in the eastern portion of the park. Although it is commonly



The creek flowing through the buttonbush woods, muddy, during the rainy spring

referred to as a buttonbush swamp after the dominant plant, this wetland feature is technically known as an "inundated shrub swamp." Water depth can vary according to rainfall and season, and these areas typically have acidic, sandy soil. Buttonbush flowers are small white balls, typically two inches in diameter. The native shrub blooms in late July, attracting all kinds of bee pollinators such as sweat bees, digger bees, and bumble bee. Although the shrub can grow in dry soil, it prefers a higher degree of inundation, meaning moist and mucky soils. Reaching as high as 15 feet tall, these thickets of shrubs can be tough to maneuver through, but they are a sight to see in late July!

A mature oak-hickory forest spreads across the north-western border of the park, sliced in half by a slow-moving creek. The watercourse, weak north of the buttonbush



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A unit of the City of Ann Arbor
Community Services Area, Parks
and Recreation Services.

*The mission of Natural Area
Preservation is to protect and
restore Ann Arbor's natural areas
and to foster an environmental ethic
among its citizens.*

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COORDINATOR'S CORNER

Ann's Arbor- part 2

In the last issue, I described the native landscape that greeted City founders back in the early 1800s and led to them to choose the name "Ann's Arbor." It was a beautiful park-like setting with lots of grasses and wildflowers, where huge, wide-spreading oak trees grew 30-40 feet apart, and passage between them was "obstructed neither by bushes nor by fallen trees." A lovely setting, and very different than what now exists in most of our natural areas.

So, how do we get closer to restoring that native ecosystem that existed here only 200 years ago? How do we restore and maintain those open oak woodlands that gave Ann Arbor its name? In many parks, we still have big oak trees, so that's a start. What we lack are young oak trees. It's a matter of sunlight. Acorns need two things to germinate: contact with mineral soil, and sunlight. Acorns that fall on dense leaf litter in shady forests just won't grow. And if acorns don't germinate and grow into seedlings and then saplings, we won't have any big oak trees tomorrow.

If you're familiar with NAP, you won't be surprised to hear that returning fire to these landscapes is one of the most effective tools for getting acorns to germinate. Controlled burns remove leaf litter so acorns can get down to the mineral soil; and they let in more sunlight to the forest floor by setting back young shrubs, especially non-native ones. But fire alone will likely not be enough to maintain our oak woodlands long-term. NAP's controlled burns set back the shrubs and young trees, but they do nothing to reduce shade from bigger trees. In other words, fire alone is effective in keeping trees from becoming too dense in a woodland, but it is not effective in opening up those areas once they have become too dense with trees.

Study after study suggests that a more effective way to let in adequate amounts of sunlight is to combine controlled fire with the mechanical removal. That doesn't mean logging in parks. But it may mean exploring other ways to turn some of today's shade-producing trees into tomorrow's dead snags. Maybe we more aggressively go after other non-native trees in our natural areas, like sweet cherry or black locust. Or maybe we girdle some of the shade-loving maples that are encroaching into our oak woodlands (a process known across the Midwest as "maple invasion"). The resulting dead trees could remain (away from trails) for cavity-nesting birds and mammals.

Killing trees is controversial. Ann Arbor is a "City of Trees." We love our forests and do all we can to save big trees, including re-routing roads to avoid them or paying a lot of money to move individual trees that can't be avoided. So NAP is approaching this topic cautiously, thoughtfully, and slowly.

Ann Arborites today enjoy the large oak trees and the oak woodlands created by our ancestors and the Native Americans before them. What kind of landscape will we leave for our grandchildren? And how will we go about creating that for them? We'd love to hear your thoughts on these questions.

-David Borneman, Natural Area Preservation Manager

How Are Deer Affecting Our Wooded Natural Areas?

Dr. Jacqueline Courteau

Deer populations can increase in parks where they have no predators and hunting is restricted. Many park systems have found that deer are harming plants and species that depend on those plants. Deer can eat and trample plants, compact the soil, and disperse seeds of invasive species, such as stiltgrass, recently discovered in Michigan for the first time. Deer are called browsers because they eat twigs as well as leaves. Heavy browsing reduces tree regeneration as well as wildflower diversity and flowering.



We have conducted several studies in Ann Arbor since 2015 to see how deer affect plants and the food webs that rely on them. Key findings are highlighted here.

Fenced plot in foreground and unfenced plot in background. Plots had similar number of flowers at the start of 2016. Nichols Arboretum, May 2019.

