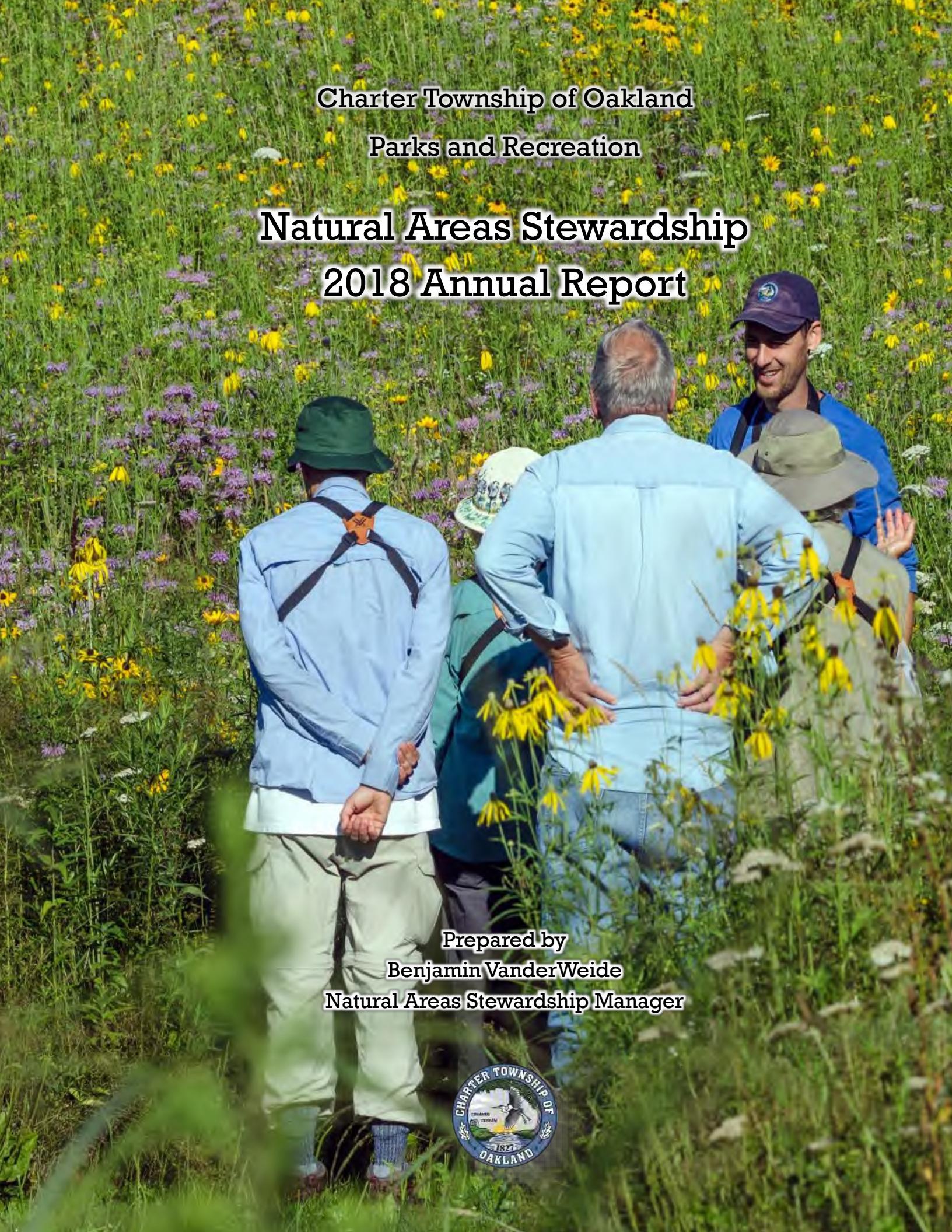


Charter Township of Oakland
Parks and Recreation

Natural Areas Stewardship 2018 Annual Report



Prepared by
Benjamin VanderWeide
Natural Areas Stewardship Manager



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Cover Photo: “Charles Ilsley Prairie” by Ewa Mutzenmore, (c) 2018 Mutzenmore Photography, August 2018. Used with permission.

*Unless otherwise noted, all photos
were taken by Ben VanderWeide.

PART I

STEWARDSHIP HIGHLIGHTS

2018

STEWARDSHIP SNAPSHTOS

2018

1. **Seasonal Technicians:** Billy Gibala returned to our crew through June. He graduated from University of Michigan-Flint in 2017 with a degree in wildlife biology and minors in regional and urban planning. We welcomed Alyssa Radzwion to the crew. She graduated from Oakland University in December 2016 with a Bachelor's degree in biology, and had previous experience working for the Michigan DNR stewardship crew. Katlyn Hilmer recently graduated from State University of New York College of Environmental Science and Forestry, where she focused on forestry work. Sarah Rosche joined the crew in July after completing her Master's, studying the effects of fire on Northern Bobwhite nesting ecology and habitat selection. We had a great crew with diverse experiences!
2. **Stewardship Specialist:** Alex Kriebel continued as the Stewardship Specialist until August. We were fortunate that Alyssa Radzwion applied for the job, was offered the job, and accepted the position to continue her work with us.
3. **US Fish and Wildlife Service Partners for Fish and Wildlife Grants:** After planting 55 acres of prairie reconstructions in 2015 and 2016, we completed our third round of plantings in 2018. Using our second Partners grant, we planted an additional 15 acres at Charles Ilsley Park and 3 acres at Gallagher Creek Park in May 2018.
4. **Oakland County Cooperative Invasive Species Management Area (OC CISMA):** Oakland Township Parks and Recreation continued involvement in the OC CISMA, where Stewardship Manager Ben VanderWeide served as an at-large member of the Executive Committee. We used CISMA funds to cover 50% of road right-of-way treatment in Oakland Township in 2018 (13.7 linear miles of Phragmites).
5. **Prescribed Burns:** We contracted with Plantwise LLC for spring burns at Cranberry Lake Park (40.4 ac), Lost Lake Nature Park (24.6 ac), and Paint Creek Heritage Area—Wet Prairie (9 ac). We also worked with private landowners to burn 13.1 acres of habitat adjacent to the Paint Creek Trail right-of-way, including high quality oak savanna, prairie remnants, and fen wetland. We held volunteer prescribed burn crew training again in February. The volunteer crew completed burns at Bear Creek Nature Park (23 ac), Charles Ilsley Park (1 ac), Draper Twin Lake Park (9.4 ac), Watershed Ridge Park (2.4 ac), and Paint Creek Trail at Gunn Road (0.4 ac).
6. **Forestry Mowing:** We completed forestry mowing on 55 acres in 2018, working at Bear Creek Nature Park (11.8 ac), Blue Heron Environmental Area (7.8 ac), Charles Ilsley Park (12.2 ac), Stony Creek Ravine Nature Park (9 ac), and Paint Creek Heritage Area—Wet Prairie (1.7 ac).
7. **Stewardship Blog:** The stewardship blog continued to thrive, with regular posts from Cam Mannino. She regularly highlighted cool features across all of our parks, all with excellent writing and photographs. The blog also continued to serve as an up-to-date source of information about stewardship volunteer opportunities and events. We published 45 posts and had 6233 visitors, with 11,744 page views. Natural Areas Notebook, oaklandnaturalareas.com
8. **Volunteer Program:** Volunteers contributed 1212 hours in 2018! Weekly bird walks continued, gathering useful data about avian life in the park and engaging residents. Volunteer workdays focused on garlic mustard (May), invasive shrub control (July to November), and seed collecting (October). Volunteers also monitored nest boxes at Draper Twin Lake Park, Charles Ilsley Park, and the Paint Creek Trail; monitored vernal pools at Bear Creek Nature Park; and monitored water quality at Lost Lake and Twin Lake. We had fun at summer and winter potlucks and the December birder coffee hour!
9. **Education Events:** Stewardship talks included presentations on native bees, rain gardens, prescribed fire, emerging invasive species, bird nest box monitoring, and oak wilt. We enjoyed a pleasant April evening at our annual Woodcock Watch at Cranberry Lake Park.
10. **Phragmites Outreach Program:** We continued the Phragmites Outreach Program to help township residents get Phragmites treated on their property. We received about 32 requests for no-obligation cost estimates, and treated about 25 properties with a contractor, PLM Lake and Land Management.



STAFF & STEWARDSHIP COMMITTEE

2018

Natural Areas Stewardship Manager

Dr. Benjamin VanderWeide continued to lead Natural Areas Stewardship after joining the team in April 2014. He leads ecological restoration in Oakland Township parks. We continued large-acreage prairie restoration and native landscaping and used a forestry mower to control autumn olive and other invasive woody plants in fields. In 2018 he invested time in growing volunteer opportunities, including nest box monitoring.

Seasonal Technicians

Billy Gibala continued as a land stewardship technician until June. He graduated in spring 2018 with a degree in wildlife biology, and a minor in regional and urban planning from the University of Michigan-Flint. He has always been interested in nature and is passionate about the conservation of threatened and endangered species. He lives in Lake Orion and loves to spend time hiking, bird watching, and cross country skiing in nearby parks. He is excited to work to preserve local natural areas.

Alyssa Radzwion joined our crew as a land stewardship technician. She graduated from Oakland University in December 2016 with a Bachelor's degree in biology. In 2017, Alyssa worked with the Michigan DNR stewardship crew. This experience fueled her passion for protecting natural areas and wildlife and her desire to educate others about the natural world around them. She enjoys being outdoors, especially camping, kayaking, vegetable gardening, and exploring Michigan. Alyssa is very excited to join the crew this year to continue learning about natural resources management and help preserve the natural areas of Oakland Township.

Katlyn Hilmer joined our crew as a land stewardship technician. She graduated from State University of New York, College of Environmental Science and Forestry (SUNY-ESF) in December 2017 with a Bachelor of Science in Forest Ecosystem Science. During her college program she completed the ESF Ranger School Summer program. She also worked at Maybury State Park in Northville, MI and West Bloomfield Park & Recreation. Katlyn has played sports her whole life, and was captain of the SUNY ESF women's soccer team and received USCAA All-American Soccer Awards. She has a passion for nature and the outdoors.

Sarah Rosche joined our crew in July after completing her Master's of Science in Fisheries, Wildlife and Conservation Biology at North Carolina State University. Her master's research focused on the effects of fire on Northern Bobwhite nesting ecology and habitat selection. Her prior experiences include working as a habitat survey technician for the Center for Conservation Biology in Williamsburg, VA, a refuge intern at St. Catherine Creek Wildlife Refuge in Natchez, MS, and a natural resources technician for the Virginia Forestry and Wildlife Group in Charlottesville, VA.

Stewardship Specialist

Alex Kriebel continued as the Stewardship Specialist until August. He was previously a Seasonal Technician in 2013 and 2014, and returned as Stewardship Specialist in April 2017. Alex is a graduate of Madonna University, with a Bachelor's degree in Environmental Science. When not working to preserve what he loves, Alex can be found fishing, hunting, kayaking or wrenching on his jeep.

After Alex left for a full-time position in August, **Alyssa Radzwion** successfully applied for the position. Her experience and familiarity with the parks were an immediate asset.

Stewardship Committee

The Charter Township of Oakland Parks and Recreation Commission directs natural areas stewardship work through their Stewardship Committee. Commissioners **Dan Bukowski**, **Cathy Rooney (chair)**, and **Dan Simon** continued service on the Stewardship Committee. **Alice Tomboulian** and **Maryann Whitman** continued their service as Citizen Advisors on the committee. Parks staff representatives included **Ben VanderWeide**, Natural Areas Stewardship Manager, and **Mindy Milos-Dale**, Parks Director.



2018 Stewardship Crew (L-R): Ben VanderWeide, Alex Kriebel, Katlyn Hilmer, Billy Gibala, and Alyssa Radzwion. Sarah Rosche is not pictured. Photo by Carol Kasprzak.

VOLUNTEERS & OUTREACH

2018

Thank You!

Volunteers are an important part of our natural areas stewardship program. In addition to the invaluable hours they give to protect and restore our wetlands, forests, and grasslands, volunteers learn ecological land management techniques that they can bring home. Volunteers contributed 1212 hours in 2018!

Volunteers

Ian Ableson, Mark Arney, David Bargiel, Colleen Barkham, Francesco Bertolino, Emily Boyer, Komar Chambers, Lei Chen, Rich Chutorash, Leslie Clark, Sally Cornett, Paul Dang, Sue Ferko, Jim Fostey, Donald Garrett II, William Gibala, Lynn Hansford, Louise Hartung, Heather Herndon, Matt Hindrichs, Mario Holmes, Brenan Hudgens, Mark Isken, Mike Kent, Joan Kent, Tom Korb, Alex Korb, Jonathan Kuhn, David Lazar, Tom Lee, Andre Lorian, Eric Lund, Rob Mair, Cam Mannino, J. Antonio Martinez Zamora, Tirath Matharu, Greg Matsuka, Ken McCabe, Patrick McKean, Rich Miller, Vinnie Morganti, Andrew Morris, Adam Mucciaccio, Ron Mueller, Susan Nathan, Mike Parisean, Kimberly Patrick, Megan Paulsen, Laura Peklo, Laurie Peklo, Christopher Pennoni, Donna Perkins, Sabrina Price-Biven, Gabriel Ramirez, Kamal Rathi, Jon Reed, Denise Reinelt, R Stewart Robertson, Lisa Rosenberg, Kith Samaronayake, Dena Scher, Dan Simon, Jasnet Siohu, Dawn Sun, Chris Walling, Maryann Whitman, Lee Willey II, Walter Zechmeister, Thomas Zetle, Rino Zuech

A special thanks to the group of nearly thirty 4th and 5th grade students, teachers, and parents from Eagle Creek Academy for the garlic mustard workday at Bear Creek Nature Park!



Birding at Cranberry Lake Park, May 8, 2018. The “warbler tree” we are staring at in this picture was a highlight of our bird walks in 2018. Photo by Tom Korb.



Installing nest boxes at Draper Twin Lake Park with bird walk participants on February 28, 2018.



Eagle Creek Academy 4th and 5th graders pulled garlic mustard at Bear Creek Nature Park on May 25, 2018.



FCA (Fiat-Chrysler) Volunteers at Bear Creek Nature Park removed lots of buckthorn on October 19, 2018.

VOLUNTEERS & OUTREACH

2018

Volunteer Workdays

Our 2018, volunteer workdays focused on pulling garlic mustard (and some dame's rocket) at Blue Heron Environmental Area, Bear Creek Nature Park, and along the Paint Creek Trail; cutting and treating invasive shrubs at Paint Creek Heritage Area—Wet Prairie, and seed collecting in October. We hosted Stewardship Potlucks in January and July.

Bird Walks

In 2018 we continued our weekly bird walks. We had a regular group of 5-10 birders throughout the year, with up to 15 birders on a few walks! These bird walks help us document the bird species using our parks so that we can better manage our natural areas for bird diversity. Thanks to all of our birders for your help with these monitoring efforts. According to eBird in January 2019, we have documented **113 species** at Bear Creek Nature Park (+4), **106 species** at Draper Twin Lake Park (+7), **102 species** at Charles Ilsley Park (+12), **131 species** at Cranberry Lake Park (+6), and **81 species** at Lost Lake Nature Park (+9). We held our annual birder coffee hour on December 5 with about 15 people in attendance. We shared about our latest nature inspirations and learned more about nest boxes from Cathy Wesley from Seven Ponds Nature Center.



Birding at Draper Twin Lake Park, July 25, 2018. We enjoyed the flowers, butterflies, and birds in the prairie planting.

Nest Box Monitoring

With new nest boxes at Draper Twin Lake Park and Charles Ilsley Park, and refurbished nest boxes along the Paint Creek Trail, we launched our nest box monitoring program. Oakland Township Parks & Recreation became an official NestWatch Chapter with the Cornell Lab of Ornithology. Fourteen people participated in nest box monitor training on March 21 at 3 pm, and nine continued as NestWatch volunteers in township parks. We had 66 nest attempts, and officially less than 50% nesting success rate. However, volunteers were not able to monitor a few nests until young had fledged, so nesting success rate is likely higher. We plan to install predator guards on all nest boxes in 2019.

Prescribed Fire Volunteer Crew

In our third season with volunteers participating in our in-house prescribed fire crew, we continued to increase our experience and capacity. Volunteers completed training summarized below. We burned at Bear Creek Nature Park (22.6 acres), Charles Ilsley Park (1 acre), Draper Twin Lake Park (9.4 acres), Paint Creek Trail at Gunn Road (0.12 acres), and Watershed Ridge Park (2.4 acres). Several volunteers helped with nearly every burn, including Mike Kent, Joan Kent, and Jim Fostey. Thanks for all of your help!

Public Meeting – 6:30 pm, Thursday, February 22, Paint Creek Cider Mill. Regular prescribed fire benefits many of our forests, meadows, and wetlands. Learn more about reasons for using controlled fire in our natural areas, preparations for controlled fire, and how a controlled fire crew conducts a burn. We will also review the Oakland Township parks scheduled for controlled fire in 2018.

Volunteer Crew Training - 9 am to 2:30 pm on Saturday, February 24, Paint Creek Cider Mill. If you are interested in joining our volunteer prescribed fire crew, join us for this training workshop. We will cover reasons for using prescribed fire, preparations for conducting a fire, necessary tools, roles of each burn crew member, and ignition patterns. Weather permitting we will do a small demonstration burn after lunch.



Volunteers learn the basics of drip torch operation at the annual training workshop in February. Photo by Denise Reinalt.

VOLUNTEERS & OUTREACH

2018

Educational Events

Stewardship hosted a variety of educational events in 2018. Check out the newsletter descriptions below.

