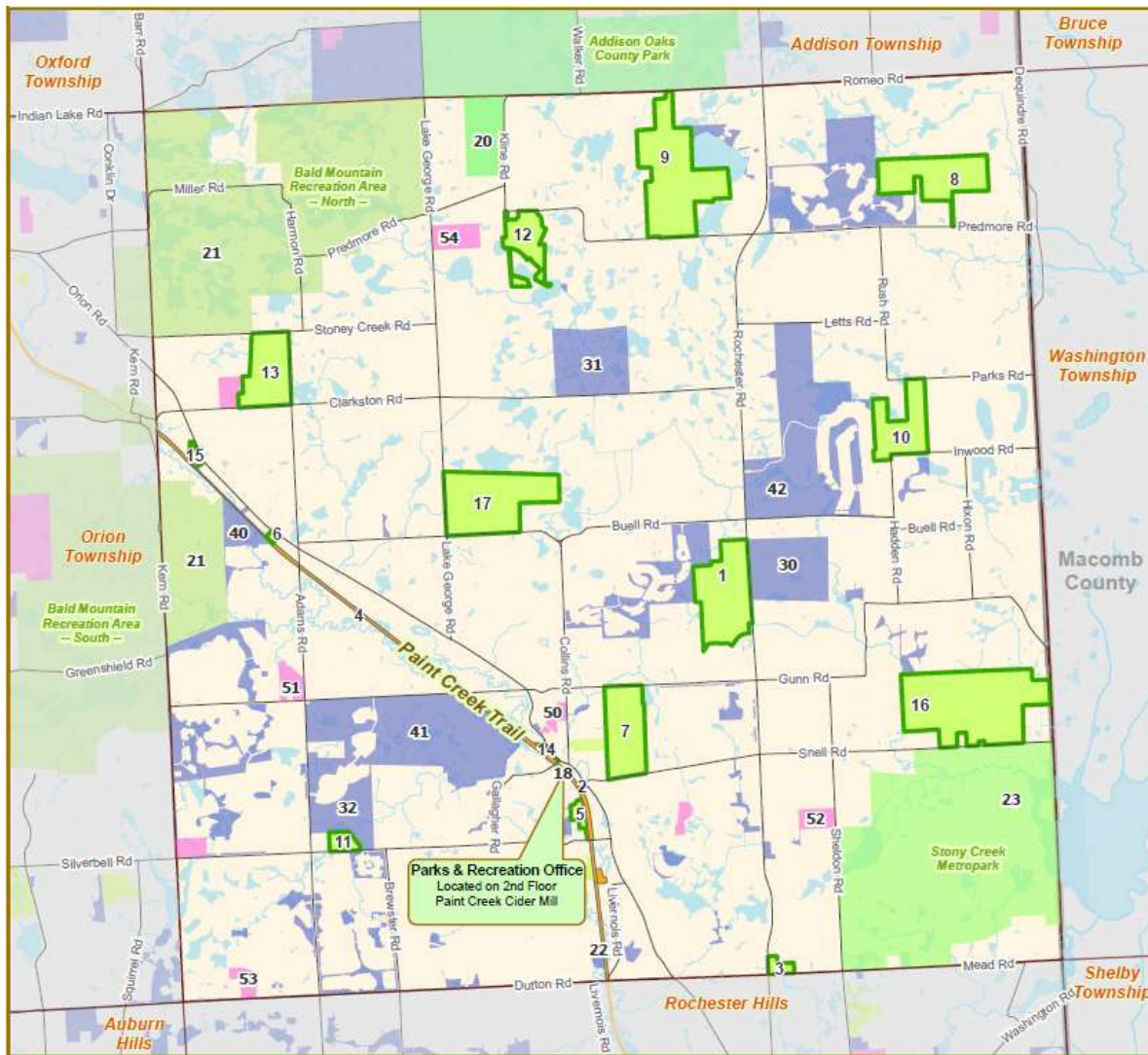


NATURAL AREAS STEWARDSHIP OVERVIEW & UPDATE

Ben VanderWeide
Natural Areas Stewardship Manager
Oakland Township Parks and Recreation

Visit our blog! oaklandnaturalareas.com

Oakland Township Parks



- ~1550 acres
- 17 properties
- Paint Creek Trail in Oakland Township
- Variety of high-quality natural areas
- Work funded by land preservation millage and grants