Red oak experimental (“sentinel”) seedlings, 14 natural areas, 2016–2018:

Red oaks are a dominant forest species in southeast Michigan, offering food and habitat for many insects, birds, and wildlife. Deer damage on red oak seedlings can reduce or slow forest regeneration, and can also indicate the likelihood of deer browse on other plants.

We grew and transplanted local-genotype red oak seedlings into wooded sites and monitored them 5-6 times over a full year to assess survival, condition, and signs of herbivory. We can distinguish deer browse from herbivory by rabbits, woodchucks, and voles because deer lack incisor teeth and leave a crimped and/or shredded edge on leaves and twigs, rather than an angled cut or toothy gnaw.

In the 10 sites we been monitored for 3 full years, deer browsed more than half the seedlings overall each year. Research shows that oak forest regeneration is likely to fail if more than 15% of seedlings are browsed. Levels of browsing have declined in many sites over that time. Reduced deer browsing may be linked to deer management activities, and may also be affected by other activities (such as invasive shrub removal or changes in park use) that change when, where, and how often deer browse. Annual variations in weather and rodent populations may also play a role. This study suggests that deer impacts are declining in several parks, but levels are still high enough to affect tree regeneration and impact wildflower species.

Trillium study, 5 natural areas, 2016-2018:

Tender herbaceous wildflowers such as trillium, lilies, and orchids are often highly preferred by deer. While many plants can survive moderate deer browsing, it can reduce their flowering and fruiting. Studies suggest that browse levels of more than 5-15% on trillium populations can lead to population declines or local disappearance.

To check how deer are affecting spring wildflowers in Ann Arbor parks, we located existing populations of trillium and set up pairs of unfenced and fenced plots with similar initial numbers. We revisited plots several times a year to count the number of plants, how many were flowering and fruiting, and how many were browsed by deer.

At most sites, trillium abundance and flowering increased more in fenced plots protected from deer than in unfenced plots from 2016 to 2018. At Black Pond Woods and Lakewood Nature Areas, trillium flowering increased in fenced plots while it decreased in unfenced plots. And at Mary Beth Doyle Park, the number of trillium plants increased in fenced plots but decreased in unfenced plots, although flower numbers were about the same. This study suggests that deer browsing is associated with declining trillium numbers and/or flowering in most sites, despite declining levels of browsing on oak seedlings.

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NAP

VOLUNTEER STEWARDSHIP CALENDAR AUTUMN 2019

Volunteers assist NAP in all aspects of our work. Community involvement is vital to the success of NAP's conservation and education efforts. Please join us for one of these events!

For all of our **Stewardship Workdays**, please wear long pants and closed-toe shoes. Workdays are **free** and suitable for all ages. Minors must be accompanied by a guardian or have a signed release form. Contact NAP for release forms. Tools, snacks, and know-how provided.

SEPTEMBER

National Day of Service and Remembrance Stewardship Workday Sunday, September 8, 9 a.m. to noon Stapp Nature Area



Join us on this national day of community service to protect biodiversity in our community. Stapp Nature Area is a rare remnant forest. Help us remove invasive shrubs. Meet at the park sign on the corner of Huron Parkway and Tuebingen Parkway.

Bird Walk Sunday, September 8, 5 to 6:30 p.m. Mary Beth Doyle Park

Join NAP's Ornithologist on a walk around this park. We'll look for migrating shorebirds on the pond and songbirds in the woods. Bring binoculars if you have them, and be prepared for mud. Meet in the parking lot at the end of Birch Hollow Drive.

Stewardship Workday Saturday, September 14, 9 a.m. to noon Arbor Hills Nature Area

This nature area provides walking trails for neighbors and habitat for a variety of frogs. Assist us in cutting non-native shrubs to conserve this wetland habitat. Meet at the park entrance on Ashburnam.

Stewardship Workday Saturday, September 14, 1 to 4 p.m. Oakwoods Nature Area

The wide variety of trees here provide homes for wildlife including birds and frogs. Join us to maintain this diversity by cutting invasive shrubs such as buckthorn. Meet at the park entrance off Dunwoodie.

Stewardship Workday Sunday, September 15, 9 a.m. to noon Dhu Varren Woods Nature Area

Help us remove non-native shrubs on the border of Dhu Varren Woods and Foxfire South Nature Area to protect biodiversity in both parks. Meet at the intersection of Birchwood Drive and Dhu Varren Road.