Ecology and Conservation of Metro Detroit's Bees: Protecting Wild Pollinators in Your Own Backyard

Caleb Wilson, Oakland University, Thursday, January 25, 6:30 pm, Paint Creek Cider Mill

Did you know that there are over 4,000 species of bees in the U.S., at least 450 of which are native to Michigan? Caleb Wilson will explore the fascinating world of wild bee species, debunking common myths and explaining our current understanding of recent, rapid bee population declines. His research focuses on understanding how the local environment at farms and community gardens impacts wild bee communities. Caleb will share how his research into the bees of the metro Detroit area can help us better understand and protect pollinators in our own back yards. Caleb Wilson is a Master's student in Biology at Oakland. He began his research on urban bees while working toward a BS in Environmental Sciences at the University of Iowa. Caleb is an avid gardener and conservationist, working and volunteering in Japanese gardens, prairie restorations, student farms, and native plant gardens.

Water as a Resource in Your Landscape

Matt Demmon, Head of Native Landscaping, Plantwise LLC, Thursday, February 8, 6:30 pm, Paint Creek Cider Mill.

In the past, storm water has been viewed as something to be disposed of as quickly as possible. This viewpoint has been changing significantly in recent years. Matt Demmon from Plantwise, LLC, an Ann Arbor based ecological restoration and native landscaping company, will share from his 10 years of experience with rain gardens, rain barrels, green roofs, retention basins, and more. Learn about the aesthetic, ecological, and wildlife benefits realized by slowing down and capturing water in your landscape.

NestWatch Monitor Training

Ben VanderWeide, Natural Areas Stewardship Manager. Thursday, March 21, 3:00 pm at Paint Creek Cider Mill.

Become a citizen scientist and make a difference! Learn how to safely and properly monitor bird nests, and contribute towards the conservation and study of birds by joining the Oakland Township Parks and Recreation chapter of the Cornell Lab of Ornithology's NestWatch program. A volunteer training session will be held at the Paint Creek Cider Mill, 4480 Orion Road, Rochester, MI 48306 on Wednesday, March 21, 2018 at 3 pm.

Watch the Woodcock Dance: an Earth Day Observation

Ben VanderWeide, Natural Areas Stewardship Manager. Friday, April 20, 7:30 pm at Cranberry Lake Park.

We'll savor s'mores and watch "timberdoodles" do their cool aerial mating dance! While we wait for sunset, we'll enjoy snacks, a spring evening, and some cool facts about woodcock biology. As the light fades we will watch with hushed anticipation for this avian spectacle. Bring a comfortable lawn chair, binoculars, and layers to add as the night cools down.

Habitat Restoration for Landowners

Ben VanderWeide, Natural Areas Stewardship Manager. June 16, 10 am to 12:30 pm at Paint Creek Cider Mill

Your land can be an oasis for butterflies, birds, and other wildlife! Join us to learn about backyard habitat restoration. We will start at the Paint Creek Cider Mill at 9 am to briefly learn about planning, invasive species control, seed collection, installing plants, and working with contractors. We will then visit a few active ecological restoration sites within the township parks. Don't miss this chance to enhance your backyard habitat while connecting with other interested landowners!

Phragmites, Knotweed, Swallow-wort and More: High Priority Invasive Plants!

Ben VanderWeide, Natural Areas Stewardship Manager. June 28, 6:30 pm at Paint Creek Cider Mill

We will walk through the basics of identifying, controlling, and reporting priority invasive species. These invasive plants are known to reduce property values, degrade natural areas, and impair wildlife habitat. Don't let these plants get established on your property!

Recognizing and Preventing Oak Wilt

Julie Stachecki, President of Arboriculture Society of Michigan. November 15, 6 pm at Paint Creek Cider Mill

Oak wilt is an invasive fungus found in Oakland County and throughout Michigan. Red oak trees are the most susceptible, and once infected can die within six to eight weeks. Julie Stachecki, President of the Arboriculture Society of Michigan and an expert on oak wilt, will present a two-hour workshop from 6-8pm on November 15 at the Paint Creek Cider Mill in Oakland Township. Julie says: "Trees are infected in two ways. Some trees are infected by beetles bringing in the fungus to a fresh injury. The fungus then spreads through the roots to nearby oak trees leading to their death."

VOLUNTEERS & OUTREACH

2018

Phragmites Outreach Program

We continued to work with Professional Lake and Land Management (PLM) to help township residents treat Phragmites on their land. We provided 32 no-obligation cost estimates to private property owners, and PLM treated Phragmites on 25 of those properties. **About 13.8 acres of Phragmites were treated!**

Prescribed Fire Outreach Program

Since natural areas cross property boundaries, we try to include willing park neighbors in our prescribed burn units when possible. In addition to the benefits of prescribed fire on the additional acreage, this approach often allows us to use natural fire breaks instead of installing breaks. This makes the burning process more efficient and safe. Participating property owners are responsible for any additional costs for burning on their property. In 2018 we worked with four property owners adjacent to the Paint Creek Heritage Area—Wet Prairie and Paint Creek Trail south of Silverbell Road to **complete burns on 13.1 acres** of high quality prairie, oak savanna, and fen wetland. Another 4.5 acres were scheduled to be burned at the Paint Creek Heritage Area—Fen, but could not be completed because we ran out of time at the end of the burn season.



Prescribed burn on private property along the Paint Creek Trail south of Silverbell Rd.

Oakland County CISMA

Oakland Township Parks and Recreation continued involvement in the Oakland County Cooperative Invasive Species Management Area. The Oakland Township Board of Trustees funded half of the third year of treatment for Phragmites, Japanese knotweed, and swallow-wort infestations in the right-of-way of major roads in Oakland Township, with the CISMA covering the other half with funds from the Road Commission for Oakland County. Ben VanderWeide, Natural Areas Stewardship Manager, attended the monthly OC CISMA meetings and continued to serve as a member-at-large on the Executive Committee. Major initiatives included changing fiduciary to Six Rivers Land Conservancy, implementing two grants from the Michigan Invasive Species Grant Program (\$160,000 total) that the Stewardship Manager was instrumental in obtaining, right-of-way Phragmites treatment throughout Oakland County, producing new outreach brochures, and outreach events.

Michigan Vernal Pools Partnership

Oakland Township has over 100 potential vernal pools in its parks. These seasonal wetlands are biodiversity hotspots, serving as homes for unique creatures such as fingernail clams, fairy shrimp, and diving beetles, and breeding areas for salamanders, spring peepers, and other amphibians. The Natural Areas Stewardship Manager worked with staff and several volunteers to monitor several vernal pools at Bear Creek Nature Park and Watershed Ridge Park. We also participate in the Michigan Vernal Pools Partnership, a new group that works on vernal pool mapping, science, outreach, education, and protection. Kieth Berven from Oakland University completed vernal pools research at vernal pools in Bear Creek Nature Park with his students.

Natural Areas Stewardship Website

We continued to grow our stewardship website, the **Natural Areas Notebook** (oaklandnaturalareas.com). The blog contains information about stewardship events, volunteer opportunities, prescribed burning, grassland restoration, and regular posts on stewardship work or natural history observations. Cam Mannino continued her lead role in 2018, writing features about significant stewardship projects and nature observations. In 2018 we published 45 posts and had 6233 visitors (17% increase from 2017), with 11,744 views (30% increase from 2017) and 65 comments.

Park Stewards

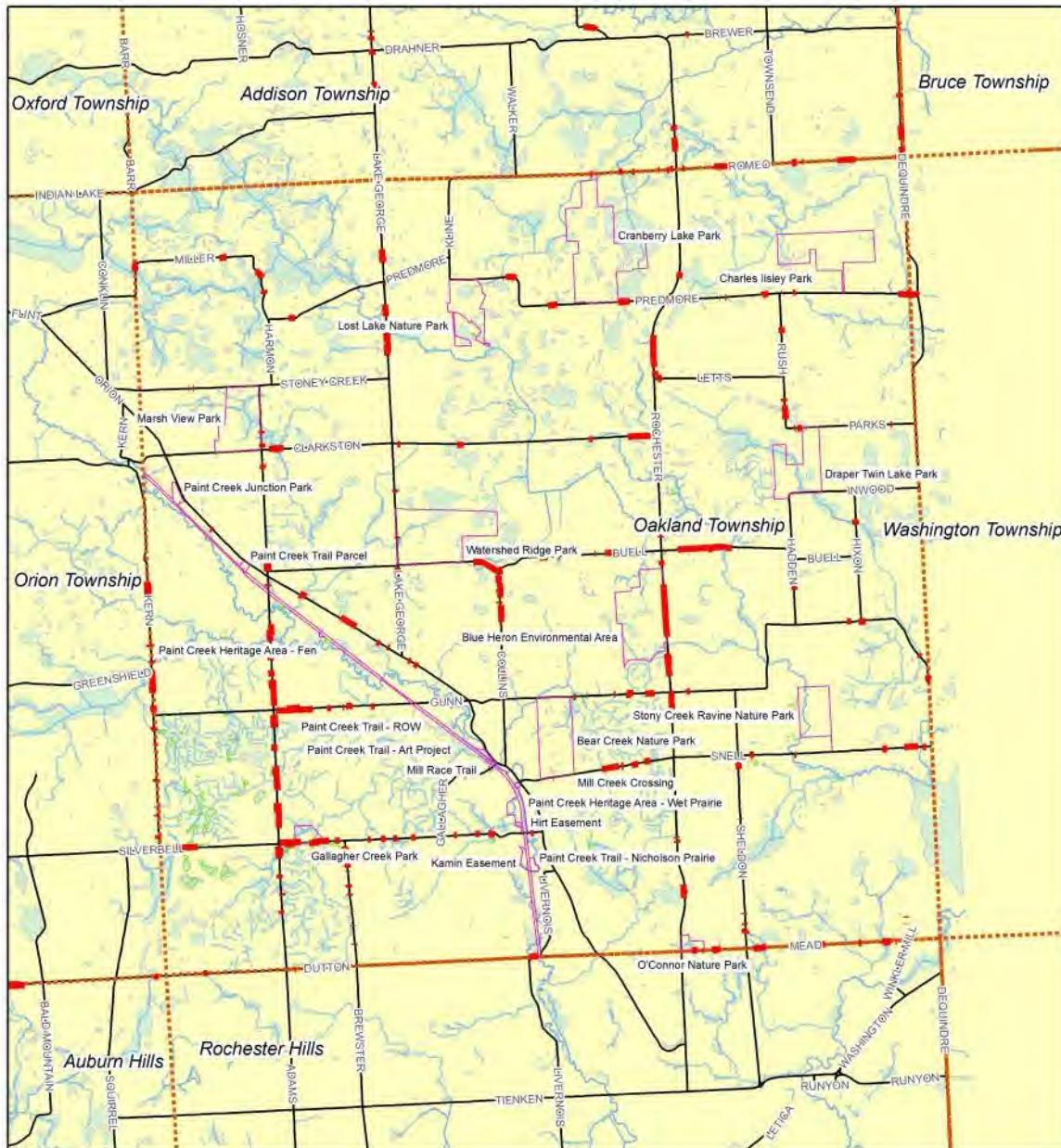
A few special volunteers help us with many aspects of our natural areas stewardship work on a regular basis.

- **Cam Mannino** wrote nearly all of the features on the blog this year, gathered and cleaned native seed, monitored vernal pools, and monitored nest boxes at Charles Ilsley Park.
- **Tom Korb** built about 25 bluebird boxes, 1 prothonotary warbler box, and 2 kestrel boxes and installed them at Draper Twin Lake Park, Charles Ilsley Park, and along the Paint Creek Trail. We had 66 nest attempts!

PHRAGMITES TREATMENT SUMMARY

2018

This map summarizes all known Phragmites treatment in Oakland Township in 2018. Rights-of-way along major roads were treated using Oakland Township general funds approved by the Board of Trustees. Private lands were treated under the Phragmites Outreach Program. Township park property was treated by the Natural Areas Stewardship team.



Legend

- Oakland Township Park
- Township Boundary
- Phragmites Outreach Program (13.76 ac)
- Right-of-Way Phragmites (13.7 linear miles)

2018 Invasive Phragmites
Treatment Area Overview Map
Oakland Township



0 0.5 1 2 3 Miles

Oakland Township
Oakland County, Michigan

LAND PRESERVATION MILLAGE RENEWAL

2018

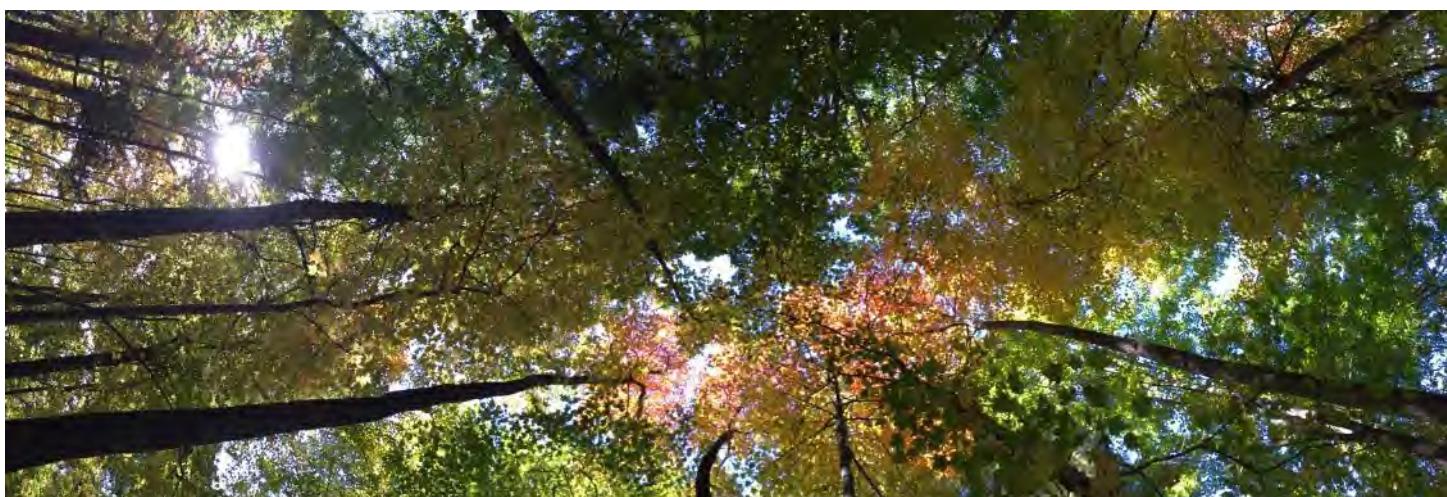
Oakland Township residents chose to again renew the 10-year Land Preservation millage with 68.53% support in their November 6, 2018 election! The millage was renewed for 0.6310 mills for the term 2021-2030. This millage funds the acquisition and preservation of open green spaces representing Oakland Township's natural and rural history. The Oakland Township Land Preservation Millage has funded the acquisition of 444 acres of green spaces since 2001, permanently protecting this land from residential or commercial development.

- **Acquisition of Land** to protect creeks, lakes, wetlands, forests, and prairie remnants.
- **Management of Oakland Township Parks' Natural Areas** including maintaining ecological and scenic values of our parks and offering educational programs and opportunities to enjoy our natural areas.
- **Addition of Public Access Improvements** such as parking lots, trails and water access to support activities such as hiking, cross-country skiing, wildlife observation, guided birding walks, fishing, and kayaking.
- **Long-term Natural Areas Management** by reserving 10% of millage funds to initiate a permanent revenue stream for long-term management of these properties.

It was important to secure early renewal of the Land Preservation Millage in 2018 so that funds would be available to purchase new properties if they became available. Much of the current millage has been allocated to natural areas management and completed acquisitions, with bonds being paid off in 2020. In addition, the Parks and Land Preservation 5-year master plan is scheduled to be updated in 2019. With secured funding through 2030, we can now make long-term management plans for our natural areas and have confidence that those plans can be implemented. **Thank-you Oakland Township residents for your continued support of land preservation in Oakland Township!**

Land Preservation Ballot Language

“Shall the Charter Township of Oakland be authorized to renew a levy of up to 0.6310 of one mill for a period of ten (10) years starting with the December 2021 levy for the purpose of continuing to provide funds and financing for the timely acquisition of land, the protection of natural habitat, and the preservation of green spaces within the Township? Approval of this proposal would renew the previously authorized tax limitation increase of approximately 63 cents per \$1,000.00 of taxable value on all taxable property in the Township. Revenue from the levy renewal shall be disbursed to the Charter Township of Oakland. Based upon the projected 2021 Township wide taxable value, it is estimated that this proposal would result in authorization to collect up to \$924,318 of revenue in the first year (2021) if this millage renewal is authorized and levied.”





**Parks
and
Recreation**

Oakland Township Land Preservation Millage

Oakland Township residents have supported our Township Land Preservation Millage since 2001. This millage funds the acquisition of land, the protection of natural habitat, and the preservation of green spaces within the township. On November 6, 2018 residents will be asked to vote on whether this millage should be renewed.



A



B



C



D

2002 - OTPR first uses prescribed fire to manage prairie and oak savanna habitat along the Paint Creek Trail.

2003 - Paint Creek Heritage Area – Wet Prairie: acquired 10.46 acres of globally rare wet prairie along the Paint Creek Trail to protect unique plants and wildlife.

2003 - Cranberry Lake Park: acquired 22 acres of mature woodland adjacent to the existing park. (A)

2004 - Lost Lake Nature Park: acquired 52 acres with Land Preservation millage funds and \$1,762,800 Michigan Natural Resources Trust Fund Grant. (B)

2005 - Draper Twin Lake Park: acquired 90 acres with millage and landowner donation to protect Twin Lake frontage, the stream running from the lake, and adjacent upland areas.