Program Overview

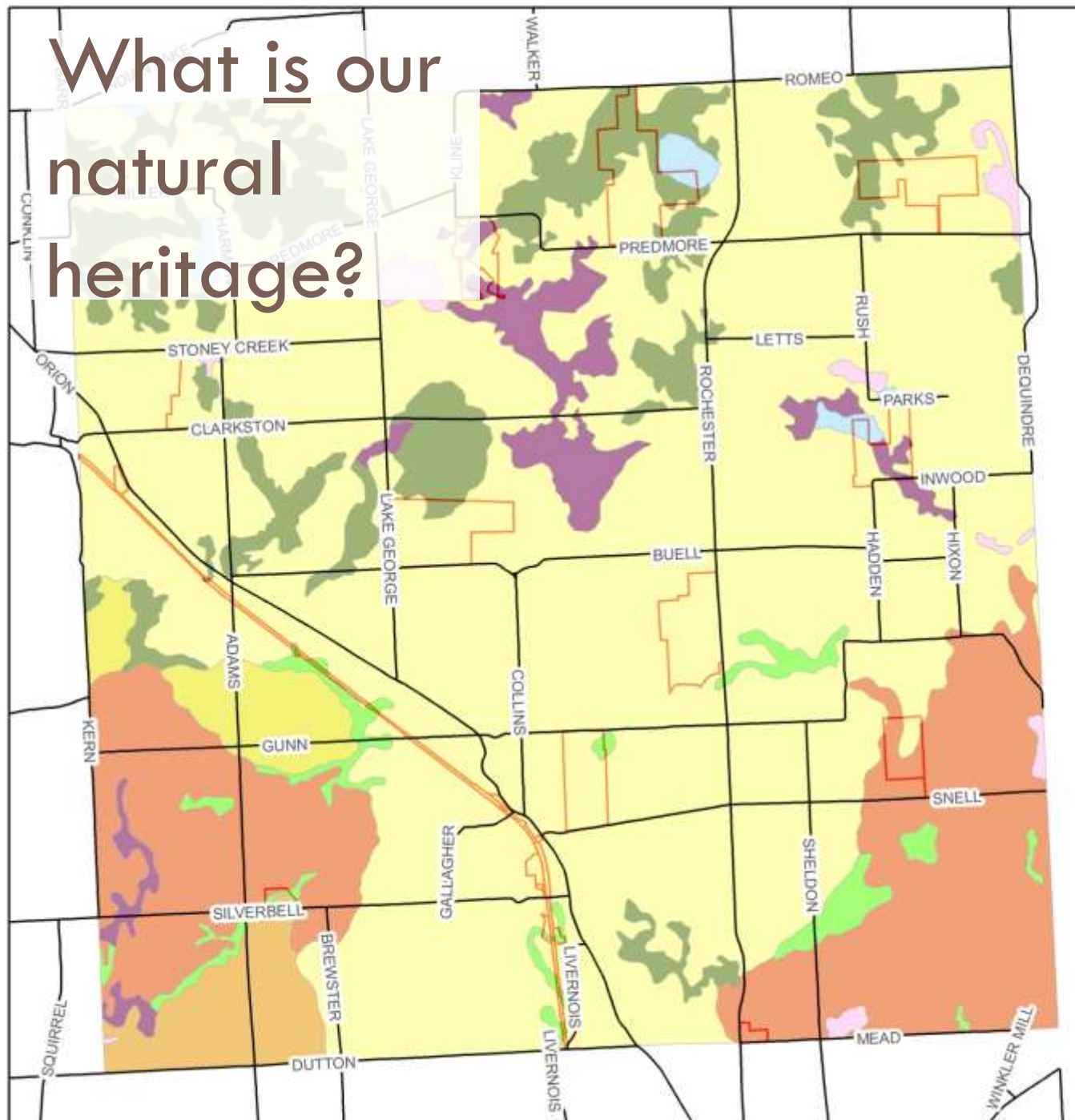


Adaptive
Management
Framework

Mission and Vision Statements

- **The mission** of the Oakland Township Parks and Recreation Commission is to provide a sustainable system of parks, trails, programs, amenities, and services which creates memorable experiences and a sense of place, contributes to the economic value of the Township and **preserves the historical and natural heritage of the landscape** for existing and future generations.
- **Our vision** is to provide **responsible management and stewardship of our natural resources** through quality parks, trails and appropriate recreation experiences now and for future generations.

What is our natural heritage?



Oakland Township Pre-Settlement Vegetation

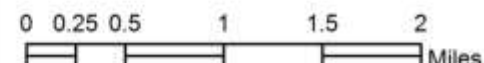
Legend

- Park Boundary
- Roads

Pre-Settlement Vegetation

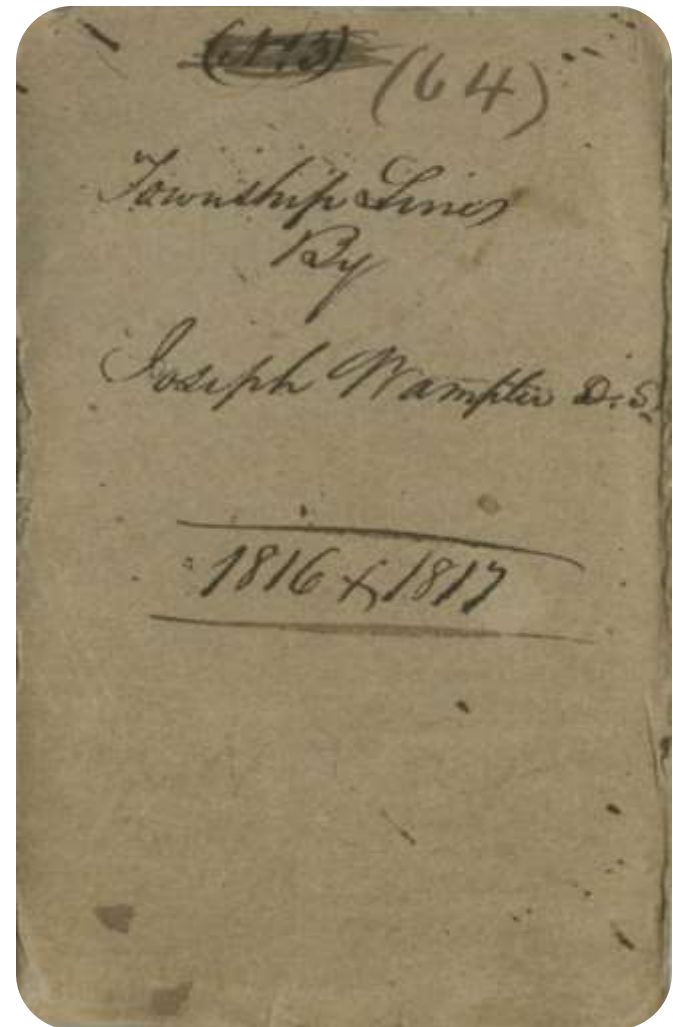
- LAKE/RIVER
- WET PRAIRIE
- SHRUB SWAMP/EMERGENT MARSH
- MIXED HARDWOOD SWAMP
- MIXED CONIFER SWAMP
- MIXED OAK FOREST
- OAK-HICKORY FOREST
- MIXED OAK SAVANNA
- BLACK OAK BARREN

Interpretations of General Land Office Surveys by P.J. Comer and D.A. Albert, Michigan Natural Features Inventory, 1997. With support from Michigan Natural Features Inventory, Michigan DNR, and Michigan State University Extension.



General Land Office (GLO) Survey

- Oakland Township and Avon Township (Rochester Hills) surveyed in 1817 by Joseph Wampler
- All survey documents shown are publicly available from the Michigan Archives: seekingmichigan.org



Currently the
area along
Dutton Rd. east of
Adams. Rd.

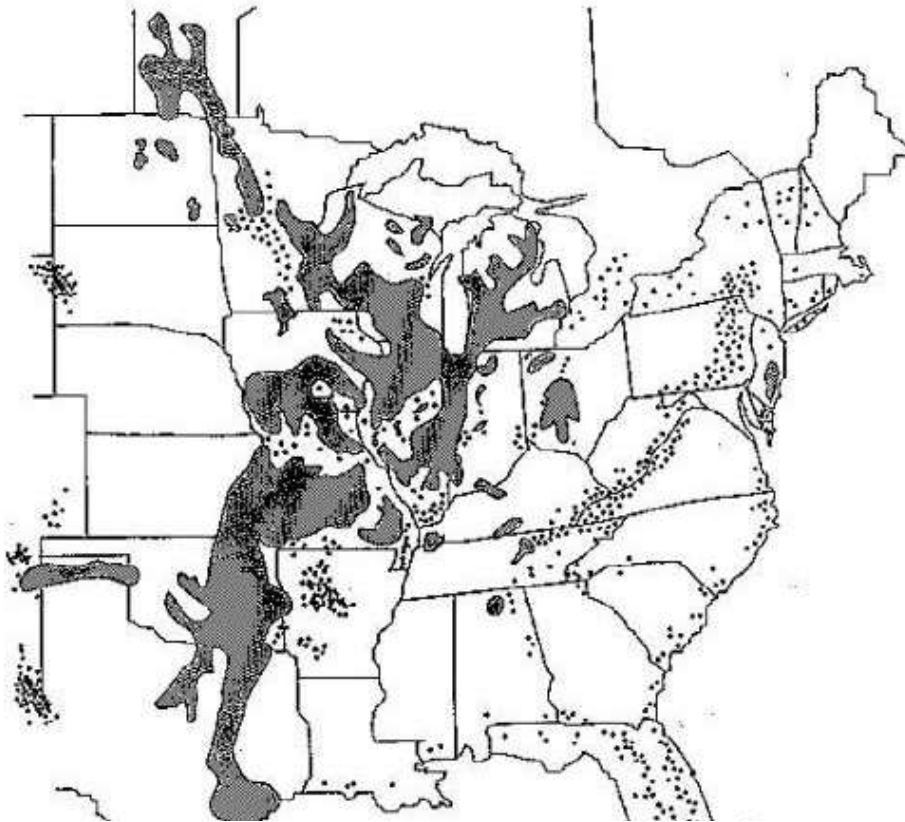
What happened to the prairies and savannas?