Stewardship Workday Saturday, September 21, 1 to 4 p.m. Cedar Bend Nature Area

Work with us, using hand saws and loppers, to protect this forest from invading non-native shrubs. Meet us at the Island Park parking lot at the end of Island Drive.

Stewardship Workday Sunday, September 22, 9 a.m. to noon Ruthven Nature Area

Lend a hand with cutting exotic shrubs to keep them from re-establishing in this prairie. Meet at the Gallup boat launch parking lot on the southeast corner of Huron Parkway and Geddes Road.

Stewardship Workday Sunday, September 22, 1 to 4 p.m. Furstenberg Nature Area

Take part in our effort to care for native flowers such as goldenrods by clearing away non-native shrubs. Meet in the parking lot off Fuller Road.

Nature Walk with NAP and AADL Thursday, September 26, 6 to 7:30 p.m. Bluffs Nature Area

Join us for a family-friendly walk through this diverse park to see how nature is changing as fall begins. Meet at the entrance on Sunset Road near Wildt Street.

National Public Lands Day Stewardship Workday Saturday, September 28, 9 a.m. to noon Bluffs Nature Area



Join us to protect one of Ann Arbor's public lands from invasive shrubs and keep these woods beautiful. Meet at the entrance on Sunset Road near Wildt Street.

Stewardship Workday Sunday, September 29, 1 to 4 p.m. Argo Nature Area

Take in the views of the changing colors along the river while removing non-native shrubs. Meet in the parking lot north of the Argo Canoe Livery, off Longshore Drive.

OCTOBER

Stewardship Workday Sunday, October 6, 1 to 4 p.m. Mary Beth Doyle Park

Help us preserve this habitat for birds by cutting non-native shrubs. We'll also collect native seeds. Meet at the parking lot off Packard Road, across from Easy Street.

Stewardship Workday Saturday, October 12, 9 a.m. to noon Huron Parkway Nature Area

Join us to remove invasive shrubs and collect seeds from native plants. Meet at the Park Steward's house—3470 Woodland Road, off East Huron River Drive.

Stewardship Workday Saturday, October 12, 1 to 4 p.m. Braun Nature Area

Help us clear away introduced shrubs and collect native seeds to keep the native plants thriving. Meet at the park entrance on Chalmers Road.

STEWARDSHIP NETWORK
STEWARDS' CIRCLE

7:30 to 8:30 a.m.

Second Tuesday of every month

Bruegger's Bagels

709 N. University Avenue

Are you interested in learning more about how to care for natural areas? Then join the Stewardship Network's Huron Arbor cluster for an informal discussion on a monthly topic with volunteer and professional land stewards, plus others interested in nature. Free and open to anyone interested.
www.stewardshipnetwork.org.

September 10: Stiltgrass

The Washtenaw Stiltgrass Working Group was formed in order to address the problem of invasive stiltgrass. Come learn why stiltgrass is so troublesome, what the long-term plans are for treating it, and why collaborations may be a good structure for addressing ecological problems.

October 8 : Risks and Precautions for Insect- and Invertebrate-Borne Disease

Even when covered in bug spray, we all get the occasional sting or bite from mosquitoes, ticks, and chiggers. What is our risk of contracting West Nile, Lyme disease, or other insect/invertebrate-borne disease? Join us for a chat about risks and precautions.

November 12: (Re)connect to Nature: Keep a Nature Journal

It can be easy to get caught up in our never-ending battles with invasives and forget to pause and truly see the natural areas we're working in. Winter is a perfect time to reflect and reconnect. Learn to use nature journaling to connect to nature. This session will offer inspiration to deepen your connection to the land you love. Come and cultivate your curiosity and sense of wonder.

Stewardship Workday

Sunday, October 13, 1 to 4 p.m.

Marshall Nature Area

This woodland is a great place to take a walk and look for wildlife. Take part in our efforts to remove non-native shrubs threatening these woods and collect native seeds. Meet in the parking lot off Dixboro Road, north of Plymouth Road.

Stewardship Workday

Sunday, October 20, 9 a.m. to noon

Onder Nature Area

Onder Nature Area is a small park that needs your help. Join us to clear invasive shrubs crowding out the native plants. Meet on Brookside Drive, just west of Hilldale Drive.

Stewardship Workday

Sunday, October 27, 1 to 4 p.m.

Scarlett Mitchell Nature Area

Take the afternoon to lend a hand cutting invasive shrubs. The amphibians that live here will thank you! Meet in the Scarlett Middle School parking lot off Lorraine Street.