2008 - Awarded \$84,000 Wildlife Habitat Improvement Program Grant to restore over 200 acres of pollinator habitat along the Paint Creek Trail. (C)

2008 - Draper Twin Lake Park: Parking lot, pathway, boardwalk and dock for boating, fishing and nature observation funded by Land Preservation Millage. (D)

2008 - Stony Creek Ravine Nature Park: acquired 60 acres using Land Preservation millage funds and \$893,700 Michigan Natural Resources Trust Fund Grant to protect nearly 0.5 miles of the west branch of Stony Creek. (E)

2008 - Lost Lake Nature Park: acquired 6 acres with oak forest and access to Green Lake.

2008 - O'Connor Nature Park: 10.5 acres with mature oak forest and wetlands donated (Land Preservation millage funds paid for boundary survey, environmental assessment, and appraisal).

2008 - Paint Creek Heritage Area – Fen: acquired 0.5 acres of rare ground-water fen wetland by Paint Creek Trail.

2008 - Watershed Ridge Park: acquired 170 acres of mature oak forest, rolling fields, and beautiful wetlands.

2009 - Began controlled archery deer hunting program at Stony Creek Ravine Nature Park.

2010 - Obtained \$154,900 Michigan Natural Resources Trust Fund Grant to help fund Nature Center and Lake Access improvements at Lost Lake Nature Park.

2010 - Completed natural area management plans for Oakland Township parks to guide land stewardship work.

2002–2018 Accomplishments Timeline*

During the past 16 years Oakland Township Parks and Recreation (OTPR) has protected natural areas throughout the township and launched major habitat restoration initiatives with the help of our local Land Preservation Millage.

In the next decade Oakland Township Parks and Recreation looks forward to continuing the preservation and protection of our Township's natural heritage and open space while improving access to help people connect with nature.



2011 - Began photo monitoring to document changes in park natural areas over time.

2013 - Grand Opening of Lost Lake Nature Park including nature center, universally accessible kayak and fishing dock, outdoor learning stations, parking lot, rest station, native plantings, and picnic areas.

2014 - OTPR awarded "Keep Michigan Beautiful Award" for preserving Lost Lake Nature Park and opening nature center.

2014 - Launched "Natural Areas Notebook" website to share Township park natural area observations and activities.

2014 - Awarded \$15,200 Partners for Fish and Wildlife Grant to plant prairies at Draper Twin Lake and Charles Ilsley parks.

2015 - OTPR awarded "Oak Land Award" for 40 years of protecting Oakland Township Park Natural Areas.

2015 - Awarded \$16,000 Partners for Fish and Wildlife Grant to plant 35 acres of native prairie at Gallagher Creek Park and Charles Ilsley Park. (F)

2015 - Launched Phragmites Outreach Program to help Township residents treat invasive Phragmites.

2015 - Began documenting bird species in the township parks through weekly bird walks. (G)

2015 - OTPR joins the Oakland County Cooperative Invasive Species Management Area.

2016 - Awarded \$12,968 Michigan Invasive Species Grant to treat Phragmites and other invasive species in priority areas.

2016 - OTPR Prescribed Fire Volunteer Crew began assisting with controlled ecological burns in Township parks.

2016 - Initiated Winter Stewardship Talks about wildlife, land conservation, native bees, and rain gardens.

2017 - Began volunteer-led program to build and monitor bird nest boxes as official NestWatch chapter. (H)

2018 - Stony Creek Ravine Nature Park Expansion: 208-acre proposed acquisition using Land Preservation millage funds and \$2,216,400 Michigan Natural Resources Trust Fund Grant. (I)

*as of July 2018

LAND PRESERVATION MILLAGE RENEWAL

2018

We hosted Land Preservation Park Tours from July to October to help township residents learn about the 444 acres of natural areas the land preservation millage has protected since 2001.

Paint Creek Heritage Area—Wet Prairie Tour

July 24, 6:30 pm. Meet at the Paint Creek Cider Mill

Paint Creek Heritage Area-Wet Prairie protects unique examples of the prairie and oak savanna that used to cover over two-thirds of Oakland Township. Purchased in 2003, the Wet Prairie was the first Oakland Township Park to be acquired entirely with the Township's Land Preservation millage funds. Its 10.46 acres preserve approximately one-quarter mile of scenic vistas and natural habitats along the Paint Creek Trail and it includes the Paint Creek's former creek bed (before it was redirected by the railroad). The Wet Prairie is a plant lover's delight – hosting more than 200 species of native plants! The park's namesake habitat, "wet prairie" was formerly mined of its topsoil and is actually an old sand pit. Its nutrient-poor soils and seasonal high-water table support a unique combination of upland and wetland plants. In addition to the wet prairie, the park also includes a variety of oak-dominated woodlands and wet sedge meadows. When OTPR purchased this property invasive plants and a closed-canopy forest were overtaking these habitats. During the last 15 years, OTPR Land Stewardship staff have restored the prairie area to its grassland glory by removing unwanted woody vegetation and invasive plants and introducing prescribed burning. Whether you visit this site in spring, summer or fall you will be surprised by the variety of flowering plants and prairie grasses!

Draper Twin Lake Park Tour

August 18, 10 am. Meet at the Draper Twin Lake Park 1015 Inwood Road

At Draper Twin Lake Park we will check out Twin Lake, then head to the east side of the park. This park was purchased in 2005 with a combination of Land Preservation millage funds and a sizable donation from the Draper family. The name of this 90-acre park honors both this family's generosity as well as the park's frontage on the easterly Twin Lake. Draper Twin Lake Park protects wet meadows, a large marsh, shrub wetlands, a kettle wetland, forests and access to Twin Lake. Soon after purchasing this park, OTPR improved its access by constructing a limestone trail, a boardwalk, and a floating dock. These facilities allow our residents to enjoy nature viewing, kayaking, paddle boarding and fishing programs on Twin Lake. A trail system on the east side of the park also provides a popular pedestrian connection between Inwood Road and Parks Road. This trail passes by this park's 20-acre field which is being restored to prairie by our Land Stewardship staff with the help of a US Fish and Wildlife Service grant. Don't miss this chance to see bee balm, coreopsis, and other wildflowers blooming in our prairie planting! We will also talk about the role of controlled fire in natural areas management while walking through an area that was burned by our volunteer prescribed burn crew in April 2018.

Lost Lake Nature Park Tour

September 20, 6 pm. Meet at 846 Lost Lake Trail

In 2004 and 2008 the purchase of Lost Lake Nature Park's 58 acres was funded by combining a Michigan Natural Resources Trust Fund (MNRTF) grant and the Township's Land Preservation Millage funds. This park is home to unique habitats, including imperiled oak-pine barrens, emergent wetland, shrub wetland, and wet meadow. The tall sled hill that is enjoyed by many in the winter months is a kame; clear evidence of the glacial history of Oakland Township. In 2013 a MNRTF grant was combined with Parks and Recreation and Land Preservation funds to add a parking lot, pathways, universally accessible dock, interpretive signage, lakeside native species plantings, and a nature center.

Stony Creek Ravine Nature Park Tour

October 20, 1 pm. Meet at 1280 Knob Creek Drive

Stony Creek Ravine Nature Park's 60 acres were purchased in 2008 with a combination of Land Preservation Millage funds and a MNRTF grant. The varied topography of this park makes a hike in any season interesting. After winding through open fields and mature forest, the path comes to the edge of the steep ravine that overlooks the West Branch of Stony Creek. In 2019 we hope to add 208 beautiful acres to this park, again funded by a MNRTF grant and Land Preservation Millage funds.



Sunset at Twin Lake. Draper Twin Lake Park was protected in 2005 using a substantial donation of property value by the owners and Land Preservation Millage funds. Photo by Cam Mannino.

THE YEAR IN PHOTOS

2018



A slow backburn removes thatch during a prescribed burn at Bear Creek Nature Park on March 23, 2018.



Stewardship technician Katlyn in the prairie at Charles Ilsley Park on July 10, 2018. Photo by Alyssa Radzwion.



Stewardship technicians Katlyn and Alyssa at Lost Lake Nature Park completing aquatic Invasive species training. July 18, 2018. Photo by Alyssa Radzwion.



Tom Korb admires one of his fine nest boxes during installation at Charles Ilsley Park on February 21, 2018.



The new playground at Gallagher Creek Park ushers in a new era for this park. Stewardship staff will install native landscaping around the playground in 2019.



Ian Ableson from Six Rivers Land Conservancy navigates a log while monitoring the conservation easement at Stony Creek Ravine Nature Park on May 15, 2018.



Native plant bed at Bear Creek Nature Park with wild columbine and Canada anemone. May 30, 2018.



Pink Spring Cress (*Cardamine douglassii*) and **Yellow Trout Lily** (*Erythronium americanum*) at Charles Ilsley Park. May 2, 2018.



Green fuzz returns quickly at Draper Twin Lake Park east 11 days after the April 26 prescribed burn. May 7, 2018.



Marsh Blazing Star (*Liatris spicata*) blooms at Gallagher Creek Park on July 24, 2018. Plugs from Wildtype were installed in 2016.



Purplestem Angelica (*Angelica atropurpurea*) flowers in the native plantings around the sports fields at Marsh View Park. June 28, 2018.



Sky Blue Aster (*Sympphyotrichum oolentangiense*) and **Grass of Parnassus** (*Parnassia glauca*) at the Paint Creek Heritage Area – Wet Prairie. September 11, 2018.



Red maple shows off its fall colors on a snowy backdrop at Bear Creek Nature Park. November 9, 2018.



Plants spring joyfully from a rotting log at Charles Ilsley Park, celebrating the return of warmer weather. May 1, 2018.

PART II:

PARK STEWARDSHIP

SUMMARIES

2018

Part II contains summaries for each township park and township-managed property. Look for five elements in each summary:

- Stewardship Tasks Completed
- Unique Observations
- Future Stewardship Recommendations
- Photos from 2018
- Stewardship Summary Map

BEAR CREEK NATURE PARK

2018

Stewardship Task Completed

1. Native Plant Beds: Beds at the Snell entrance were weeded by volunteers during the summer, with occasional assistance from the seasonal technicians. We paid special attention to removing goutweed (*Aegopodium podagraria*) that came in unnoticed with donated plants in 2015, and had spread rapidly in the bed by the picnic pavilion.
2. Garlic Mustard: Mapped and pulled garlic mustard throughout the park. Volunteers assisted with two workdays in May.
3. Swallow-wort and crown vetch. Treated all known patches in the park.
4. Mapped and treated a new patch of brown knapweed (*Centaurea jacea*).
5. Woodies: Cut and treated glossy buckthorn and other invasive woody plants on the south side of Bear Marsh near the south observation deck. Volunteer workday was co-hosted by Six Rivers Land Conservancy and was attended by FCA volunteers.
6. Phragmites: Treated all known patches of Phragmites, and worked with neighbors to get Phragmites in northeast corner of Bear Marsh treated.
7. Prescribed Fire: completed burns on 22.6 acres of old field Bear Creek Nature Park with in-house crew in 2018.
8. Seed collecting: native seeds were collected primarily from the native plantings near the parking lot. We also collected common milkweed and fragrant cudweed from the old field areas.
9. Forestry mowing: Ruffed Grouse Society completed forestry mowing on 11.8 acres in the north-central part of the park in November and December.

Quick Stats

- Purchased 1977
- 107 acres
- Oak forest with vernal pools in north half of park, fields and ponds in south half of park.
- Conservation easement on northern third of the park.

Special Observations

- 113 bird species observed in park since 2014 as of December 2018 (+4 from 2017).
- Observed a brown snake (*Storeria dekayi*).
- Continued monitoring four vernal pools with Michigan Vernal Pool Partnership protocol. Oakland University Conservation Biology class lead by Dr. Keith Berven conducted tree census around selected pools. Dr. Berven completed additional vernal pool research with students in the summer.

Future Stewardship Tasks

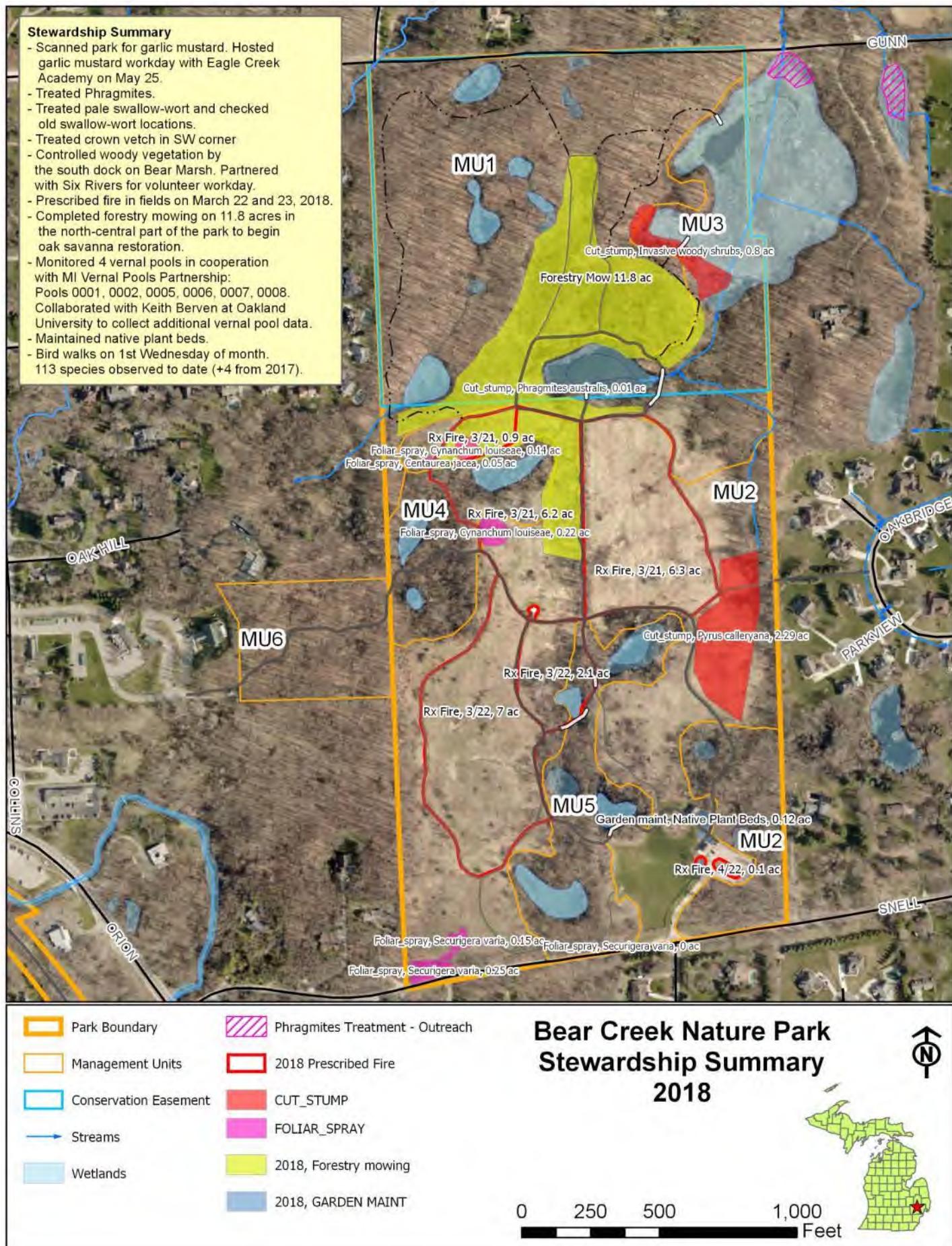
- Continue treatment of high priority invasive plants (swallow-wort, crown vetch, Phragmites, garlic mustard)
- Treat invasive shrub resprouts in forestry mowing areas and broadcast native species mix through area.
- Continue annual invasive woody plant control in the northern oak forest, particularly around Bear Marsh.
- Continue forestry mowing in old fields and invasive shrubs thickets. Planned for winter 2019 and 2020.
- High deer densities are degrading the northern forest. Deer control is needed. Consider exclosures to assess the impact of deer browse and preserve sensitive plant species.
- Continue to use prescribed fire to discourage fire-sensitive tree species and promote oak regeneration in the northern forest. Begin thinning fire sensitive tree species to promote understory development.



Forestry mowing area north of the center pond at Bear Creek Nature Park on November 19, 2018.



Volunteers and staff monitor a vernal pool at Bear Creek Nature Park on April 11, 2018.



BLUE HERON ENVIRONMENTAL AREA

2018

Stewardship Task Completed

1. Garlic Mustard
 - Mapped and pulled garlic mustard throughout the park. Worst areas continue to be the southern border and central patch by the former rookery site, although densities were lower than previous years.
 - Collaborated with Six Rivers Land Conservancy for a garlic mustard workday with FCA volunteers on May 17.
2. Phragmites: patches along the road and in northern wet forest were treated again. In 2019 we need to treat new patch found near southern boundary.
3. Japanese Knotweed: patches by circle drive and in woods immediately to the west monitored, but not treated in 2018. Few or no stems observed.
4. Completed forestry mowing on 7.8 acres of degraded old field areas to control invasive woody plants and manage succession to mature forest.
5. Worked with a USFWS biologist to assess drainage patterns in and around farm fields to determine where wetland restoration would prevent sedimentation and degradation of existing wetlands.

Future Stewardship Tasks

- Continue to survey and pull garlic mustard.
- Continue to monitor and aggressively treat Phragmites and Japanese knotweed.
- Invasive woody plants should be surveyed and treated annually. The patches with mature woodies should be targeted: the southern border, around edges of wetland, and around edges of fields.
- Native plant restoration in old field areas on the east side of the forest, including Management Unit 5 in old field around the pond near Deer Pointe subdivision entrance (SE corner of park). Follow 2018 forestry mowing with interseeding native species, and prescribed fire.
- Continue working with USFWS biologist to develop options for reducing runoff from farm fields.
- Monitor boundaries for dumping, hunting blinds, and encroachment.
- Consider monitoring potential vernal pools to collect baseline information and confirm vernal pool status.
- High deer densities are degrading the forest. Deer control is needed. Finish deer exclosure installation and use to assess the impact of deer browse and preserve sensitive plant species.