“It appeared to me the most beautiful the sun ever shone upon. It was of the character then beginning to be classed as ‘openings’ characterized by gravelly soil and a sparse growth of oaks and hickories.”

“I speak in the past tense, because, though the rural beauty of the country is still unrivaled, little remains of the original character of the openings.”

Dr. Bela Hubbard, describing the rapid conversion from savanna to forest on an 1872 expedition with Douglas Houghton near Pontiac.

Michigan grasslands in context



Estimated distribution of prairies (black) and savannas (gray) prior to European settlement (Nuzzo 1986)

- Over 99% loss of prairies and savannas since 1800
- Oakland County is on the north end of the Jackson interlobate
- Fire-dependent natural communities common

What happened to the prairies and savannas?

Goodison circa 1927

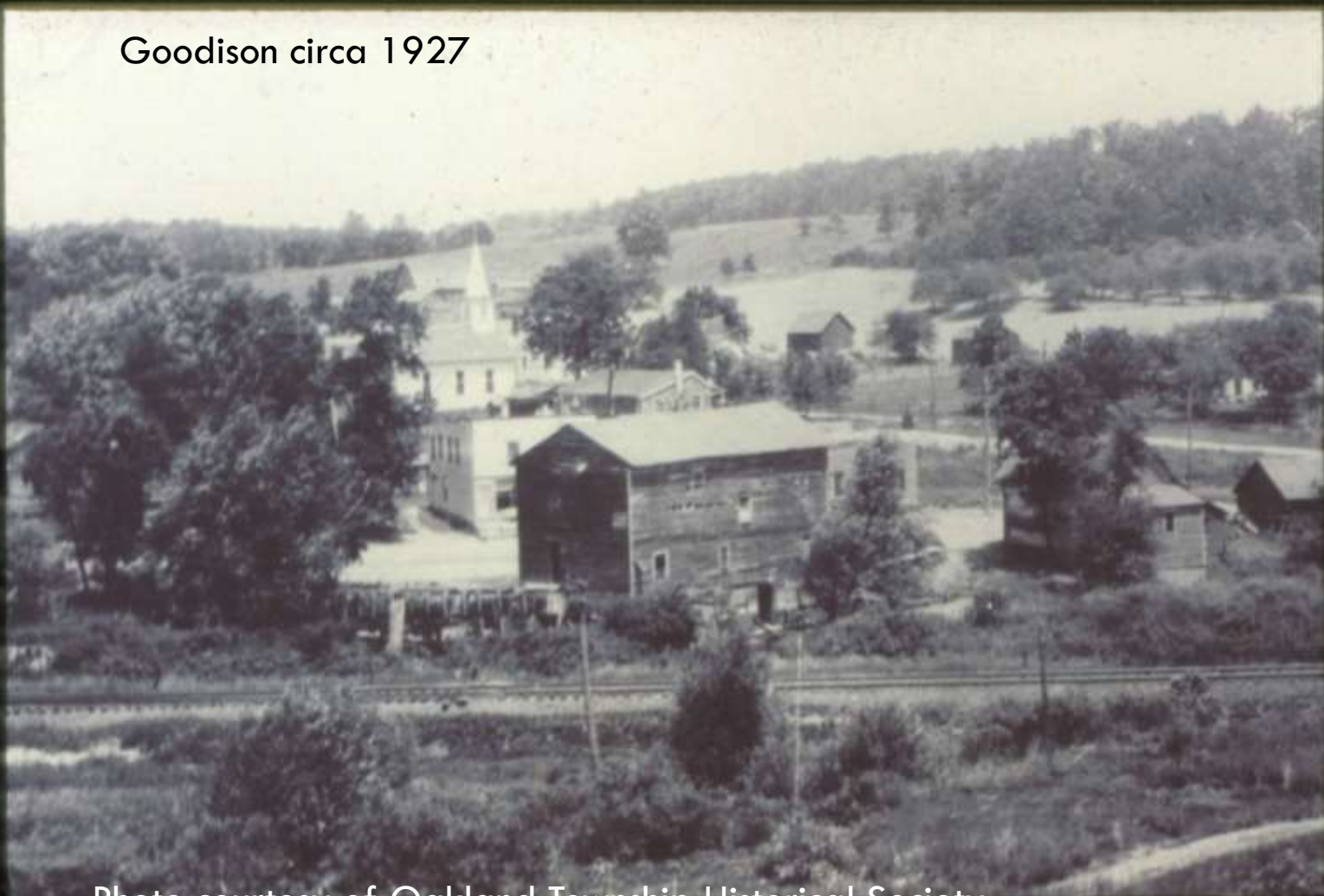


Photo courtesy of Oakland Township Historical Society

Priority Invasive Species Management

- ❑ Phragmites
- ❑ Japanese Knotweed
- ❑ Crown Vetch
- ❑ Swallow-worts
- ❑ Wild Parsnip
- ❑ Teasel
- ❑ Black Alder