Volunteer Appreciation Potluck

Tuesday, October 29, 6:30 to 9:30 p.m.

Cobblestone Farm, 2781 Packard Road

All are invited to this annual event! Let's celebrate our collective accomplishments this year! Games, door prizes, and fun activities for all. Please bring a dish to share. RSVP by October 26 to NAP@a2gov.org or 734.794.6627.

Stewardship Workday

Sunday, November 3, 1 to 4 p.m.

Berkshire Creek Nature Area

This park alongside Mallets Creek is crowded with exotic shrubs. Lend a hand to clear them out. Meet at the end of Warwick Road off Glenwood, north of Washtenaw Avenue.

Stewardship Workday

Saturday, November 9, 9 a.m. to noon

Bird Hills Nature Area

Join us to maintain the beauty of these woods by cutting invasive shrubs and collecting native seeds. Meet us at the entrance on Beechwood Drive, off Sunset Road.

Stewardship Workday

Sunday, November 10, 1 to 4 p.m.

Foxfire West Nature Area

Work with us to remove non-native shrubs encroaching on the wetlands. Meet at the park entrance on Birchwood Drive, between Hickory Pointe Drive and Timbercrest Court.

Stewardship Workday

Sunday, November 17, 9 a.m. to noon

Sunset Brooks Nature Area

Join us to remove non-native shrubs from this neighborhood gem. Meet at the park entrance on Sunset Road, at the end of Brooks Street.

Family Volunteer Day

Stewardship Workday

Saturday, November 23, 1 to 4 p.m.

Barton Nature Area

Bring your family to cut non-native shrubs and collect native seeds. Meet at the Barton Dam parking lot off Huron River Drive.



PUBLIC MEETING

Controlled Ecological Burn Program

Tuesday, October 15, 7 to 8:30 p.m.

NAP Office, 3875 E. Huron River Drive

This meeting provides information and time for discussion about NAP's Burn Program. All persons are encouraged to participate in public meetings. Accommodations, including sign language, may be arranged with the Clerk's office 734.794.6140; cityclerk@a2gov.org; or by written request mailed or delivered to: City Clerk's Office, 301 E. Huron St., Ann Arbor, MI 48104. Requests should be made at least two days in advance.

Stewardship Workday

Saturday, October 19, 1 to 4 p.m.

"Buttonbush" Nature Area

Help us care for Ann Arbor's newest nature area and its wetlands by cutting invasive shrubs such as buckthorn and honeysuckle. Meet at the end of Hickory Point Drive, off Foxway Drive.

NOVEMBER

Stewardship Workday

Saturday, November 2, 9 a.m. to noon

Kuebler Langford Nature Area

Help us remove non-native shrubs to protect the diversity of the prairie and woodland. We'll also collect seeds to spread. Meet at the park entrance on Beechwood Drive, north of Sunset Road.

A New Nature Area!

CONTINUED FROM PAGE 1

swamp, becomes wider and more turbid as it flows south through the park. Veering through Foxfire East and Foxfire South Nature Areas, the stream connects to Traver Creek, eventually emptying into the Huron River. Vernal pools dot this stream, some of which are home to amphibians, who will eventually make their journey into the upland forest. Undisturbed since at least the 1940's, the mature forest houses robust oak trees and towering shagbark hickories with a clear understory. Young, thin maple saplings can be spotted around every corner, with patches of sedges, May-apples, and false Solomon's seals sprinkled throughout the relatively flat ground.

As the creek twists and bends, contours in the land become more present. The heavier flow of the water cuts deeper into the earth, creating relatively steep hills alongside the creek banks. Moving south towards Dhu Varren Road, the landscape shifts from a wetland to a forest, struggling to keep out shrubby invaders like buckthorn and honeysuckle.

Despite the buzz of traffic from M-14 and the surrounding roads, hiking through this park feels like a nature sanctuary. Spider webs are carefully woven amongst the branches; sunlight streams through the overstory; Jack-in-the-pulpit springs from the earth; salamanders can be found under logs; it feels like a world away from the city. With easy access off Hickory Point Drive, this park and all of the native flora and fauna found within it is a must-see.

Join us for a workday at this new nature area on October 19. See the calendar on pages 4-5 for more details.



A towering oak tree in this new nature area

Power to the Pollinators!

Becky Gajewski, Stewardship Specialist

We've all heard the recent news that populations of monarch butterflies and other pollinator species are declining worldwide. These reports are troubling to be sure – pollinators are necessary for supporting 75% of all flowering plant species, including most of our major food crops. But what can be done to help?