Wildlife Observations

- 56 bird species observed in the park since 2014 (no new species in 2018).



Muddy water runs off farm field at Blue Heron Environmental Area, February 22, 2018.



Forestry mower clears invasive shrubs in the southern old field at Blue Heron Environmental Area on December 4, 2018.

Quick Stats

- 139 acres
- Contains a mix of farm fields, upland hardwood forest, swamp, and shrubby by wetlands.
- Designated for protection of special high quality natural features, which included a great blue heron rookery until 2007.
- Conservation easement on entire park except a few acres in southeast corner.



CHARLES ILSLEY PARK

2018

Stewardship Tasks Completed

1. Garlic Mustard: Mapped and pulled garlic mustard throughout the park. Not all garlic mustard was pulled near entrance and in hedgerows, but forested areas covered well.
2. Swallow-wort: Checked old swallow-wort locations and treated as necessary. Found very little swallow-wort in 2018.
3. Crown vetch: Checked old crown vetch locations and treated as necessary. Biggest patch is in east field.
4. Completed 12.2 acres of forestry mowing in western old field to remove invasive woody shrubs and to clear trail corridor to the Wynstone subdivision.
5. Prairie Restoration
 - Completed site preparation for 15 acre center field and planted on in May 22 and 23, 2018. Sprayed with herbicide once in May two weeks before planting. Burned thatch off steep hillside immediately before planting. Planted with dry, mesic, and wet prairie mixes according to topography and hydrology. Funded with cost share from USFWS Partners for Fish and Wildlife grant.
 - Completed two maintenance mows (June and August) on west field (planted fall 2016) and center field (planted spring 2018). Used brush cutters to selectively cut patches of undesirable plants on steep hillside.
5. Phragmites: Patches in the northeast corner of central field and in northwest forested area were treated again.
6. Invasive woody shrubs controlled along the southern panhandle and in hedgerows around the prairie plantings.
7. Installed new and fixed old nest boxes in February (24 total). Volunteers monitored through the nesting season.
8. Located and removed sections of old clay drain tile in the center field to restore hydrology of the wetlands.

Quick Stats

- 83 acres donated in 1990, 37 acres donated in 2005.
- Farm fields in central area have been planted with native prairie species.
- Upland and lowland hardwood forests cover the rest of the park.

Future Stewardship Tasks

- Continue to survey and control garlic mustard, Phragmites, crown vetch, and swallow-wort. Work with neighbor to implement swallow-wort control efforts on adjacent land.
- Continue maintenance of prairie plantings, including targeted mowing, prescribed fire, and spot treating invasive plants. Continue to open up hedgerows between fields to connect grassland habitat.
- Use prescribed fire to maintain woodlands.
- Oriental bittersweet should be treated throughout the park.
- Invasive woody plants in northeast forest should be controlled annually.
- Potential site for installation of deer exclosures to monitor the effects of deer browse.
- Conduct botanical survey on the parcel added in 2005.
- Continue to remove old fencing.

Wildlife Observations

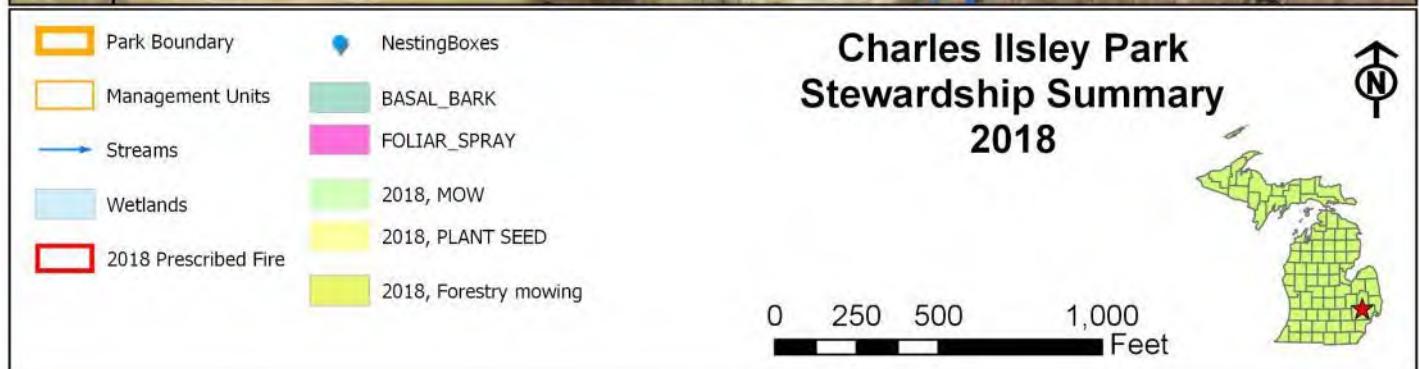
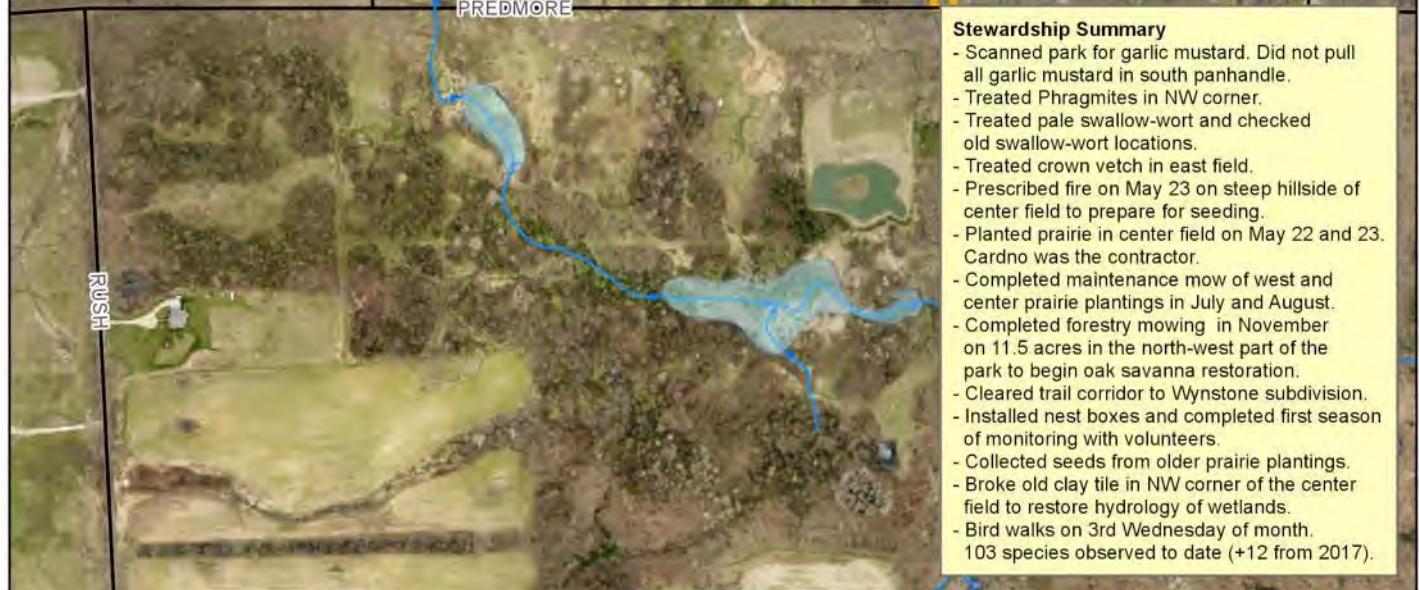
- 102 species observed in the park since 2014 (+12 from 2017).



Abundant Queen Anne's Lace will need management by well-timed mowing in July or August to reduce seed production. Picture taken August 7, 2018.



Wild lupine flowered in the north and east prairie plantings in May 2018. May 21, 2018.



CRANBERRY LAKE PARK

2018

Stewardship Tasks Completed

1. Plant Beds: Maintained juniper bed in the historic district prior to concert.
2. Garlic Mustard: Mapped and pulled garlic mustard throughout the park. We did not work in heavily infested areas near the historic district.
3. Phragmites: Checked all known locations and treated as needed.
4. Japanese Knotweed: Checked known location near north entrance. No new growth observed.
5. Oriental bittersweet: Treated oriental bittersweet along the southern farm lane.
6. Prescribed Fire: Plantwise completed a prescribed burn on 40.4 acres in the north-central area of the park on April 27, 2018. Burned well through old fields and oak woodland on the north end of the burn unit.
7. Apple orchard restoration: After assisting with design and installation of the native seed mix in the orchard area in 2017, we spot treated black locust resprouts in that area in 2018.

Quick Stats

- 213 acres
- Contains a mix of fields, upland hardwood forest, swamp, bog, and shrubby wetlands.
- Conservation easement on wetland area around Cranberry Lake.

Future Stewardship Tasks

- Continue to survey and treat garlic mustard, Phragmites, and Japanese knotweed.
- Remove invasive woody vegetation in old fields. A combination of prescribed fire, manual control, and brush forestry mower equipment should be used as appropriate. Plan for forestry mowing rotation to work through all of old field areas within five years.
- Oriental bittersweet should be treated throughout the park, starting in highest quality areas.
- Northern fields and forest have characteristics of degraded oak savanna, including some oak savanna indicator species and wolf trees. Begin control of invasive woody shrubs in this area. Also begin thinning fire-sensitive trees (red maple, silver maple, elm, etc.) from the understory to promote recruitment of new oak trees.
- Continue to use prescribed fire to manage natural areas.
- Conduct floristic survey on the 22 acre parcel on the west side added in 2003.
- Remove trash from old farm dumps as it is documented.

Wildlife Observations

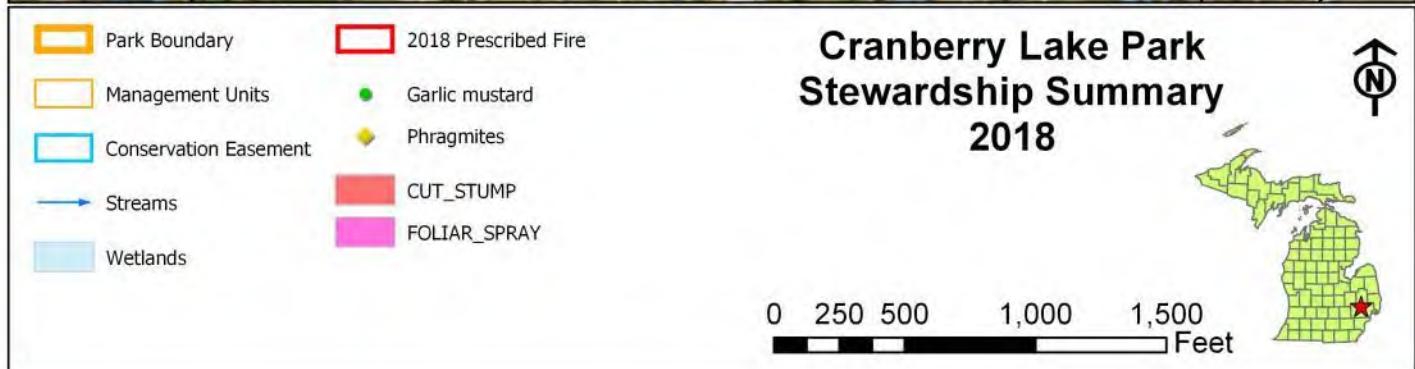
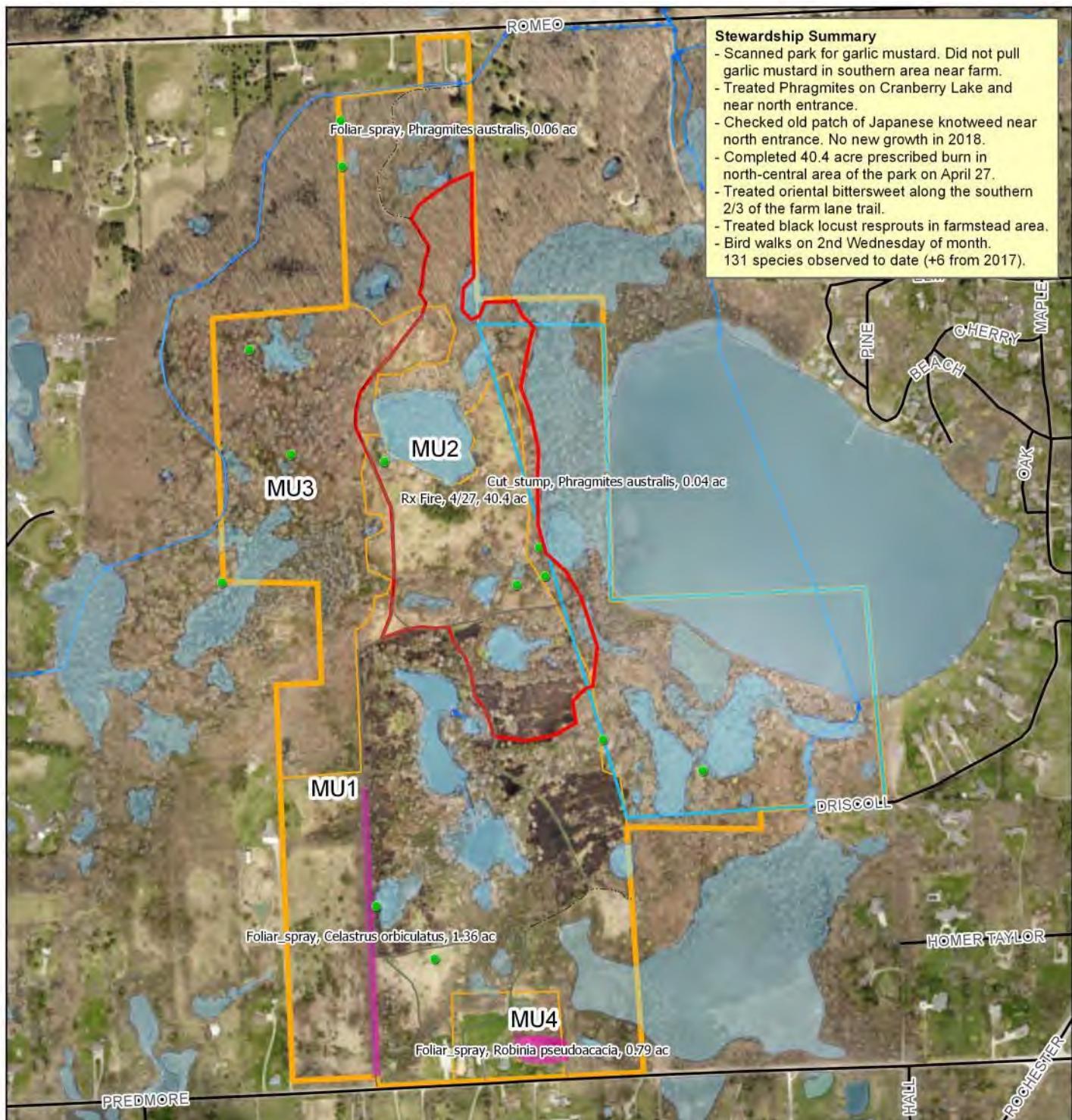
- Fourth year of Earth Day Woodcock Watch. Got great looks at males doing their aerial display.
- 131 bird species have been documented in the park to date using eBird (+6 from 2017).
- New beaver activity observed near the trail at Cranberry Lake.



Sunset after the April 27, 2018 prescribed burn on the north end of Cranberry Lake Park.



Sunrise on a damp, late-summer morning at Cranberry Lake Park. September 12, 2018.



DRAPER TWIN LAKE PARK

2018

Stewardship Tasks Completed

1. As in previous years, garlic mustard was not controlled in 2018.
2. Swallow-wort: Checked and treated known patches again.
3. Crown vetch: treated patches along eastern path by garage, near west edge of prairie restoration, and western path by parking lot treated.
4. Prairie Restoration: Completed targeted mow of spotted knapweed and sweet clover on July 26, 2018.
5. Woody Vegetation Control: Treated invasive shrubs in eastern old field to follow up on previous work.
6. Phragmites: Found additional patch across the lake from the dock but not able to treat.
7. Bird Nest Boxes: Completed installation of new nest boxes and repair of old nest boxes (9 nest boxes total). Volunteers monitored boxes through the nesting season.
8. Participated in Cooperative Lakes Monitoring program for Twin Lake East. Tested spring overturn total phosphorus, fall total phosphorus, biweekly Secchi disk readings through the growing season, and surveyed the lake for aquatic invasive plants. Documented several locations of curly-leaf pondweed and Phragmites around the lake.
9. Contractor treated curly-leaf pondweed near the public dock.
10. Completed forestry mowing on the east side of the park (about 15 acres total) to continue the ecological restoration process of this area and increase the connectivity of prairie/oak savanna habitat. Also mowed buffer along part of the west path to the dock.

Quick Stats

- 90 acres
- Contains a mix of lakes, streams, fields, upland hardwood forest, wet meadow, a boggy kettle wetland, and shrubby wetlands.
- 20 acre field in northwest corner planted to native prairie species in fall 2015.

Future Stewardship Tasks

- Control invasive woody plants in central and eastern marsh (prioritize east marsh perimeter).
- Conduct targeted mowing of prairie restoration areas in 2019 to control spotted knapweed, sweet clover, and other species as needed. Control noxious weed species (spotted knapweed, crown vetch, etc.). Plan for prescribed fire to maintain prairie restoration areas.
- Use prescribed fire to maintain the prairie restoration and control invasive shrubs.
- Oriental bittersweet should be treated throughout the park (prioritize east side).
- Continue to control invasive woody plants in the old fields and interseed with native plant species.
- Complete forestry mowing at this park by completing the west side.
- Finish botanical survey of the entire park.