Goal: eradicate or contain priority invasive species locally on park property



Oaks

534

Black
Cherry

456

Willow

455

Hickory

200

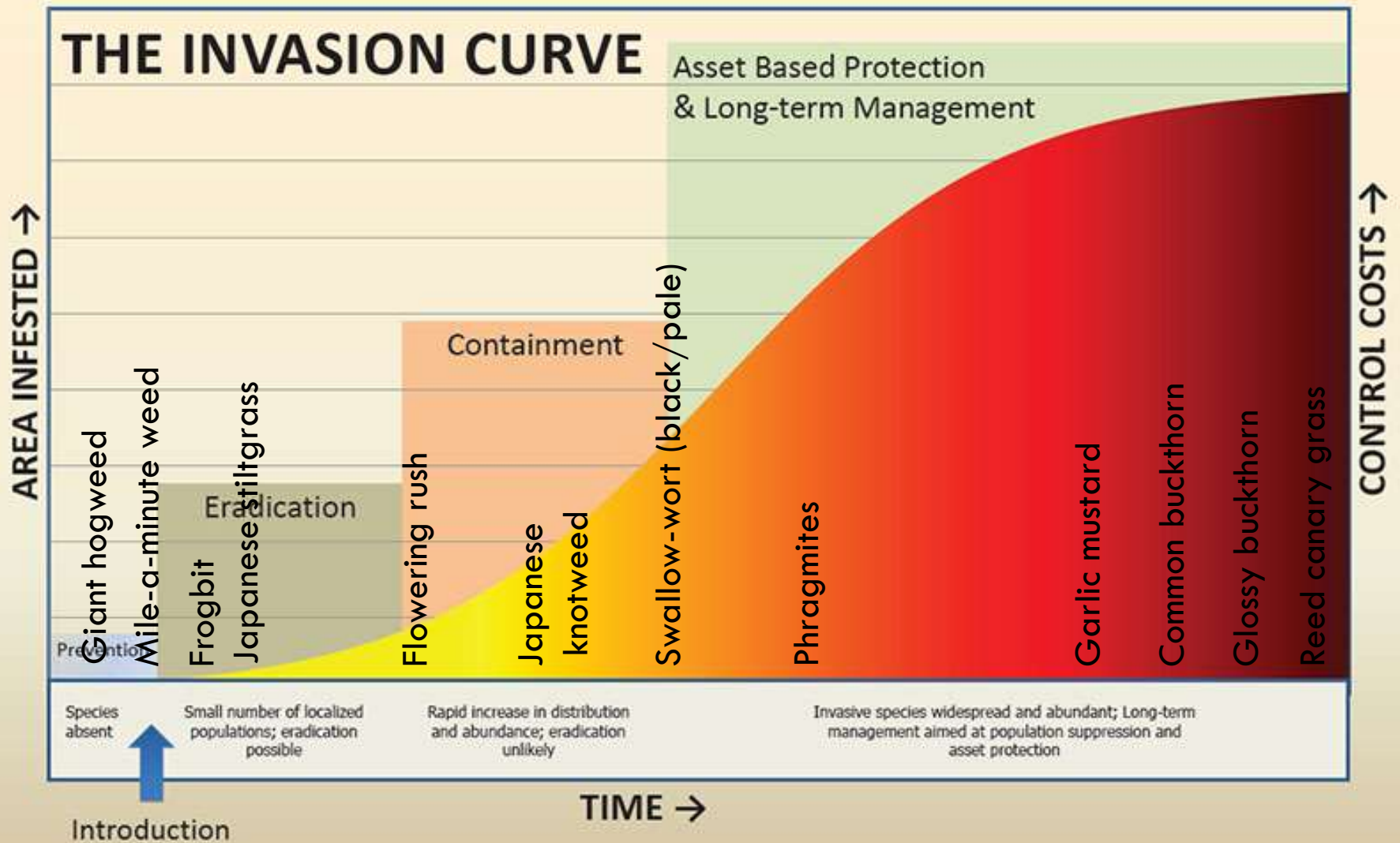
Maple

285

Callery Pear

22

THE INVASION CURVE



Treatment

Targeted
treatment
throughout the
growing season

- *Alliaria petiolata* - garlic mustard
- *Securigera varia* - crown vetch
- ◆ *Phragmites australis* - Phragmites/giant reed
- ★ *Cynanchum rossicum* - pale swallow-wort
- ★ *Cynanchum louiseae* - black swallow-wort
- *Polygonum cuspidatum* - Japanese knotweed



2020 Priority Invasive Species Work

- Only completed garlic mustard work in 4 areas – Wet Prairie, BCNP north, Blue Heron center, Lost Lake Nature Park
- Treated all known Phragmites, crown vetch, swallow-wort, teasel, parsnip, and Japanese knotweed
- Completed initial Phragmites treatment at Stony Creek Ravine Nature Park expansion







2021 Priority Invasive Species Plan

- Complete garlic mustard priority areas
- Treat all known Phragmites, crown vetch, swallow-wort, teasel, parsnip, and Japanese knotweed
- Lost Lake Nature Park Expansion Phragmites
 - ▣ Contractor treat several patches (very large, or in low-quality areas). Sites nominated with OC CISMA
 - ▣ Stewardship staff complete targeted treatment in high-quality areas and small patches

Ecological Restoration

- High-quality natural areas restoration
- Forestry mowing
- Prairie & wetland restoration/reconstruction



Paint Creek Heritage Area - Wet Prairie

- 10 acres
- 259 plant species
- FQI = 59.5
- State and globally imperiled wet/mesic prairie

October 25, 2004

Paint Creek Heritage Area - Wet Prairie: Invasive Shrub Control



October 21, 2006

Paint Creek Heritage Area - Wet Prairie:

Invasive Shrub Control



August 14 2007

Paint Creek Heritage Area - Wet Prairie:

Prescribed Fire



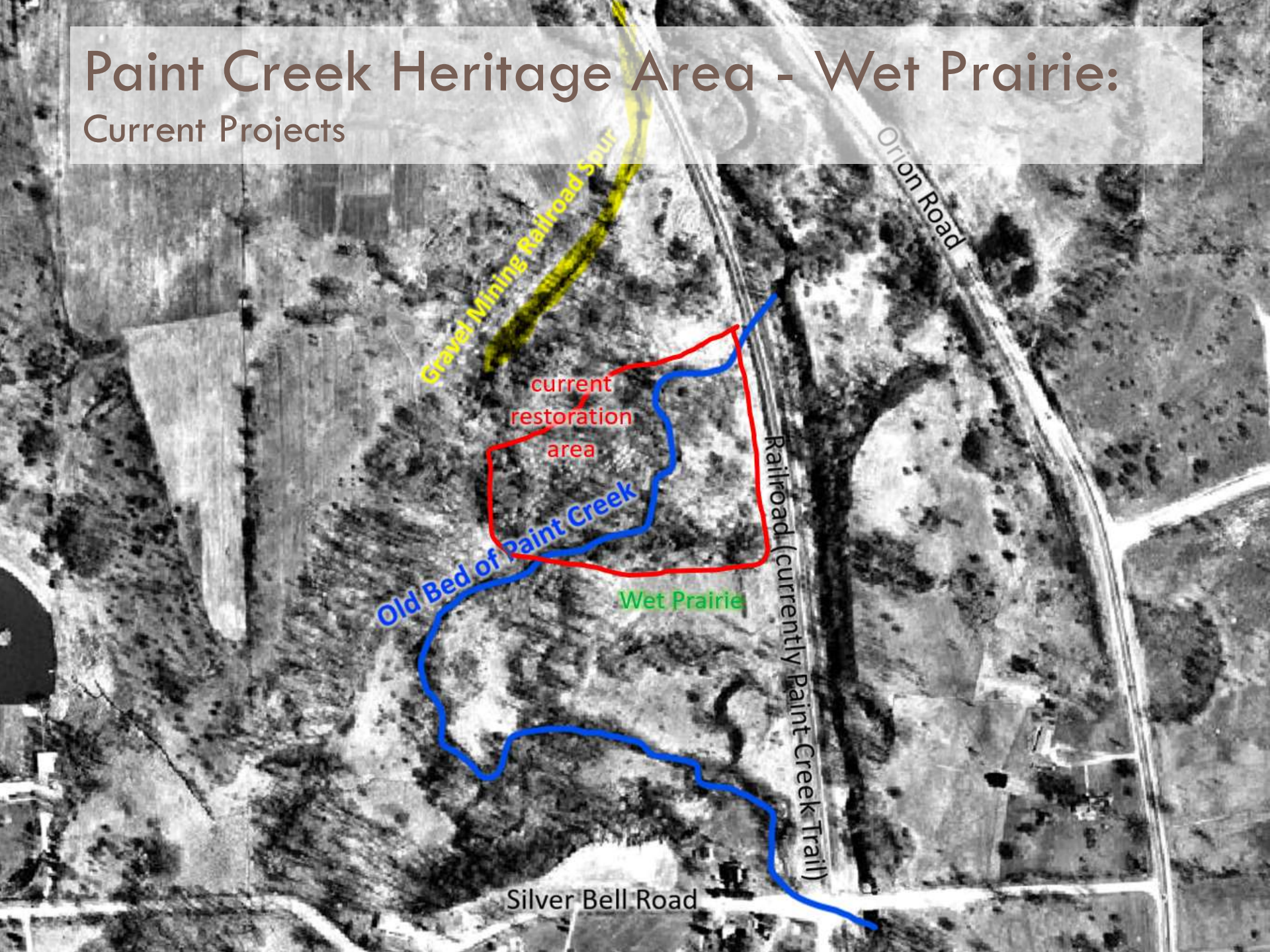
Prescribed fire at Paint Creek Heritage Area – Wet Prairie, November 5, 2014.