At NAP, we are supporting pollinator populations by working to restore and enhance pollinator habitat throughout our parks. Last fall, NAP was awarded a grant from the National Wildlife Federation to purchase native seed that would increase the amount and diversity of plants on which monarchs and other pollinators depend in our prairie, wetland, and savanna habitats. Over the winter and spring, the NAP crew spread seeds over 25 acres in five parks, so that the new plants, such as asters, goldenrods, coneflowers, and milkweeds will add additional support for pollinator species and help to grow their populations. We will continue to manage these habitats for invasive species and other threats, in order to give our pollinators and their plant hosts the best chance for survival.



A monarch caterpillar on milkweed at the golf course

And that's not all! The supervisory staff at both Huron Hills and Leslie Park Golf Courses are also conscious of the threats pollinators are facing. They have partnered with Audubon International to be a part of their Monarchs in the Rough program. Through this initiative, golf courses "donate" an acre of land in out-of-play areas to create habitat for monarchs and other pollinators. In return, they receive milkweed and wildflower seeds to plant in their donated acre. Milkweed has already been spotted growing in these enhanced areas, and the first sightings of butterflies happened in early June.

The situation is not hopeless for pollinators, but we must all work together to reverse the declining trends. So consider planting some native plants in your yard or garden! See <https://tinyurl.com/y3927czm> for some suggestions. Every bit of effort helps, no matter how small.

NAPpenings



STAFF UPDATES

Welcome, new Park Steward!

Eric Russell
Wurster Park

Thank you!

Many thanks to the groups who volunteered with NAP recently. We could not make such a difference without you!

Ann Arbor Academy
Ann Arbor Open
Ann Arbor YMCA– YVC
Community High School
DTE Energy General Operations
Duo Security
Eldor Auto
Fjallraven
Geocaching Community Service
MSCI
Plymouth YMCA
UM LSA Dean's Office
Unity in Learning Camps

Michigan Conservation Stewards Program September 4-November 13, 2019

The Conservation Stewards Program is an eleven-week course consisting of in-person classes, field days, and online coursework. This program will help you gain the skills to lead or contribute to land stewardship efforts in your area. For information visit <https://www.canr.msu.edu/csp>.

WELCOME...



JOSH DOYLE
Crew Member

I have worked with GIVE365 for the last three years and I am thrilled to now be a part of the NAP team. The enthusiasm that Ann Arbor's citizens have for their parks is contagious. I am a future transfer student currently studying at Washtenaw Community College. My passion for improving and maintaining common spaces for us all to share has overflowed into my academic life. I am excited to continue to work with such passionate volunteers and staff to further better our parks system.



MATT CONNORS
Crew Member

Growing up, I always enjoyed spending time in the forest or along the many lakes and streams of Michigan. After receiving my bachelors degree in environmental science, I spent time with EarthCorps doing restoration work around the Puget Sound region and with the USGS collecting data on how sea level rise will affect wetlands along the Pacific Coast. Returning to Michigan has been a fulfilling way to reconnect with my roots. I look forward to working with NAP while exploring Ann Arbor's natural areas.

How Are Deer Affecting our Forested Natural Areas?

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Wildflower experimental plantings, 5 natural areas, 2017-2018:

While trilliums offer important resources to pollinators in the spring, summer wildflowers are also needed by a range of butterflies, native bees, and honeybees. We conducted a study to test how deer are affecting wildflowers and thus, potentially, the food webs that rely on their nectar and seeds. We set up fenced and unfenced plots and transplanted into them 10 different species of local-genotype wildflowers of medium to high pollinator value. We observed these plants 4-6 times during the growing season to record survival, number of flowers and fruits, and signs of deer browse.

In general, high levels of deer browsing (over 80% of unfenced plants across sites) did not outright kill the plants, but it did reduce the number and proportion of plants that flowered, compared to fenced plants. For example, at Furstenberg Nature Area, fenced plots contained more than 7 times as many flowers as unfenced plots.

Lower flower numbers can reduce pollinator activity. A preliminary count of pollinator visits to flowers found significantly fewer key pollinators in unfenced plots, where there were fewer flowers—a total of 7 visitors—compared to 53 visitors to flowers in fenced plots.

Additional sampling is needed, but this pilot study suggests that deer can affect species beyond the plants they browse—a “trophic cascade.” This is why many ecologists have referred to deer as a “keystone herbivore,” a native but opportunistic species that can reshape the ecological communities where they live—including Ann Arbor's natural areas.