Wildlife Observations

- 106 bird species documented to date in eBird (+7 since 2017).



Prescribed burn creeps through autumn olive on the east side of Draper Twin Lake Park on April 26, 2018.



Wednesday morning birders check out flowers and butterflies on the new looped trail through the prairie restoration at Draper Twin Lake Park. July 25, 2018.



Draper Twin Lake Park Stewardship Summary 2018



0 250 500 1,000
Feet

GALLAGHER CREEK PARK

2018

Stewardship Tasks Completed

1. Prairie restoration
 - Finished site preparation for east phase of prairie planting. One herbicide application to low-quality upland areas was done two weeks before planting. Cardno completed planting on May 22, 2018. Spot treated invasive plants in higher quality wet meadow areas. Planted some locally-collected seed into higher quality interseeding areas.
 - Completed one maintenance mow in areas seeded in both 2017 and 2018.
2. Phragmites: Surveyed and treated Phragmites patches throughout the park.
3. Cutleaf Teasel and Wild Parsnip: Hand dug teasel and wild parsnip along roadside in July. Sprayed teasel rosettes in October.
4. Crown vetch: Treated crown vetch throughout upland areas in June and September
5. Garlic mustard: Surveyed and pulled garlic mustard.
6. Documented and controlled outlier black alder shrubs found in 2018. Hand pulled and foliar sprayed seedling black alder found in upland areas.
7. Installed rain garden to catch and treat runoff from the parking lot.

Quick Stats

- 15 acres donated in 2000.
- Natural areas include Gallagher Creek, wet meadow, emergent marsh, old fields.
- Upland old fields in process of being seeded with native prairie plant species through USFWS Partners grant.

Future Stewardship Tasks

- Plant and maintain native landscaping around the new playground in May 2019. Maintain rain garden.
- Monitor areas that were disturbed by 2018 construction of playground and pathways.
- Begin removal of invasive woody plants from the “island” in the north-central part of the park. Plantwise indicated wet prairie potential in this area in their management plan.
- Continue control of black alder throughout the park, a known invasive small tree. Work with neighbors whenever possible to raise awareness and encourage control on adjacent parcels.
- Control woody plants throughout southern upland areas of the park.
- Control biennial invasive plants: wild parsnip and cutleaf teasel mostly along Silver Bell Rd.
- Continue to survey and treat Phragmites patches annually, working with adjacent landowners.
- Begin control of reed canary grass in the wetland areas. Replant treated areas with native plants.
- Continue to use prescribed fire to maintain prairie plantings, remove old Phragmites stems, and stimulate native plant species.
- In wetland areas showing fen characteristics, seed in more fen species to increase diversity.

Significant Observations

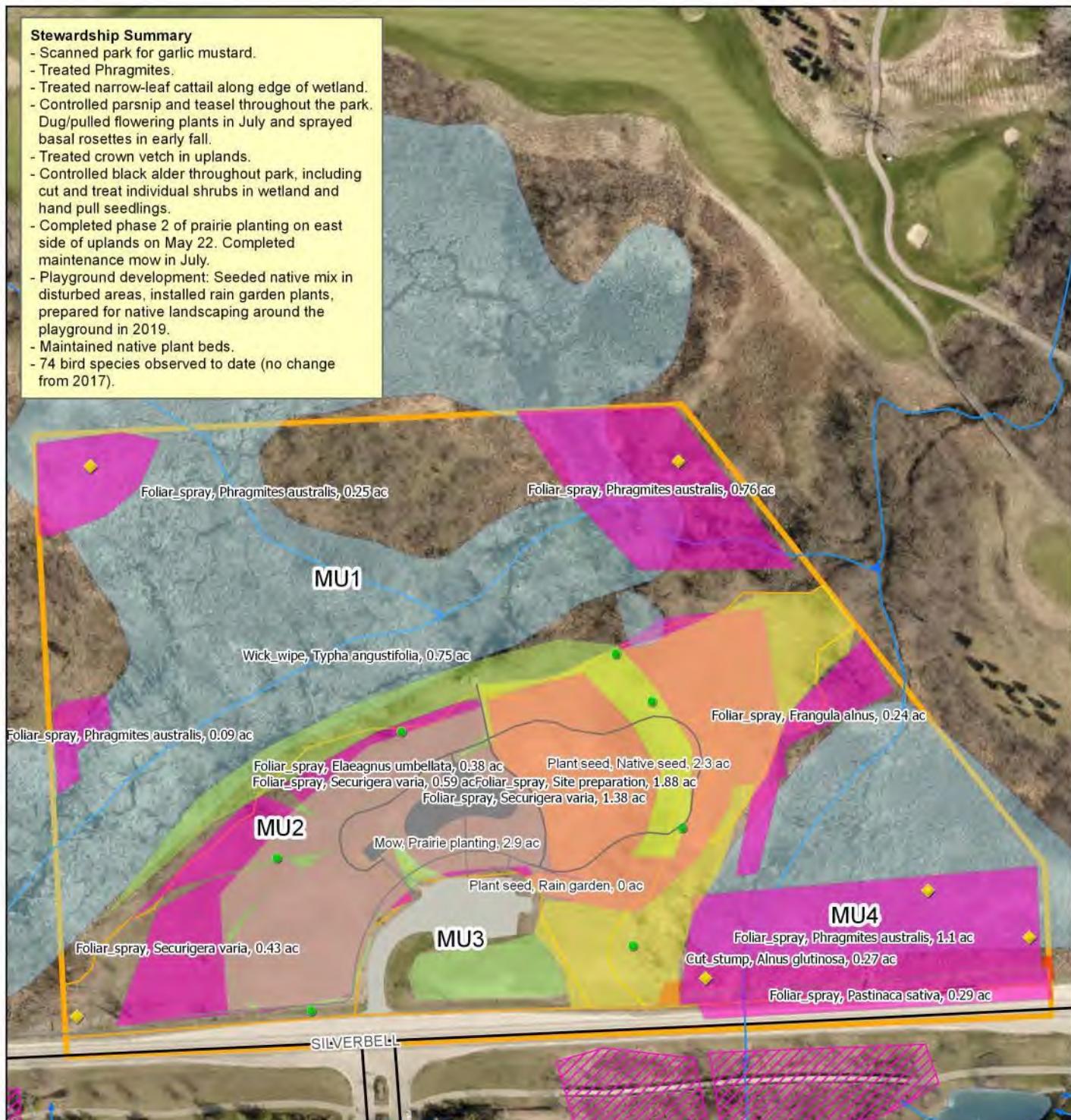
- Continued to see a good response of native prairie plants to prescribed fire and invasive shrub clearing.
- 74 bird species observed in the park since 2014 (no change from 2017).



Cardno installed phase two of the prairie planting on May 22, 2018.



The newly planted rain garden is tested by a big rain event a week after the plants were installed. Photo taken on October 1, 2018.



LOST LAKE NATURE PARK

2018

Stewardship Tasks Completed

1. Garlic Mustard: Mapped and pulled garlic mustard throughout the park.
2. Swallow-wort: Monitored areas that previously had swallow-wort patches. No new plants.
3. Crown vetch: Treated crown vetch along Turtle Creek Lane, on sled hill, and in forest.
4. Invasive woody plants: Hand pulled buckthorn seedlings in western peninsula.
5. Phragmites: Treated patch on north end of Lost Lake and patch on Tamarack Lake
6. Completed prescribed burn of core oak barrens area woodland around Lost Lake on April 27, 2018. Worked with private landowner on north side of Lost Lake to use lawn edge for burn breaks. Entire burn was a back burn, per the restrictions for managed eastern massassauga rattlesnake (EMR) habitat (as outlined in EMR Candidate Conservation Agreement with Assurances with MDNR and USFWS).
7. Continued canopy thinning in core oak barrens area and on western peninsula to promote oak recruitment and savanna vegetation.
8. Treated oriental bittersweet around the park entrance, developed area, and Lost Lake Trail.
9. Participated in Cooperative Lakes Monitoring program for Lost Lake. Tested spring overturn total phosphorus, fall total phosphorus, biweekly Secchi disk readings through the growing season, and surveyed the lake for aquatic invasive plants. Surveyed lake for aquatic invasive species, and did not find any, except existing, previously documented Phragmites.
10. Contractor controlled aquatic plants around the dock to improve access for recreation.

Future Stewardship Tasks

- Continue to survey and treat garlic mustard, crown vetch, oriental bittersweet, Phragmites, and other high priority invasive plants.
- Continue to restore oak barrens using prescribed fire, canopy thinning, invasive species control, and additions of local-genotype seed.
- Plan for wetland restoration in the southeastern part of the park in degraded fen/ sedge meadow habitat where eastern massassauga rattlesnakes have been found historically.
- Monitor native plantings and maintain as needed.
- Monitor effects of aquatic plant treatment around the dock.
- High deer densities are degrading the forest. Deer control is needed. Exclosures should be used to assess the impact of deer browse and preserve sensitive plant species.

Wildlife Observations

- Observed gray tree frog, fawn, and painted turtle.
- 81 bird species observed to date



Niklas from the Cooperative Lake Monitoring Program trains stewardship staff and volunteers on aquatic plants. July 18, 2018. Photo by Tom Korb.



Wednesday morning birders enjoy the oak barrens at the top of the hill on May 30, 2018.

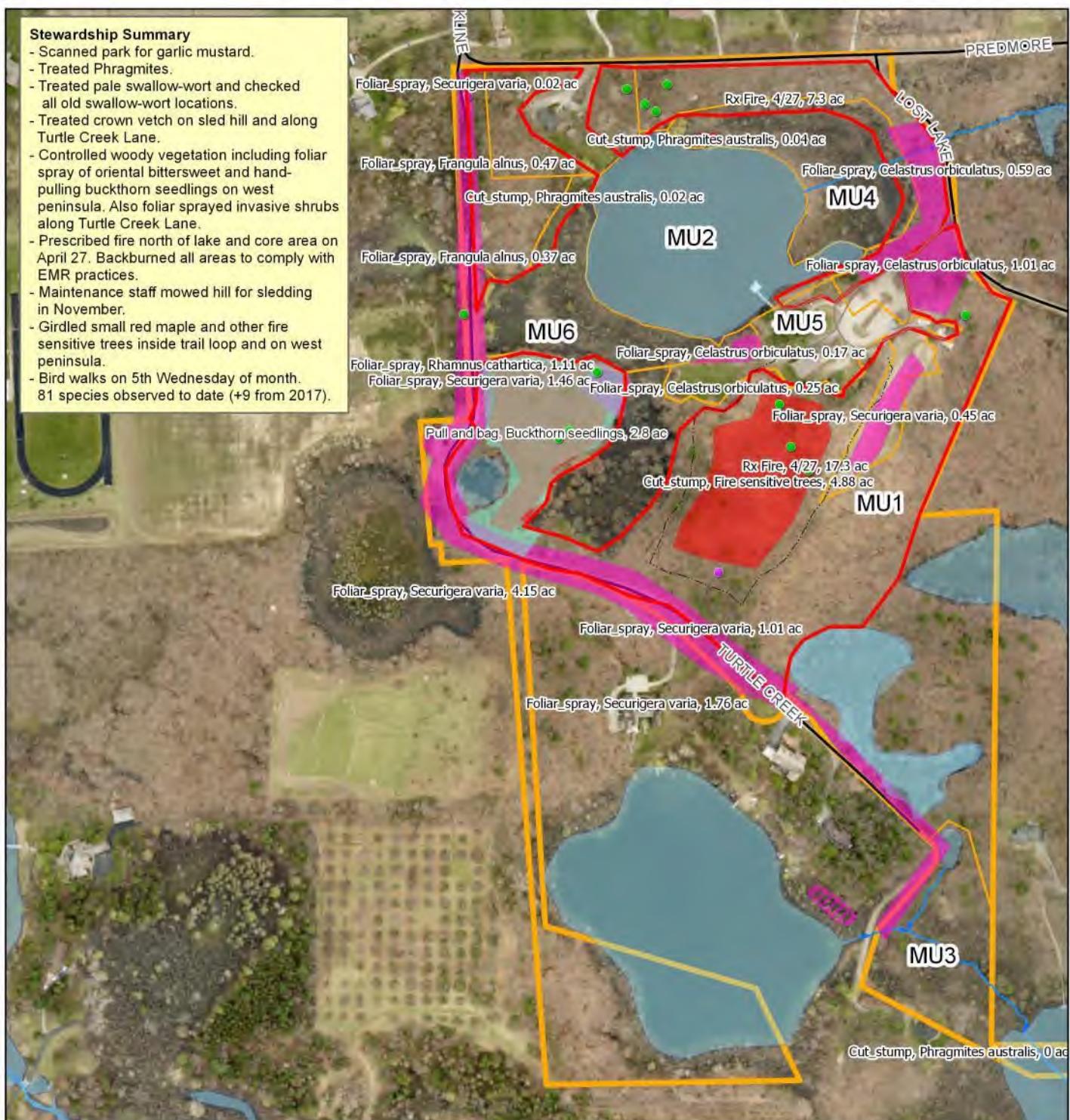
Quick Stats

- 58 acres
- Contains a mix of lakes, streams, fields, oak-pine barrens, emergent wetlands, shrubby wetland, degraded fen, and vernal pools.
- Historical sighting of eastern massassauga rattlesnake.
- Caretaker family and nature center occupy house.
- Sled hill with warming shelter is a popular attraction.

Stewardship Summary

- Scanned park for garlic mustard.
- Treated Phragmites.
- Treated pale swallow-wort and checked all old swallow-wort locations.
- Treated crown vetch on sled hill and along Turtle Creek Lane.
- Controlled woody vegetation including foliar spray of oriental bittersweet and hand-pulling buckthorn seedlings on west peninsula. Also foliar sprayed invasive shrubs along Turtle Creek Lane.
- Prescribed fire north of lake and core area on April 27. Backburned all areas to comply with EMR practices.
- Maintenance staff mowed hill for sledding in November.
- Girdled small red maple and other fire sensitive trees inside trail loop and on west peninsula.
- Bird walks on 5th Wednesday of month.

81 species observed to date (+9 from 2017).



Lost Lake Nature Park Stewardship Summary 2018



0 250 500 Feet

MARSH VIEW PARK

2018

Stewardship Tasks Completed

1. Maintained parking lot native plant beds: Removed dead thatch in spring, weeded monthly.
2. Cut and treated stumps of invasive shrubs in plantings around athletic fields.
3. Treated crown vetch around the athletic fields.
4. Treated Phragmites around the athletic fields and patches on the north side of the park.
5. Parking Lot and Archery Range Expansion: Supplemented seed around west parking lot with broadcast seeding in winter. Designed a seed mix to plant on disturbed areas around the new archery building when construction is complete.
6. Seed Harvesting: Harvested seed from native plantings around athletic fields.

Quick Stats

- 91 acres
- Natural areas include a large marsh and degraded old fields in upland areas. Native plants have been installed around the athletic fields.
- Athletic fields and archery range occupy the south side of the park.

Future Stewardship Tasks

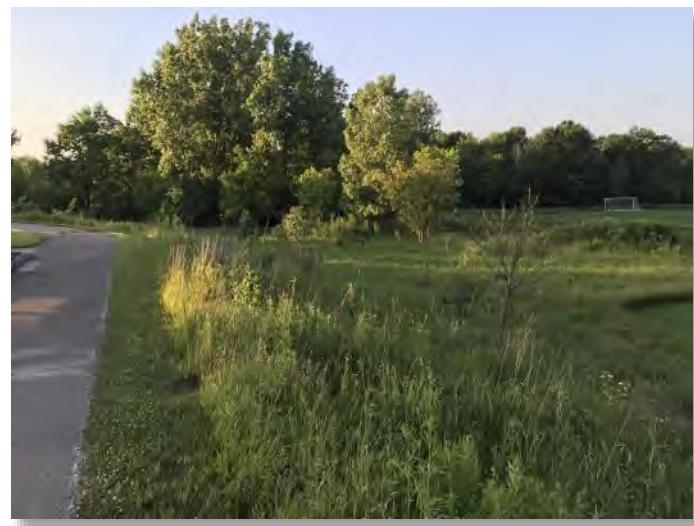
- Due to low quality of upland plant communities at Marsh View Park, garlic mustard should be foliar sprayed in early spring if treated at all.
- Teasel is just getting established at a few points in the park. Document locations and control.
- Survey park annually for swallow-wort and treat as needed.
- Continue to control Phragmites aggressively. Monitor wetlands for Phragmites annually. Mark plants around athletic field with flagging as found during the growing season.
- Monitor native plantings for invasive species and treat as needed.
- Install new species in the native plant beds (aromatic sumac, butterfly milkweed, etc.).
- Invasive woody plants in the old fields should be controlled. Due to low fuel loads, prescribed fire will probably not kill mature shrubs and forestry mowing will be needed. The east side of the park has some high-quality plants and should be prioritized for forestry mowing.
- Develop a trail loop to the north side of the park in 2019.
- Monitor sweet clover in natural areas. Abundance increased rapidly along Stony Creek Road following 2017 prescribed burn.
- Conduct a floristic survey on the parcel on the southwest corner added most recently.