2020 High-Quality Areas Work

- Completed control of mature invasive shrubs, canopy thinning, and large fuels reduction at PCHA-Wet Prairie
- Hand-wicked cattails at PCHA-Fen
- Hand-pulled invasive shrub seedlings in oak-pine barrens at LLNP
- Targeted Phragmites treatment at SCRNP expansion

Paint Creek Heritage Area - Wet Prairie:

Current Projects



Whole tree removal



Canopy Thinning



Invasive shrub control



November 2020



February 2021

Paint Cree

et Prairie



Paint Cree

2021 High-Quality Areas Plan

- Complete follow-up spot treatment of invasive shrubs in north unit at Wet Prairie
- Hand-wick cattails at PCHA-Fen
- Complete prescribed burns as planned at Wet Prairie, Lost Lake, Watershed, Charles Isley Park, Paint Creek Trail Units
- Begin initial treatment of Phragmites and invasive shrubs in fen and bog at Lost Lake Nature Park expansion

Forestry Mowing



Bear Creek Nature Park - North

A photograph of a dirt path leading through a wooded area. The path is covered in fallen leaves and grass. The trees and bushes are in various stages of autumn, with some showing vibrant red and orange foliage. The sky is visible in the background, showing a mix of blue and white clouds.

Before:
Nov 2018

Before:
Aug 2018



BCNPII
8-6-18

Before:
Nov 2018



During:
Dec 2018



After:
Dec 2018



After:
Sept 2019



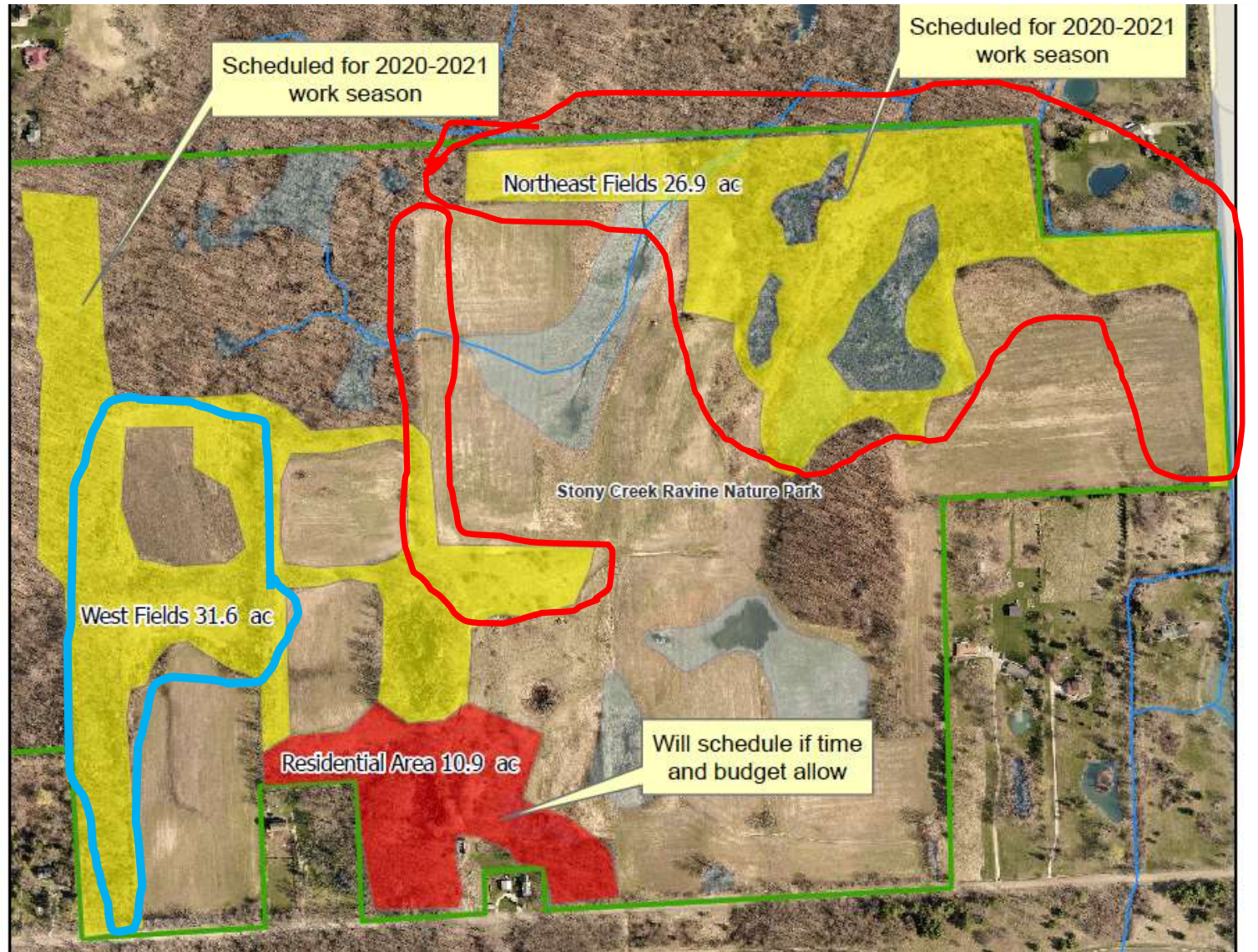
After:
Aug 2020

Oops, cut down the
reference tree



2020 Forestry Mowing

Completed
about 30
acres at Stony
Creek Ravine
Nature Park in
2020

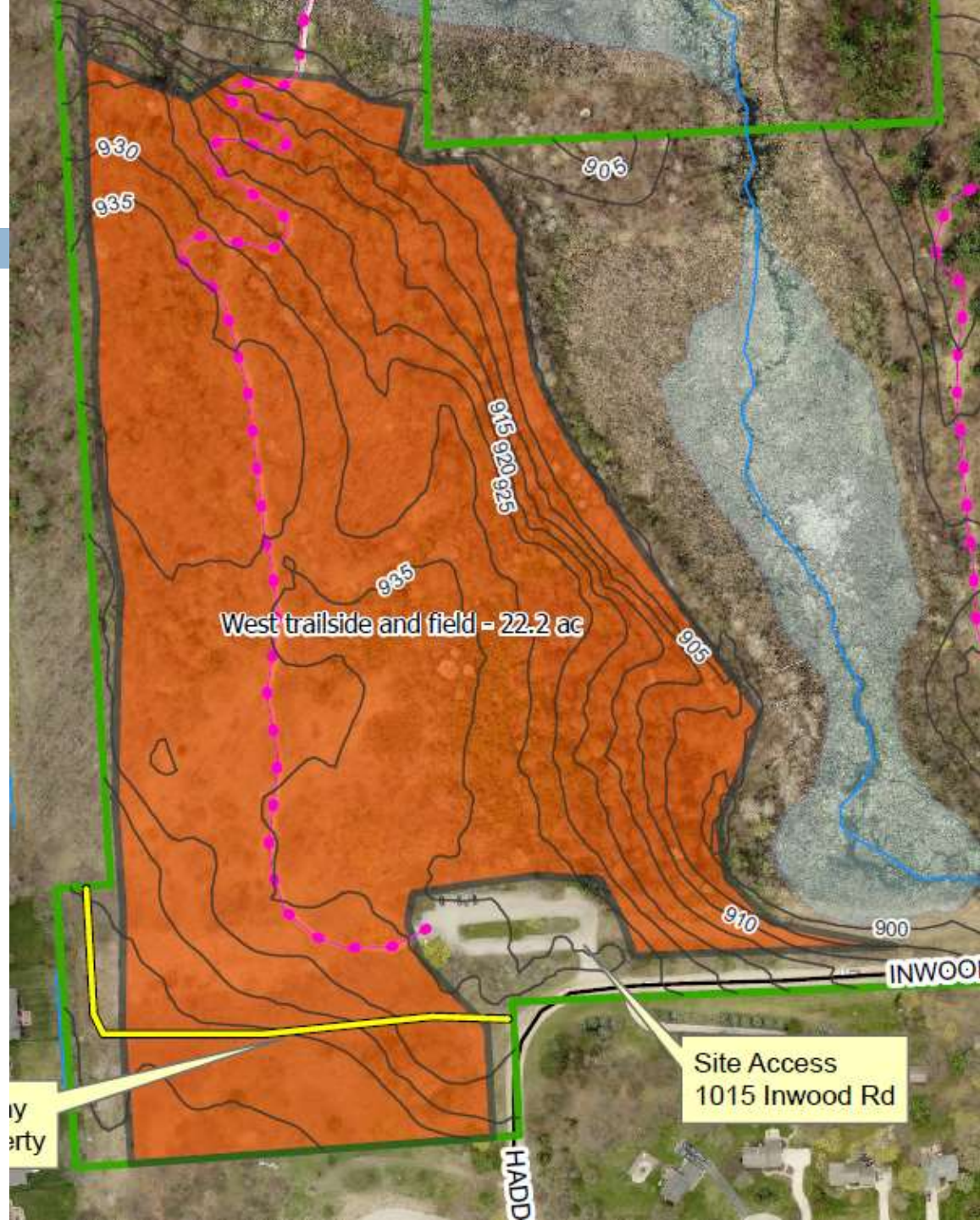


2020 Forestry Mowing – Stony Creek Ravine



2020 Forestry Mowing

- About 22 acres on the west side of Draper Twin Lake Park

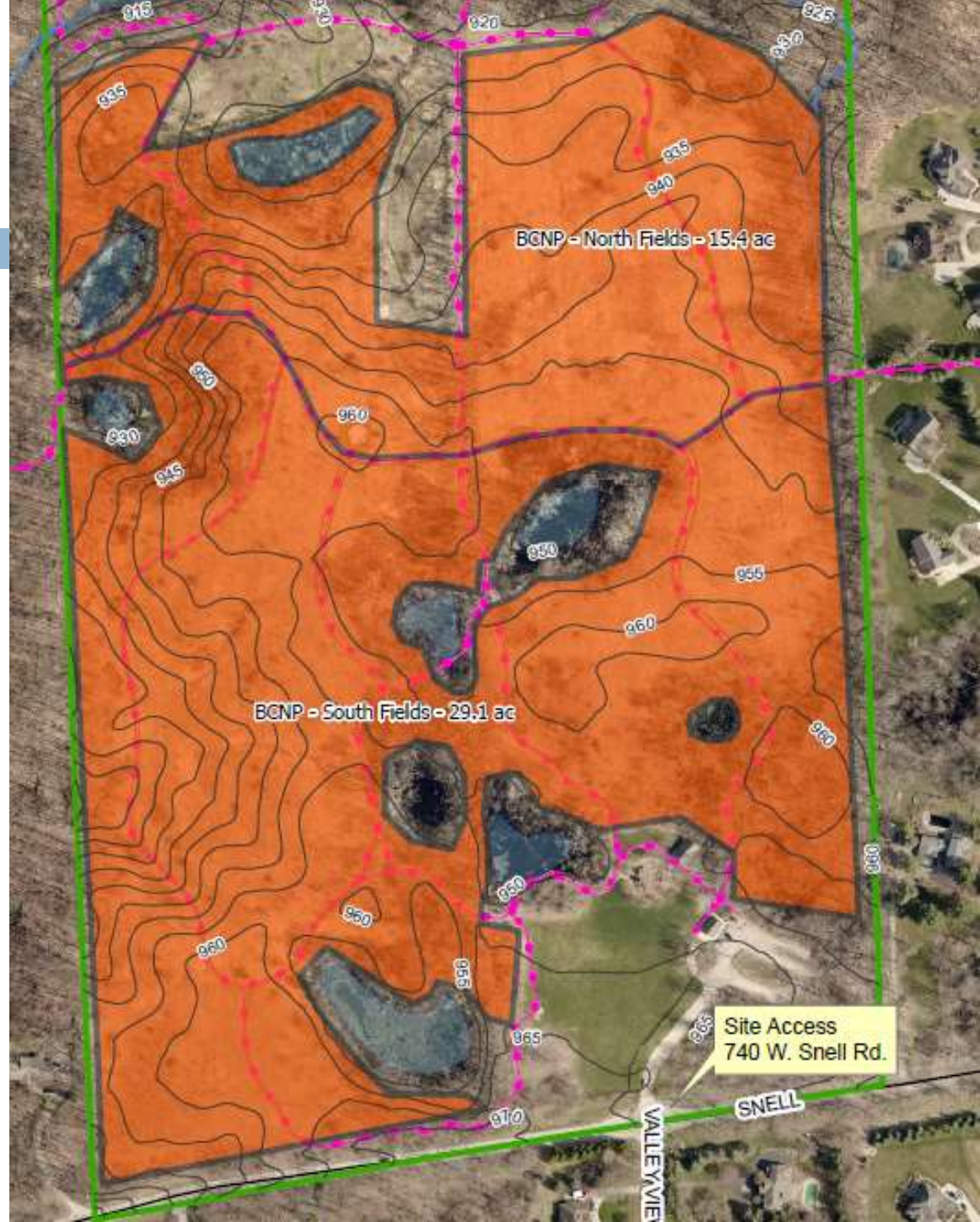


2020 Forestry Mowing
Draper Twin Lake Park



2020 Forestry Mowing

- Southern and central fields at Bear Creek Nature Park
- Did not complete thick shrub areas around ponds