For a more detailed version of this article, including more statistics, graphs, and more photos, see our online version: www.a2gov.org/NAPautumn 2019. And for Dr. Courteau's complete report to the city, go to: www.a2gov.org/deerbrowsereport.

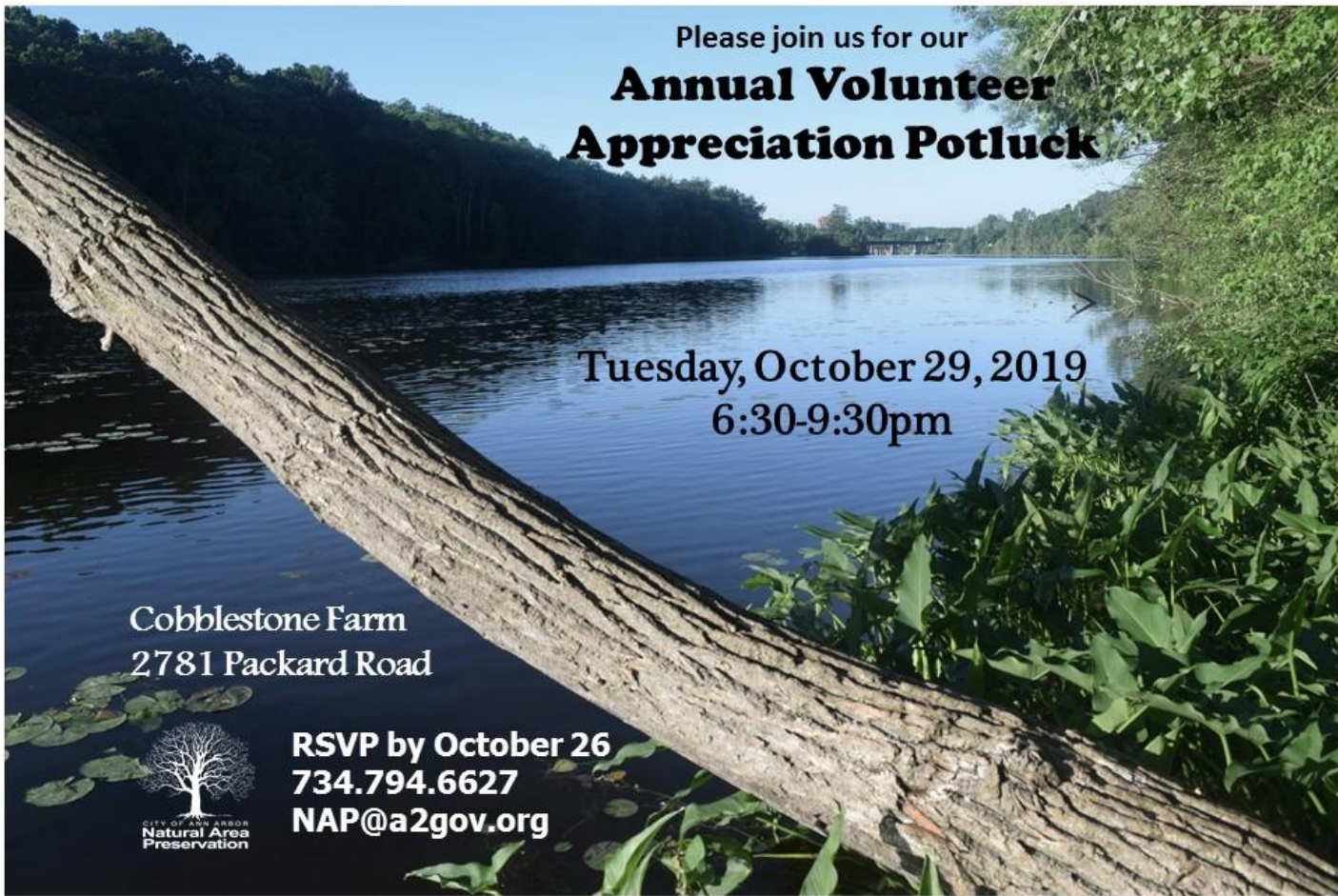
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Please join us for our
**Annual Volunteer
Appreciation Potluck**

**Tuesday, October 29, 2019
6:30-9:30pm**

**Cobblestone Farm
2781 Packard Road**



**RSVP by October 26
734.794.6627
NAP@a2gov.org**