Wildlife Observations

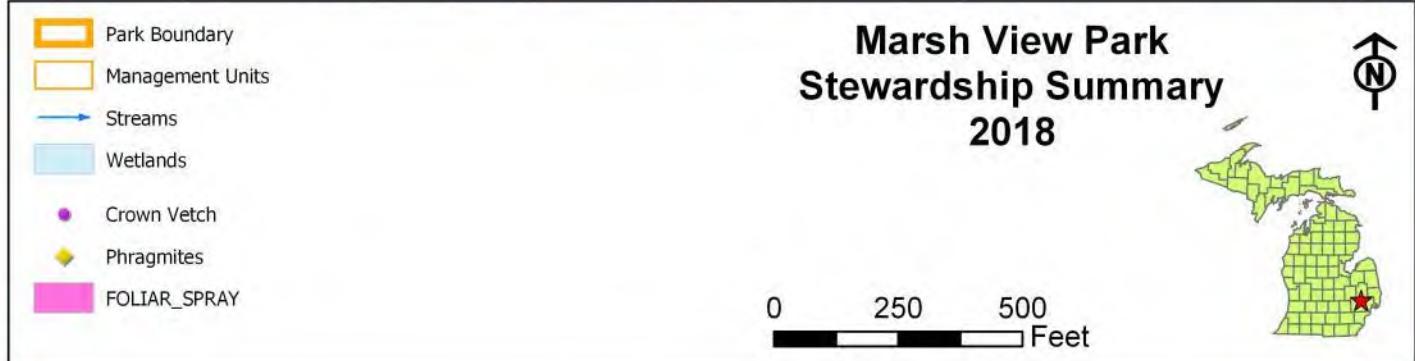
- 39 bird species observed to date (+16 from 2017).



Photo monitoring point 8, showing the hillside just east of the west parking lot on August 18, 2018.



Native plantings west of Field C on June 28, 2018. Plantings responded well to fall 2017 prescribed fire.



MILL CREEK CROSSING

2018

Stewardship Work Completed

1. Completed a botanical inventory of the parcel, documenting 100 species, with 66% native. Site stressors noted during inventory work include invasive species (dense privet infestation, lily-of-the-valley infestation) and disturbance/sedimentation from stormwater runoff exiting Snell Road and Orion Road.

Future Stewardship Work

1. Use the botanical inventory and other info to create a management plan for the parcel.



Dense thickets of privet and stormwater flows from adjacent roads degrade the natural area at Mill Creek Crossing.



Lily-of-the-valley and privet crowd out native plants in the understory at Mill Creek Crossing.

MILL RACE TRAIL

2018

Stewardship Work Completed

1. Completed a botanical inventory of the parcel, documenting 104 species, with 62.5% native. Natural areas are degraded. Site stressors noted during inventory work include invasive species (glossy buckthorn, common buckthorn, privet, black locust, autumn olive). Some high-quality plants persist, site quality will decline without management.
2. Scanned park for garlic mustard, but did not complete control work.

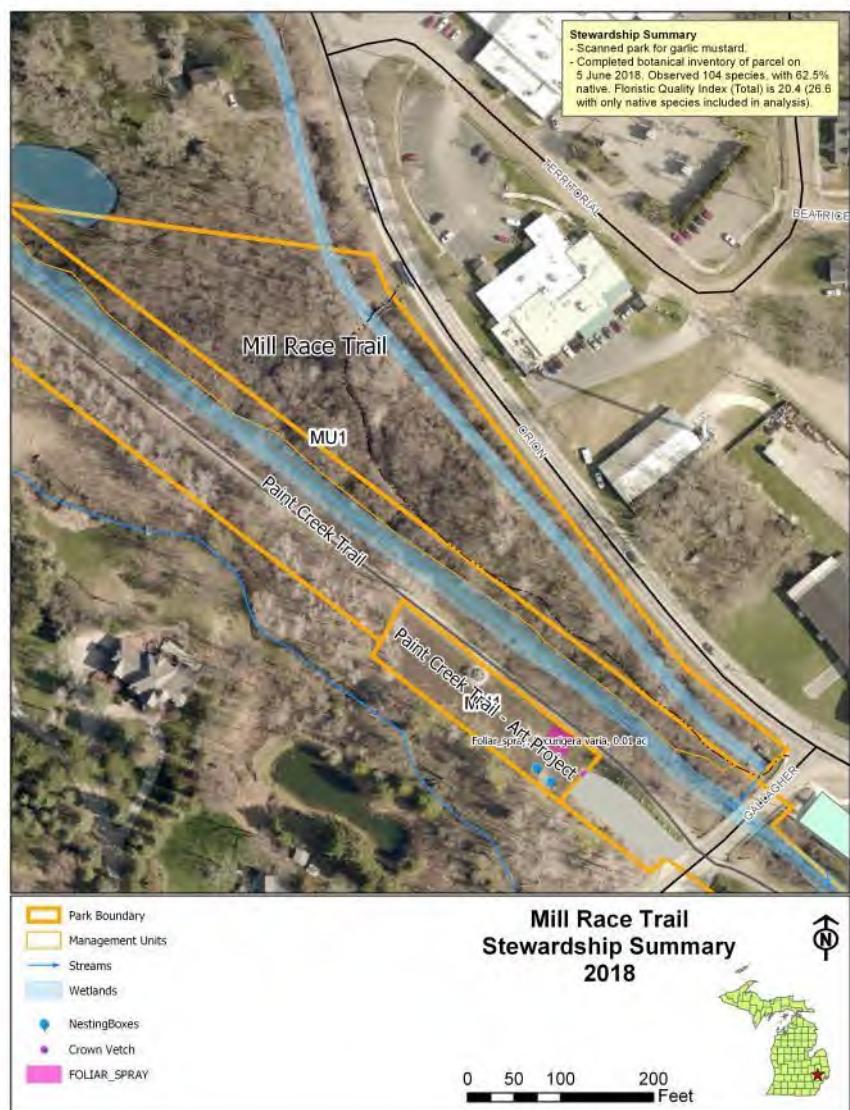


Future Stewardship Tasks

- Site is small, degraded and isolated from other natural areas, so stewardship work is low priority. Should be managed to protect Paint Creek, wetlands, and any sensitive species discovered. Stewardship tasks listed below should work toward these goals if time allows.
- Garlic mustard should be surveyed and pulled annually if time allows.
- Begin systematically cutting, treating stumps, and hauling away invasive shrubs.
- Plant wet prairie/wet meadow/savanna mix of native species after shrub removal.
- Remove black locust trees, replace with burr oak or other native tree species.



Southern blue flag iris (*Iris virginica*) along the Mill Race Trail. June 4, 2018.



O'CONNOR NATURE PARK

2018

Stewardship Tasks Completed

1. Mapped and pulled garlic mustard through the park. Pulled celandine (*Chelidonium majus*) and oriental bittersweet when scanning for garlic mustard. Documented a population of Siberian squill expanding from private property to the north of the park.
2. Phragmites throughout the park foliar sprayed (dense patches) or cut-stem treated (if mixed with natives). Patches continue to shrink with time and controlled with a few hours of work in 2018, though new locations found in gas pipeline corridor in 2018.
3. Gas Pipeline Construction Project: Consumer's Energy replaced a section of gas pipeline that runs through the northwest part of the park and along its northeastern boundary in summer 2018. As part of that work they cleared all woody vegetation in their easement, including a 28 inch red oak, 16 inch white oak, 26 inch white oak, 17 inch black cherry, and many small diameter hickory, red maple, and oak species, despite our efforts to save the large diameter trees. We were able to save a 45 inch black willow along the edge of the wetland. Consumer's Energy did revise their oak wilt protocols and completed additional wetland delineation. We rescued native plants within the pipeline easement and transplanted them to degraded areas nearby in the forest. We did not transport any plants to other parks because we found invasive jumping worms (*Amyntas* species) while working.

Quick Stats

- 10 acres
- Acquired in 2008
- Dramatic topography, mature oak woodlands, and intact wetlands provide greenspace for Oakland Township residents.

Future Stewardship Tasks

- Monitor the pipeline easement for new invasive species following 2018 construction work.
- Continue to survey and treat garlic mustard and celandine. The dense patch in the northeast corner should be foliar sprayed in early spring.
- Continue to treat Phragmites.
- Control *Vinca minor* in the southwest corner.
- Control invasive woody plants throughout the park annually.
- Concentrate stewardship on the hillside along Rochester Road to remove callery pear and other invasives. Plant native species on hillside.
- Use prescribed fire occasionally to promote native plant recruitment in wetland and forest.
- High deer densities are degrading the forest.
- Work with neighbors to prevent dumping.



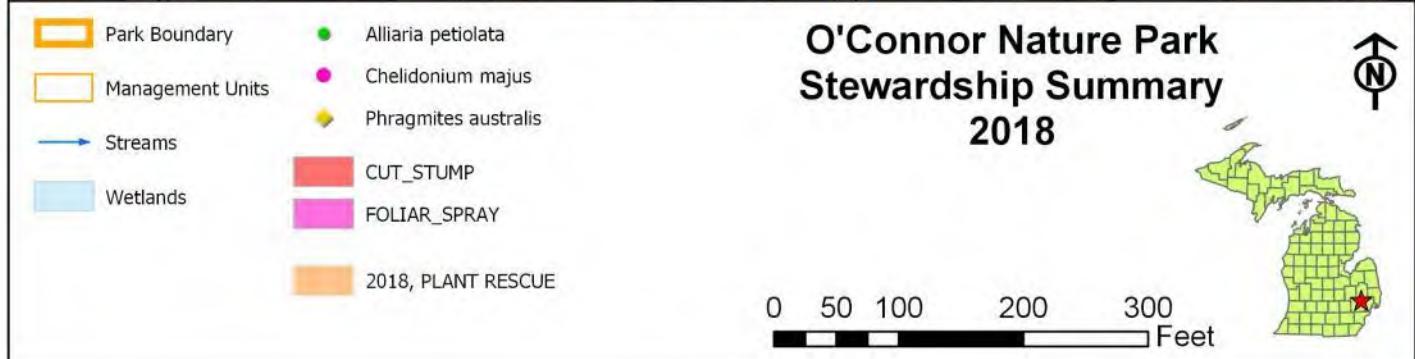
Consumer's Energy contractors completing wetland delineation in the pipeline easement on June 21, 2018.



Consumer's Energy pipeline easement on September 11, 2018 following pipeline replacement work.



We rescued native plants in the pipeline easement on June 19, 2018 and transplanted them to nearby degraded areas in the forest.



PAINT CREEK HERITAGE AREA—FEN

2018

Stewardship Tasks Completed

1. Garlic Mustard has not been identified at this park.
2. Phragmites in the fen was monitored and foliar sprayed where dense or cut stem treatment where sparse.
3. Park neighbor to south had Phragmites on property treated through the Phragmites Outreach Program. Third year of treatment for the neighbor to the south.
4. Invasive Cattails were monitored to determine success of previous treatment. We tested boom wick and herbicide wand wick to treat invasive cattails. Fen vegetation returning in areas where cattails were treated, but follow-up treatment will be necessary.
5. Prescribed fire planned for 2018 was delayed to 2019 due to weather.

Quick Stats

- 0.5 acres
- Acquired in 2008
- Protects the parcel's unique fen wetland and viewshed along the Paint Creek Trail.

Future Stewardship Tasks

- Control woody plants encroaching on the fen area.
- Continue Phragmites and purple loosestrife control. May need to collect beetles to control purple loosestrife.
- Continue to control cattails with hand-wipe or spray where they are very dense. Start in areas with highest native plant abundance and move to areas more heavily infested with invasive cattails.
- Work with neighbor on south and east boundary to manage adjacent fen and upland oak savanna
- Work with neighbor to end mowing along fence border.



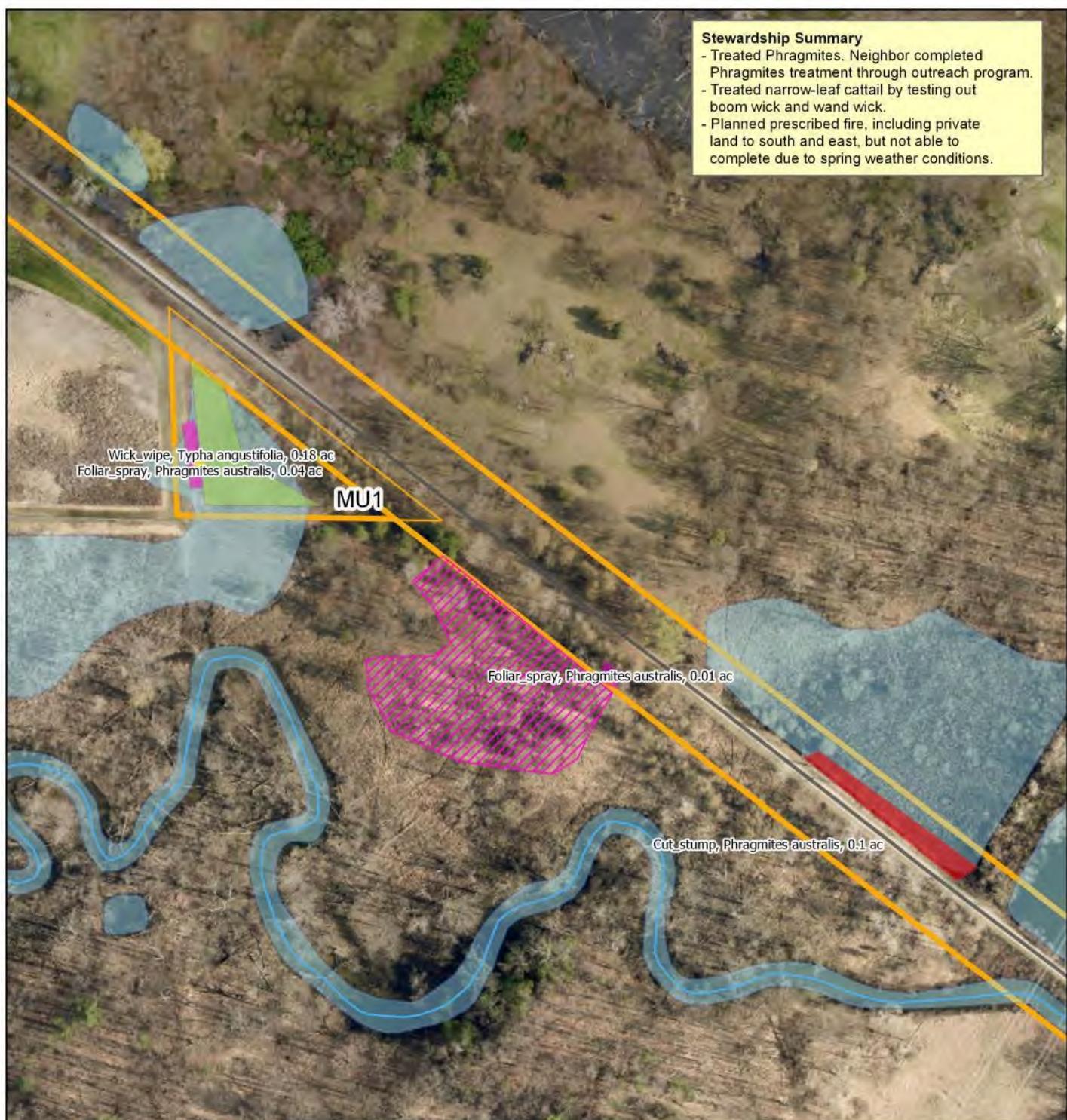
Paint Creek Heritage Area—Fen on March 23, 2018. Looking to the south.



Paint Creek Heritage Area—Fen on March 23, 2018. Looking to the west.

Stewardship Summary

- Treated Phragmites. Neighbor completed Phragmites treatment through outreach program.
- Treated narrow-leaf cattail by testing out boom wick and wand wick.
- Planned prescribed fire, including private land to south and east, but not able to complete due to spring weather conditions.



Park Boundary

Management Units

Streams

Wetlands

Phragmites Treatment - Outreach

Phragmites australis

CUT_STUMP

FOLIAR_SPRAY

WICK_WIPE

Paint Creek Heritage Area - Fen Stewardship Summary 2018



0 50 100 200 300
Feet

PAINT CREEK HERITAGE AREA

WET PRAIRIE

2018

Stewardship Tasks Completed

1. Seed Collection: Collected seed of various prairie and wetland plants with volunteer assistance.
2. Mapped and pulled garlic mustard throughout the park.
3. Continued controlling invasive woody plants in the core prairie area, the surrounding berm, and southern panhandle.
4. Hand-pulled spotted knapweed and sweet clover in the open wet prairie area in July and August.
5. Monitored and treated swallow-wort patch and crown vetch patch on the north-east side of the core prairie area.
6. Completed a prescribed burn on April 30 on 9 acres in the northern 2/3 of the park plus 8 acres of habitat on adjacent private land. Relative humidity was very low that day, resulting in a complete burn with many invasive shrubs top-killed. Entire site was backburned due to Eastern Massassauga Rattlesnake restrictions.
7. Continued thinning cottonwoods just south of the core prairie area.

Future Stewardship Tasks

- Continue to survey garlic mustard and hand pull throughout the park.
- Continue to control spotted knapweed and sweet clover.
- Oriental bittersweet should be treated throughout the park.
- Thin tree canopy by drill and fill or removal of small to mid-diameter cottonwoods, black locust, etc., working outward from core prairie.
- Continue invasive woody plant control, focusing on the perimeter of the wet prairie area and areas with pockets of high quality native vegetation.
- Collect seed of rare species annually and broadcast in adjacent areas after invasive shrub control.
- Install interpretive signage to explain unique plants found in the area.



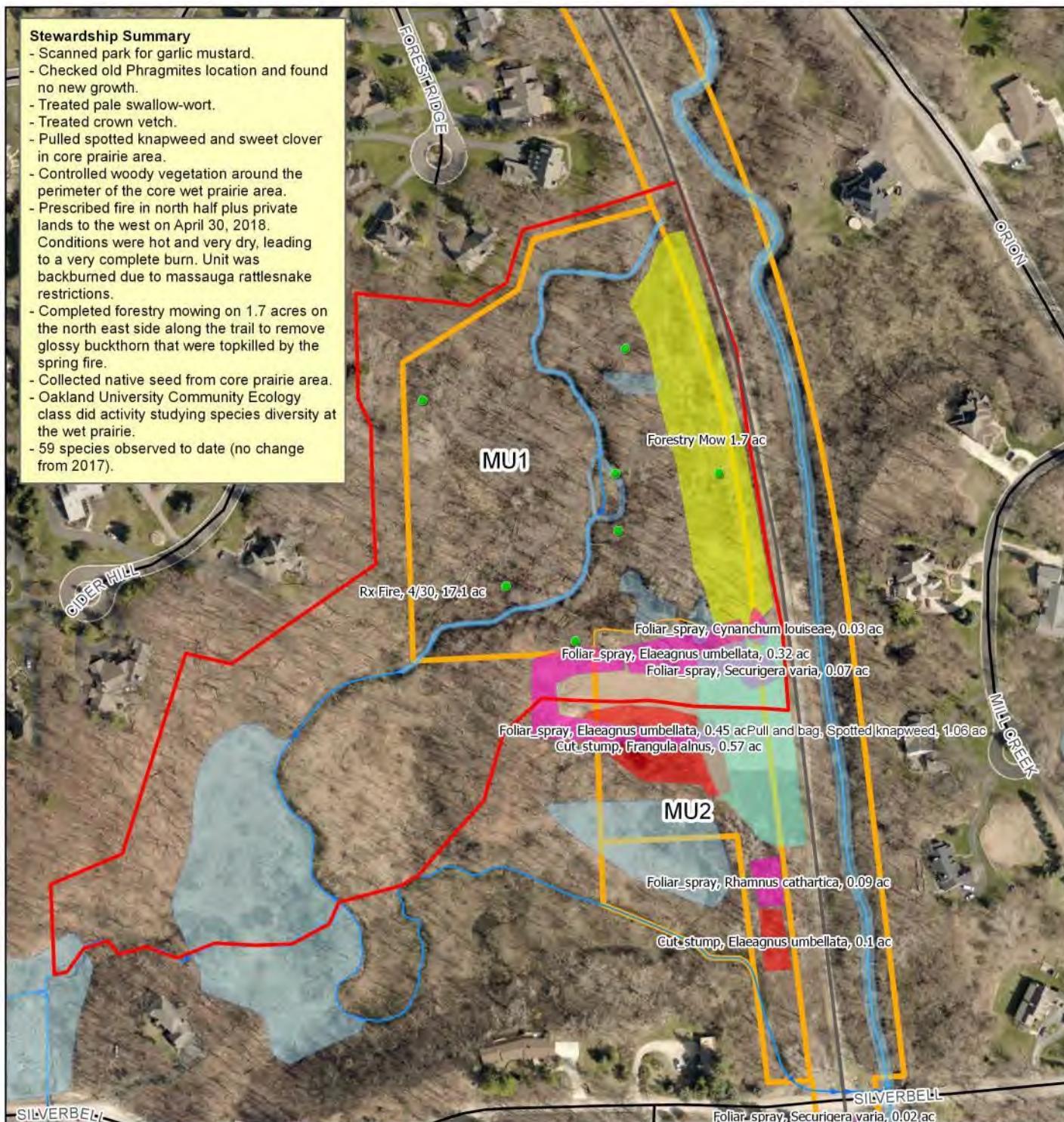
The prescribed fire on April 30 top-killed large areas of invasive shrubs. The shrubs resprouted later in the season. May 22, 2018.



Core prairie area on June 1, 2018.



The north end of the parcel on December 11 after forestry mowing to cut invasive shrubs that were top-killed by the spring burn.



Paint Creek Heritage Area Wet Prairie Stewardship Summary 2018



0 250 500 Feet

PAINT CREEK JUNCTION

2018

This park was formerly known as Marsh View Connector. Oakland Township Parks & Recreation was awarded a Michigan Natural Resources Trust Fund grant in 2018 to develop a regional trailhead for the Iron Belle Trail (of which the Paint Creek Trail is part) at this location. Planning will likely occur in 2019, with construction in 2020.

Stewardship Tasks Completed

- A new patch of swallow-wort was found on the adjacent Paint Creek Trail right-of-way. We mapped and treated the swallow-wort in June.

Future Stewardship Tasks

- Complete botanical inventory, habitat mapping, and invasive species inventory in 2019 prior to development. Document natural features that should be preserved if possible.
- Provide input to development process to enhance ecosystem function, improve wildlife habitat, and to facilitate future natural resource management.
- Use botanical inventory, habitat map, and site plans to develop a management plan .



Much of the site was formerly farmed and has grown back with typical old field vegetation and invasive shrubs. Scattered native prairie plants occur in small pockets.

Stairs provide angler access to Paint Creek just a few hundred feet down the Paint Creek Trail. April 17, 2018.



Paint Creek Junction Stewardship Summary 2018



0 50 100 200 300
Feet

- Park Boundary
- Management Units
- Streams
- Wetlands
- Alliaria petiolata
- ★ Cynanchum louiseae
- FOLIAR SPRAY

PAINT CREEK TRAIL—ART PROJECT

2018

Stewardship Tasks Completed

1. Garlic Mustard: No garlic mustard has been identified at the Art Project.
2. Invasive Woody Plants: Area monitored for invasive shrubs. May need follow-up work in 2019.
3. Seed Collection: No seed collected in 2018, but this is a good location for *Desmodium canadense*.
4. Completed botanical inventory in 2018. Documented 74 species, with 72.4% native.
5. Treated crown vetch near the parking area.
6. Refurbished two nest boxes in March. Volunteers monitored the nest boxes throughout the nesting season.

Future Stewardship Tasks

- Continue to control invasive woody plants annually.
- Interseed area with native plant species to increase diversity and fuel loading.
- Use prescribed fire annually or biennially. Use growing season or fall burns when possible to enhance forb abundance.
- Expand invasive woody plant control to the north along the trail and across the trail adjacent to the creek.
- Install interpretive signage to explain the unique plants found in the area.
- Install markers to prevent mowing the prairie area.
- Continue to work with adjacent private property owners to provide a buffer to the prairie remnant.
- Treat reed canary grasses to keep from expanding.



Higher quality areas of the Art Project prairie have excellent plant diversity, providing habitat for pollinators, June 4, 2018.



Art Project on March 26, 2018.



Art Project on June 4, 2018.



- Park Boundary
- Management Units
- Streams
- Wetlands
- *Securigera varia*
- FOLIAR SPRAY

Paint Creek Trail - Art Project Stewardship Summary 2018



0 50 100 Feet

PAINT CREEK TRAIL

KAMIN/STOLL EASEMENT

2018

Stewardship Tasks Completed

1. Scanned easement for garlic mustard.
2. Treated known swallow-wort locations along the north side near the trail right-of-way.
3. Checked old Phragmites locations and found several stems. Mapped and treated them in late September.
4. Cut and treated invasive shrubs in open prairie area on north end and in upland savanna area.
5. Pulled spotted knapweed and sweet clover in prairie, savanna, and adjacent Paint Creek Trail right-of-way.
6. Completed botanical inventory. Documented 161 species, with 75.2% native.
7. Completed photo monitoring.

Future Stewardship Tasks

- Continue to control garlic mustard, swallow-wort, and Phragmites.
- Monitor purple coneflower that has escaped from neighbor's landscaping. Control if it begins to spread.
- Thin fire-sensitive trees in the upland areas.
- Control invasive woody plants annually.
- Continue prescribed burning annually, varying season of burn and time between burns. As invasive shrubs are controlled reduce return interval to 3-4 years.



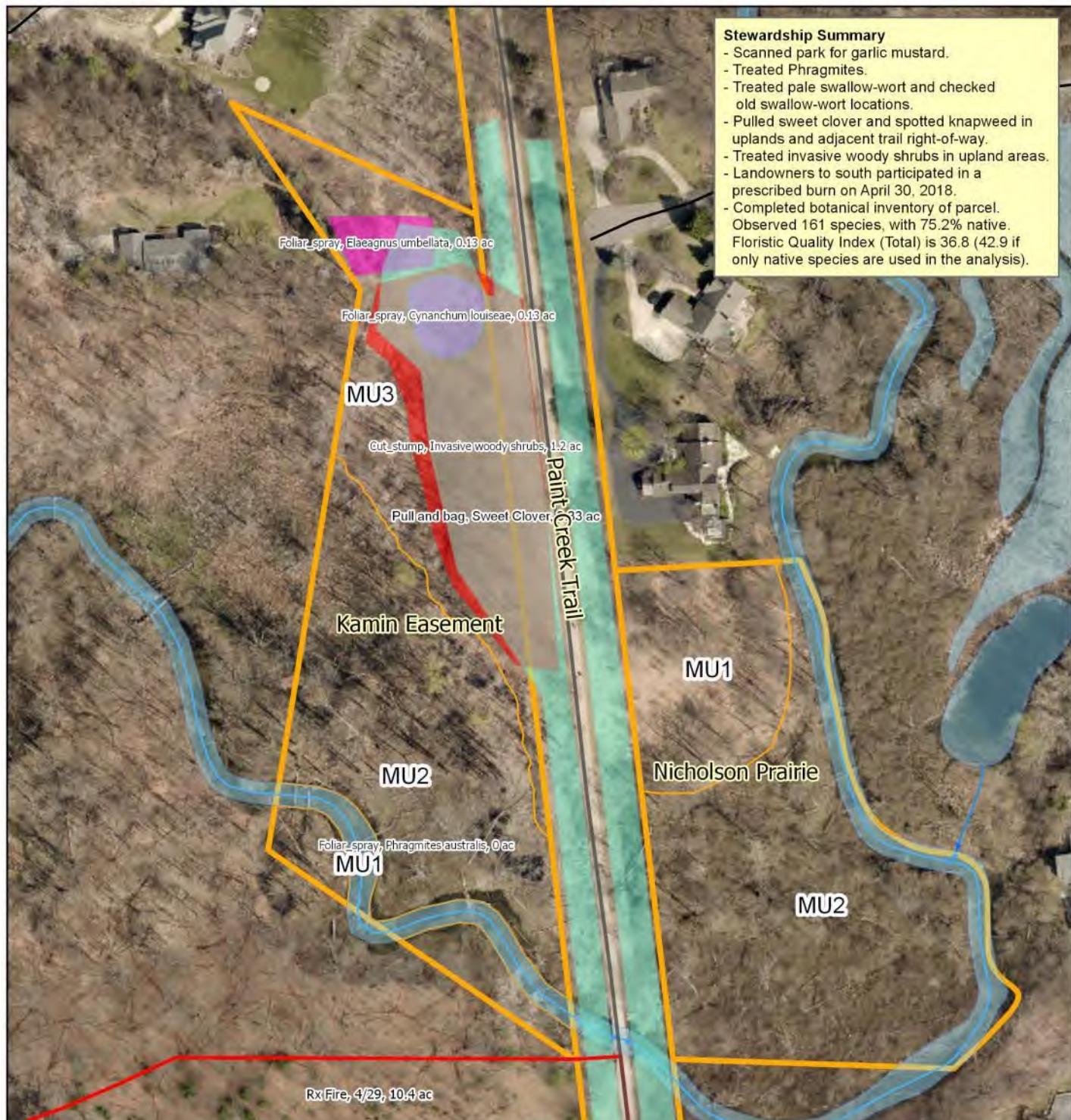
Invasive woody shrub control on August 15, 2018.



The botanical survey included the Paint Creek floodplain, which includes both degraded areas and high quality areas, as shown here. June 4, 2018.



We completed photo monitoring on the Kamin Easement on August 17, 2018.



PAINT CREEK TRAIL

NICHOLSON PRAIRIE

2018

Stewardship Tasks Completed

1. Invasive Woody Plants: No woody plant control done in 2018.
2. Pulled sweet clover in the adjacent Paint Creek Trail right-of-way.
3. Completed a botanical inventory of the site. Observed 123 species, with 74% native. The upland prairie/oak savanna areas are fairly intact, but the Paint Creek floodplain is a dense thicket of privet.

Future Stewardship Tasks

- Resume garlic mustard control and dame's rocket control.
- Continue to expand the prairie area by removing woody plants and seeding with locally collected native plant species.
- Reduce the abundance of native warm-season grasses to increase forb abundance. Use late summer and fall prescribed burns when possible.
- Continue privet removal in the floodplain. Will likely need to use a forestry mower or similar equipment.
- Monitor the deer exclosures to see if they have changed plant species composition.



The Paint Creek floodplain is a dense thicket of privet and other invasive plants. June 5, 2018.



Woody vegetation encroaches on the core prairie area at Nicholson Prairie. June 5, 2018.



Dame's rocket is abundant on the slopes above the Paint Creek floodplain. June 5, 2018.



Paint Creek Trail Nicholson Prairie Stewardship Summary 2018

0 50 100 200
Feet



PAINT CREEK TRAIL

RIGHT-OF-WAY

2018

Stewardship Tasks Completed

1. Native Plant Beds: We maintained the beds at the Gunn Road crossing throughout the season.
2. Phragmites: In addition to treating all known patches of Phragmites in park properties, Phragmites was controlled at two locations on private property along the Paint Creek Trail through our Phragmites Outreach Program. Many Phragmites patches extend off the trail-right-of-way, making them difficult to eliminate.
3. Treated crown vetch at the Silverbell Road parking lot, Gallagher Road parking lot and Adams Road crossing.
4. Documented and treated several new swallow-wort locations along the Paint Creek Trail.
5. We refurbished eight nest boxes along the trail between Gallagher Road and Adams Road.
6. Prescribed Fire
 - April 23, 2018: We burned 0.4 acres at the Gunn Road crossing where woody shrubs had been removed in 2016. Big bluestem, hairy beardtongue, and other prairie plants were found in this area, so the objectives of the burn were to control invasive woody shrubs and stimulate these prairie species.
 - April 30, 2018. We implemented a prescribed burn on 10.4 acres of prairie, oak savanna, and fen habitat just south of the Nicholson Prairie on the west side of the Paint Creek Trail. This burn included both trail right-of-way and adjacent private land. Private land work was paid for by the landowners. We're very thankful for their enthusiasm for restoring natural areas on their property!

Future Stewardship Tasks

- Control Phragmites along the trail and work with adjacent landowners to control their patches.
- Control woody plants on bridge structures and high quality habitat along the trail.
- Locate bluebird nest boxes and work with volunteers to monitor during nesting season.
- Develop management plans for the natural areas along the trail, with botanical inventories of high quality habitat.
- Develop and install interpretive signage in high-quality habitat.



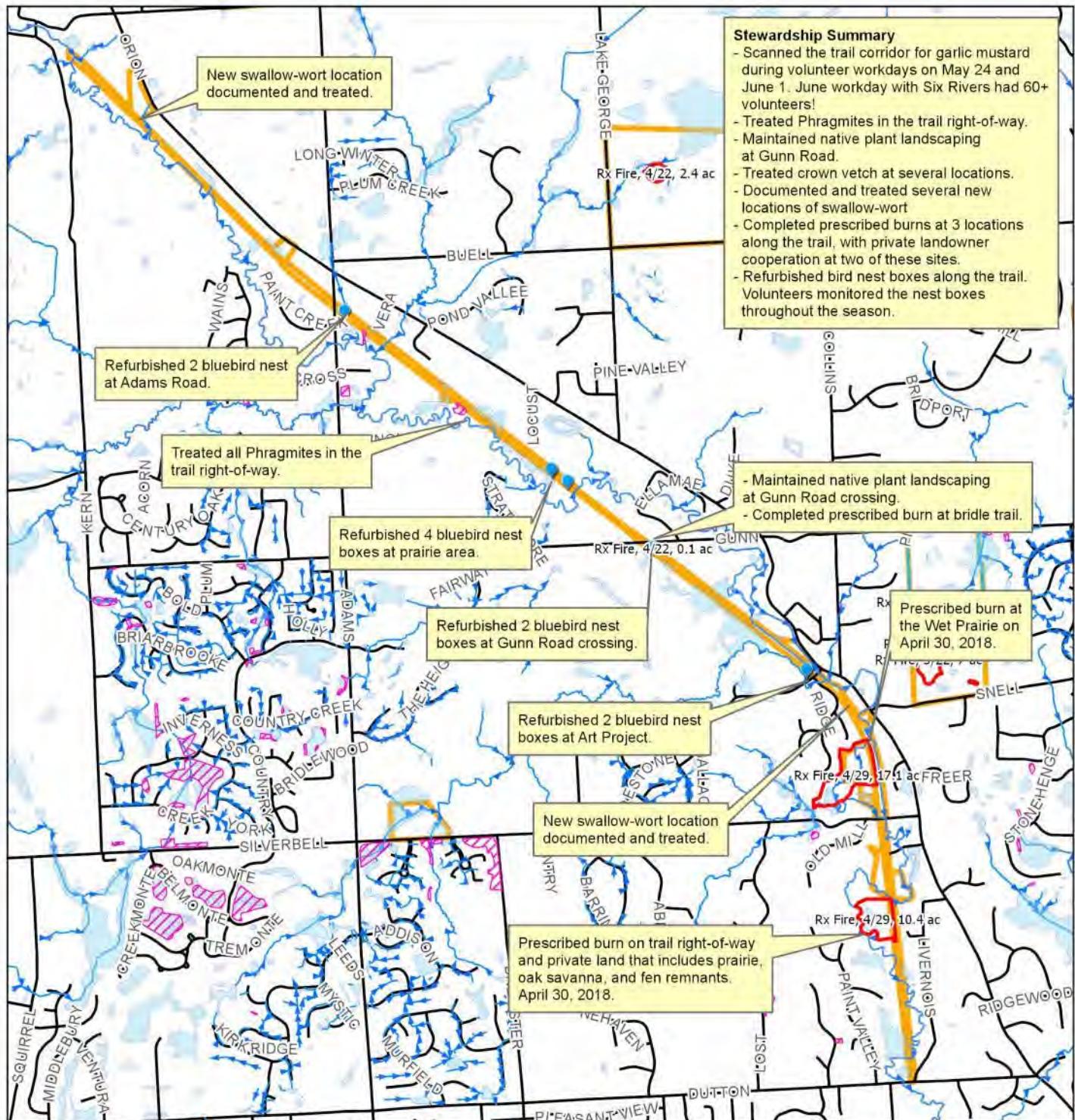
Trout Unlimited installed angler access step and native plants (in consultation with stewardship staff in 2017. In 2018 the plants began to fill in. June 4, 2018.



Our in-house crew completed the burn along the bridle trail at the Gunn Road crossing along the Paint Creek Trail on April 23, 2018.



The same location near the Gunn Road crossing a few weeks later on May 10, 2018.



Paint Creek Trail Right-of-Way Stewardship Summary 2018

- Park Boundary
- Conservation Easement
- Streams
- Wetlands
- Phragmites Treatment - Outreach
- 2018 Prescribed Fire



0 0.5 1 Miles

STONY CREEK RAVINE NATURE PARK

2018

Stewardship Tasks Completed

1. Garlic Mustard: Mapped and pulled garlic mustard in the Stony Creek riparian corridor and in the northeast corner of the park. Did not pull garlic mustard in eastern uplands because of heavy invasive shrub infestation.
2. Swallow-wort: Previously identified and new patches of swallow-wort were mapped and sprayed. Several new locations found after shrub clearing in late 2016.
3. Invasive Woody Plants
 - Treated invasive shrubs that had re-sprouted after forestry mowing by the Ruffed Grouse Society in 2016 and Owen Tree in 2015. Crew spot sprayed in areas with remnant native vegetation. We were not able to treat larger areas with the tractor, so they will need to be mowed and treated again in 2019.
 - OTPR crew spot sprayed Oriental bittersweet on the east slope of the ravine down to the floodplain, approximately 8 acres.
 - Contractor (Cardno) treated Oriental bittersweet across nearly 15 acres in the stream corridor, both east and west sides.
 - Contractor (Quality Tree Service) completed forestry mowing on 9 acres in the southeast area of the park in late November. Though some native plants persisted in this area, dense invasive shrubs made it very difficult to access. It will be much easier to work in this area now that it has been cleared.
4. Phragmites: Park neighbor to the southwest had Phragmites treated through the Phragmites Outreach Program.

Future Stewardship Tasks

- Continue garlic mustard control throughout the park. Focus on the ravine and riparian corridor. Use spot spraying in degraded areas.
- Oriental bittersweet should be treated aggressively in the riparian corridor. In the eastern uplands bittersweet should be treated aggressively after initial invasive shrub control.
- Invasive woody plants in the old fields should be controlled annually after initial invasive shrub control. Due to low fuel loads, prescribed fire will probably not kill mature shrubs and manual control will be needed.
- Implement prescribed fire throughout the park following oriental bittersweet control.
- High deer densities are degrading the forest. Encourage continuing controlled archery hunt.
- We expect to close on the 207 acres to the east of this park in 2019. Acquisition will be funded by the Land Preservation Millage and a grant from the Michigan Natural Resources Trust Fund. After closing on the property, we will need to do a rapid assessment to determine immediate stewardship needs (high priority invasive plants) and set long-term goals. Portions of the current farm fields will be converted to wetland mitigation banks by the current owner.



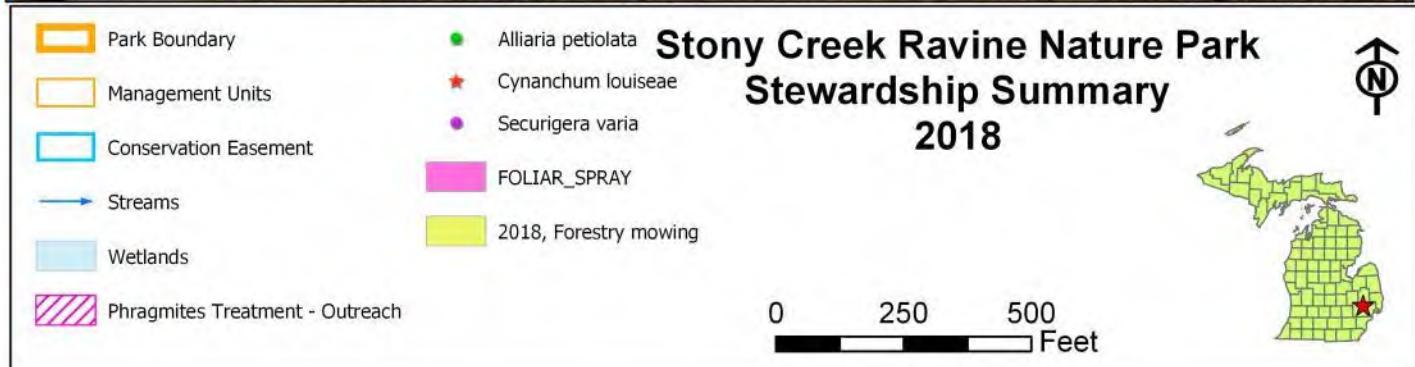
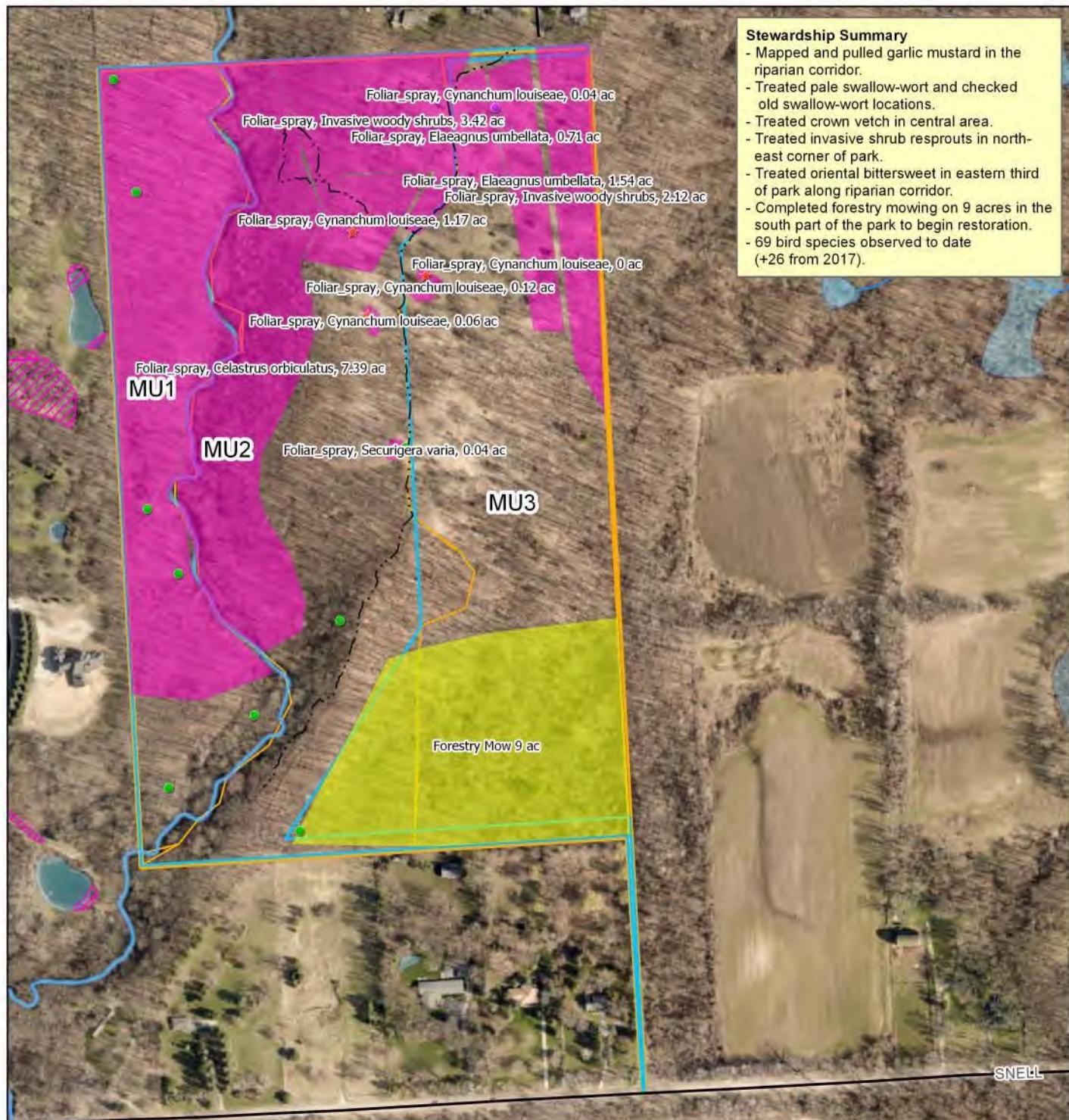
Southern 9 acres of Stony Creek Ravine Nature Park was cleared with a forestry mower in late November. This picture shows what the area looked like before clearing. Oriental bittersweet, autumn olive, and gloss grew in a dense thicket. November 27, 2018.

Quick Stats

- 60 acres
- Acquired in 2008
- Protects the 0.5 miles of the west branch of Stony Creek, and dramatic glacial features.
- Conservation easement protects the creek corridor.



Stony Creek Ravine Nature Park during forestry mowing, showing the equipment our contractor used. November 27, 2018.



WATERSHED RIDGE PARK

2018

Stewardship Tasks Completed

1. Mapped and pulled garlic mustard throughout the park. Heavily infested areas along Buell Rd were not treated.
2. Phragmites was monitored and treated throughout park.
3. Invasive Woody Plants: We treated invasive woody plants in area cleared by Ruffed Grouse Society forestry mower in 2016. Areas that we could not treat in 2018 will need to be mowed to facilitate future treatment.
4. Swallow-wort: Monitored new patch found in 2017 and treated a few new plants.
5. Prairie Restoration: Planted a few seed production plots for little bluestem, big bluestem, and Indian grass in west field. Seed was over 1 year old, so may not be viable.
6. Prescribed Fire: We burned 2.4 acres , which included some oak woodland and the prairie remnant cleared by 2016 forestry mowing.
7. Canopy thinning: We thinned fire-sensitive tree species and controlled invasive shrubs in the central forest area to encourage oak recruitment.
8. Completed botanical inventory of the entire park. Documented 211 species (80.6% native) in a variety of habitats, including mesic southern forest, southern shrub-carr, emergent wetland, mixed conifer swamp, mesic prairie, and old field. Mixed conifer swamp in the north-central part of the park has the highest quality plant community in the park. Drainage from old farm tiles is degrading the wetlands, dumping muddy, nutrient rich water.

Quick Stats

- 187 acres
- Acquired in 2008
- Watershed divide between Stony Creek and Paint Creek runs through the park.

Future Stewardship Tasks

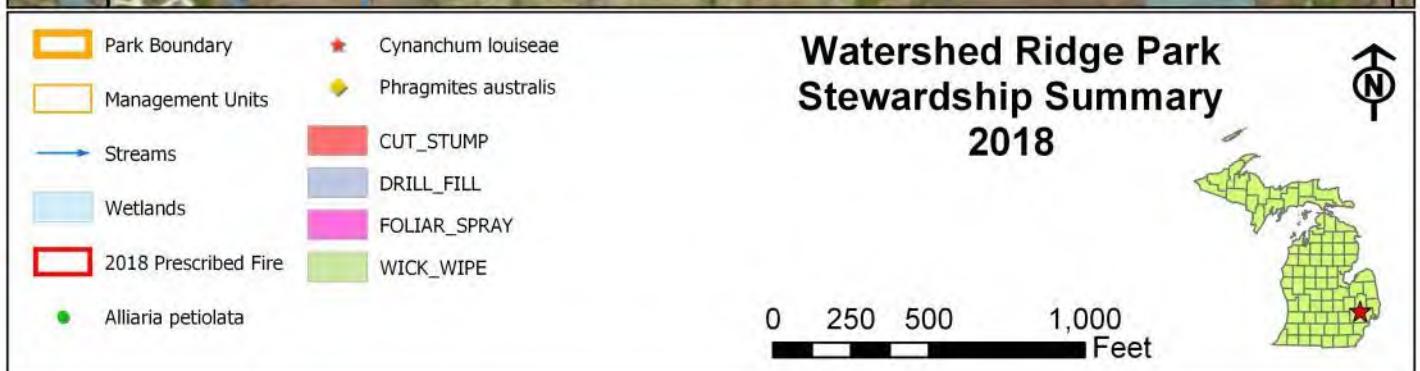
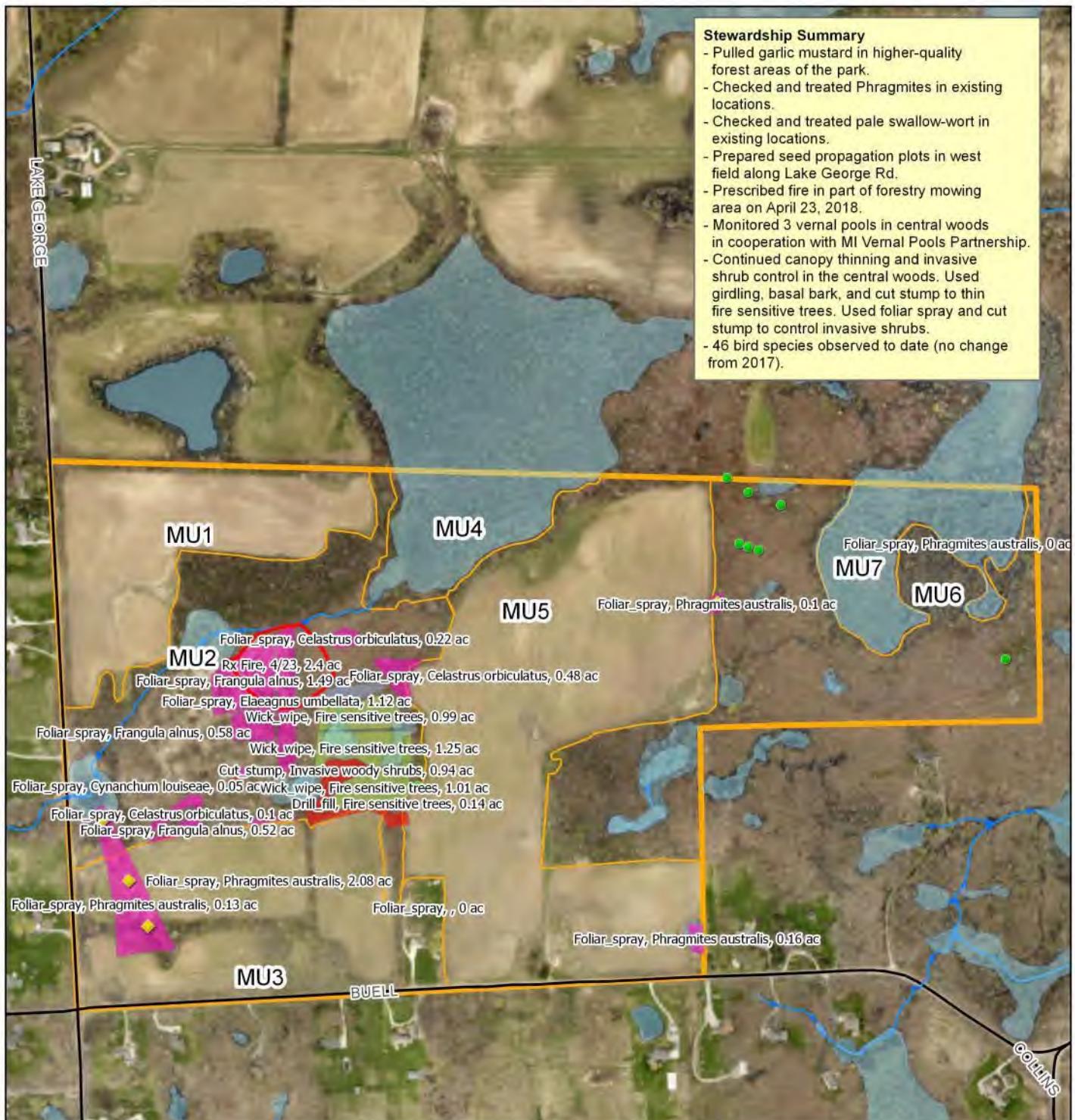
- Garlic mustard in heavily infested southern areas with few natives should be foliar sprayed in early spring. The remainder of the park should be hand-pulled.
- Continue to use forestry mower for initial clearing of invasive shrub thickets on west side of park. PRC staff would then handle follow-up and native plant seeding work. Tentatively schedule area between northwest field and stream for 2020.
- Sweep northeast forest for invasive woody plants annually.
- Work with park development planning process to place facilities and developments in areas that will not affect sensitive habitat. Assess opportunities for restoring native plant communities as the area is developed.
- High deer densities are degrading the forest. Deer control is needed. Exclosures should be used to assess the impact of deer browse and preserve sensitive plant species.
- Continue prescribed burning, particularly in the western oak woodlands and fields.
- Address farm tiles draining polluted water into wetlands. The best option might be wetland restoration in partnership with the US Fish and Wildlife Service, and planting prairie filter strips.



Wild Calla (*Calla palustris*) in the north-central wetland at Watershed Ridge Park on August 2, 2018.



Muddy, sediment filled water runs from failing drain tile into wetlands in Watershed Ridge Park. This runoff suffocates amphibian eggs, loads wetlands with excess nutrients, and contributes to algal blooms in our water bodies.





Oakland Township Parks and Recreation

Natural Areas Stewardship

2018