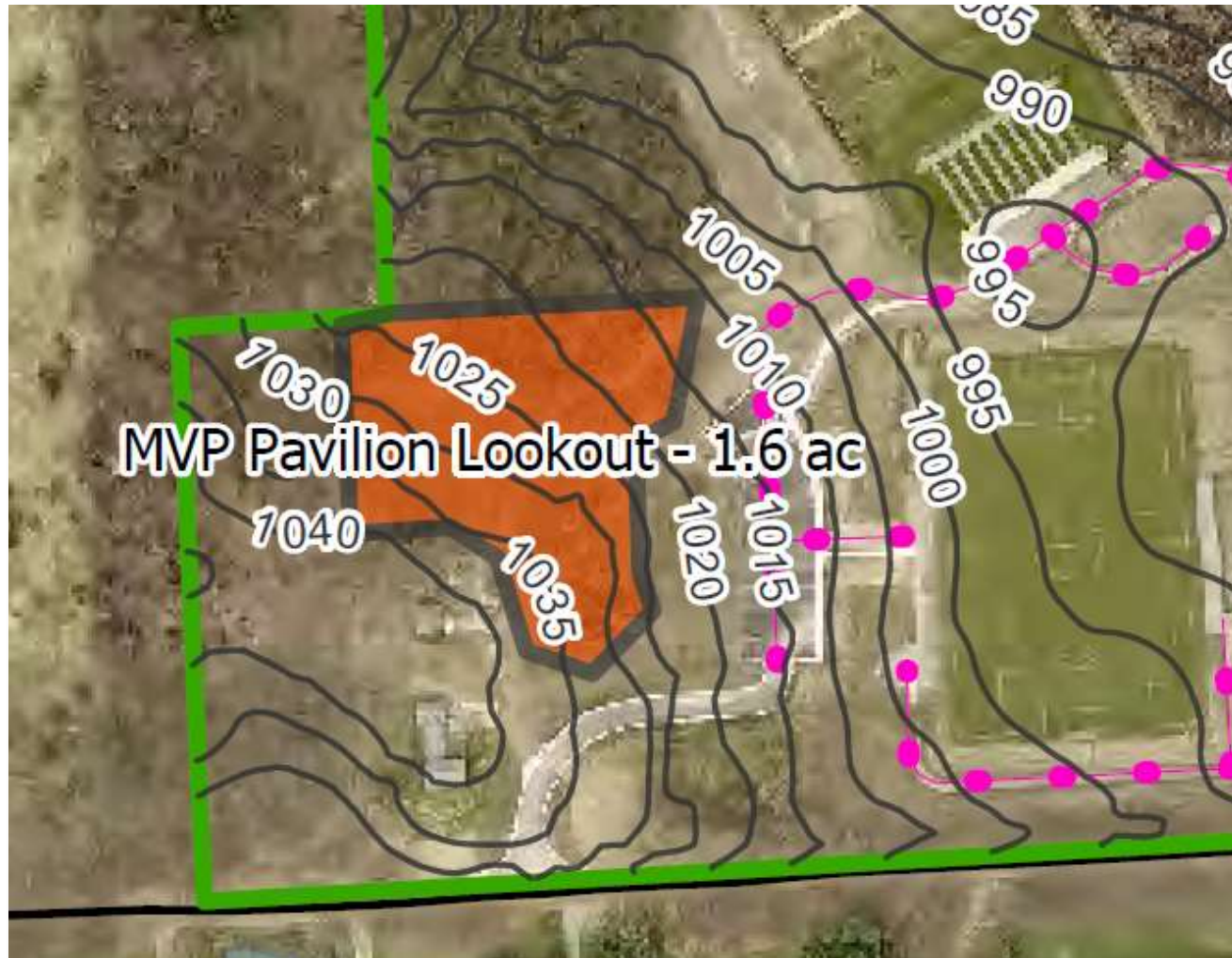


2020 Forestry Mowing Bear Creek



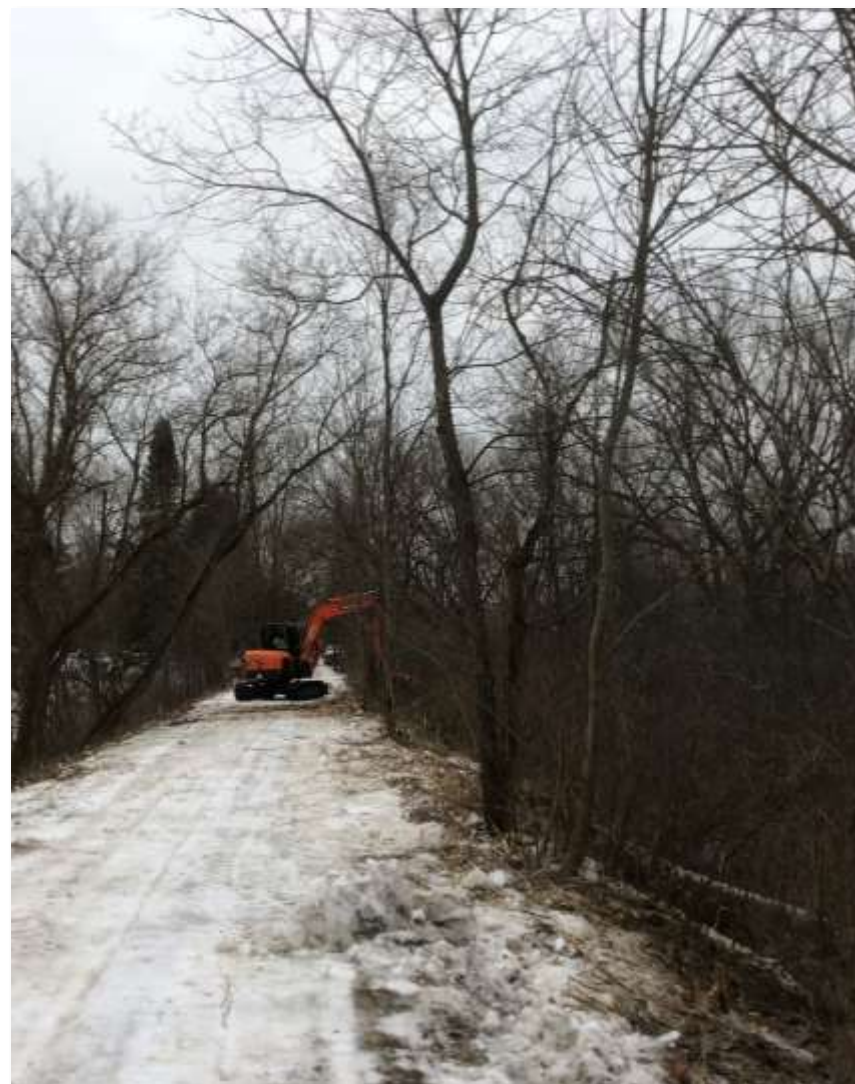
2020 Forestry Mowing

Marsh View Park Pavilion Overlook



2020 Forestry Mowing

Paint Creek Trail & Mill Race Trail



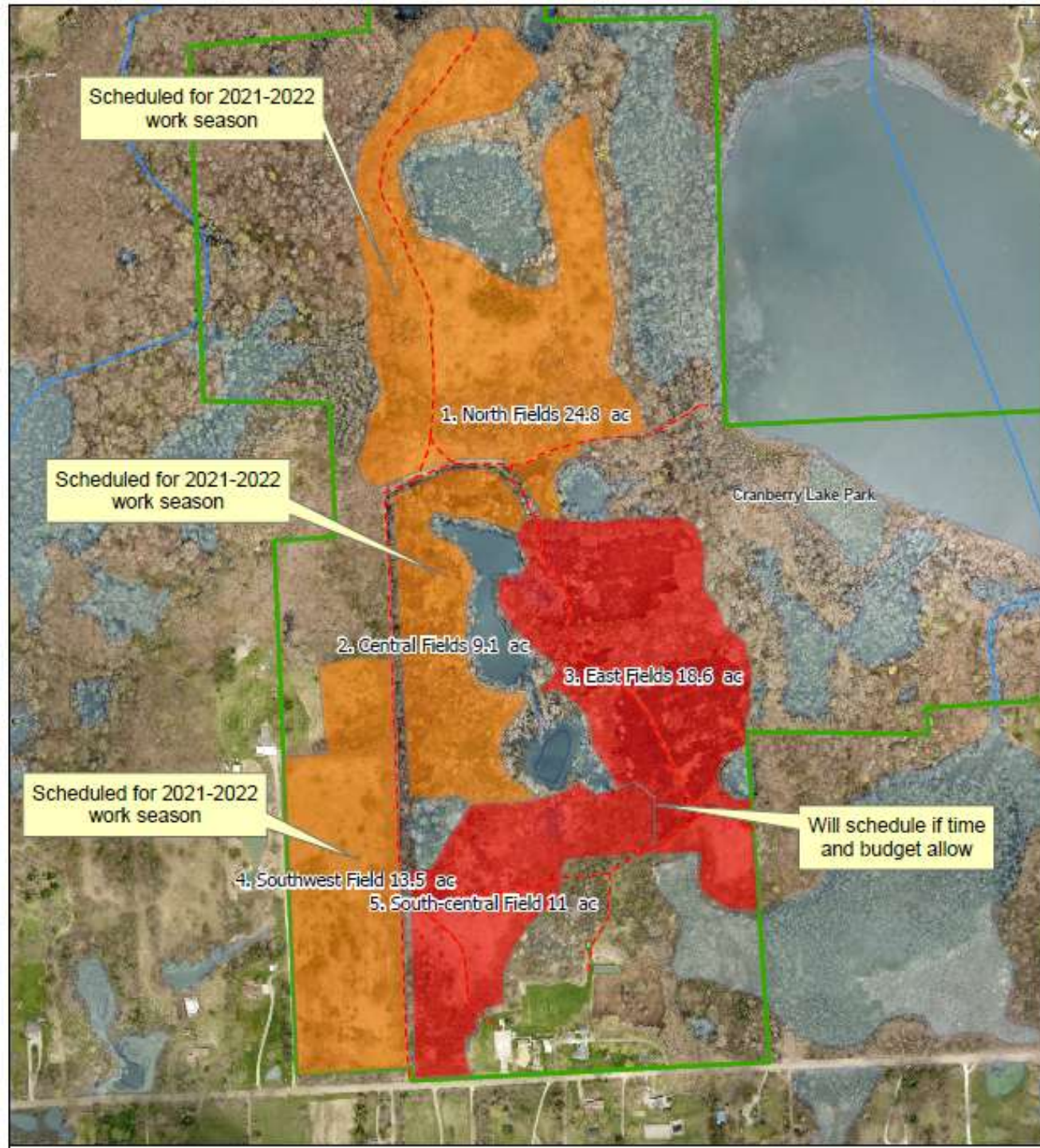
2020 Forestry Mowing

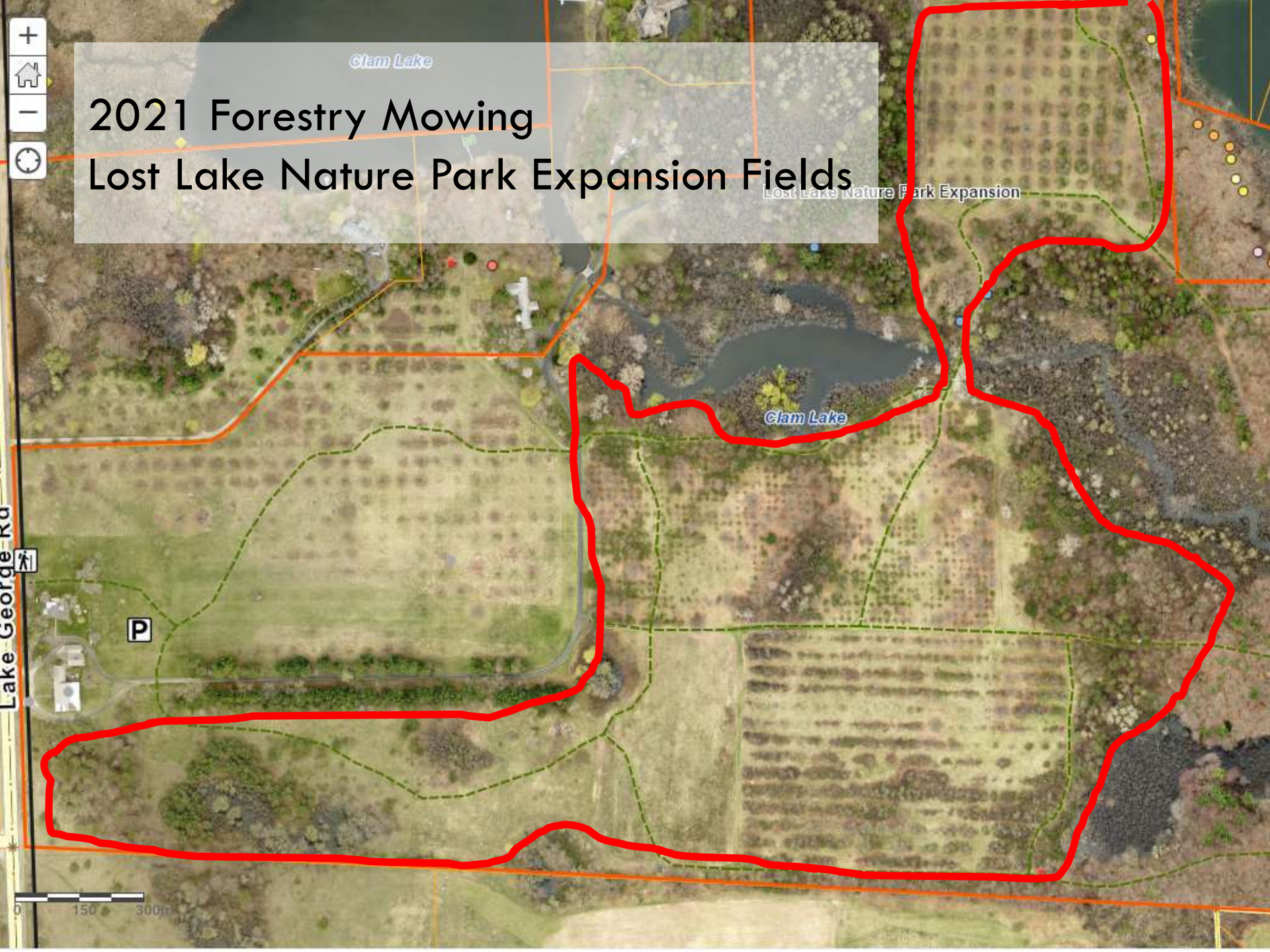
Spot treated
invasive shrub
resprouts in
prior forestry
mowing areas
at BCNP, SCRNP,
DTLP, PCT, MRT



2021 Forestry Mowing Plans

- Complete scheduled work at Cranberry Lake Park (right)
- Finish areas at Stony Creek Ravine Nature Park
- Complete follow-up spot treatment at SCRNP, BCNP, MVP, MRT, PCT





2021 Forestry Mowing Lost Lake Nature Park Expansion Fields

Clam Lake

Lost Lake Nature Park Expansion

Clam Lake

Lake George Rd

P

0 150 300m

Prairie & Wetland Restoration



Collecting Native Seed



Collecting seed at Paint Creek
Heritage Area – Wet Prairie, 2014

Installing Native Seed



Installing Native Seed



Charles Ilsley Park, July 2018



2020 Prairie & Wetlands Restoration

- ❑ Finalized grant agreement with USFWS for work at BHEA, WRP, and SCRNP
- ❑ Completed earthmoving at BHEA and WRP
- ❑ Postponed planting at SCRNP



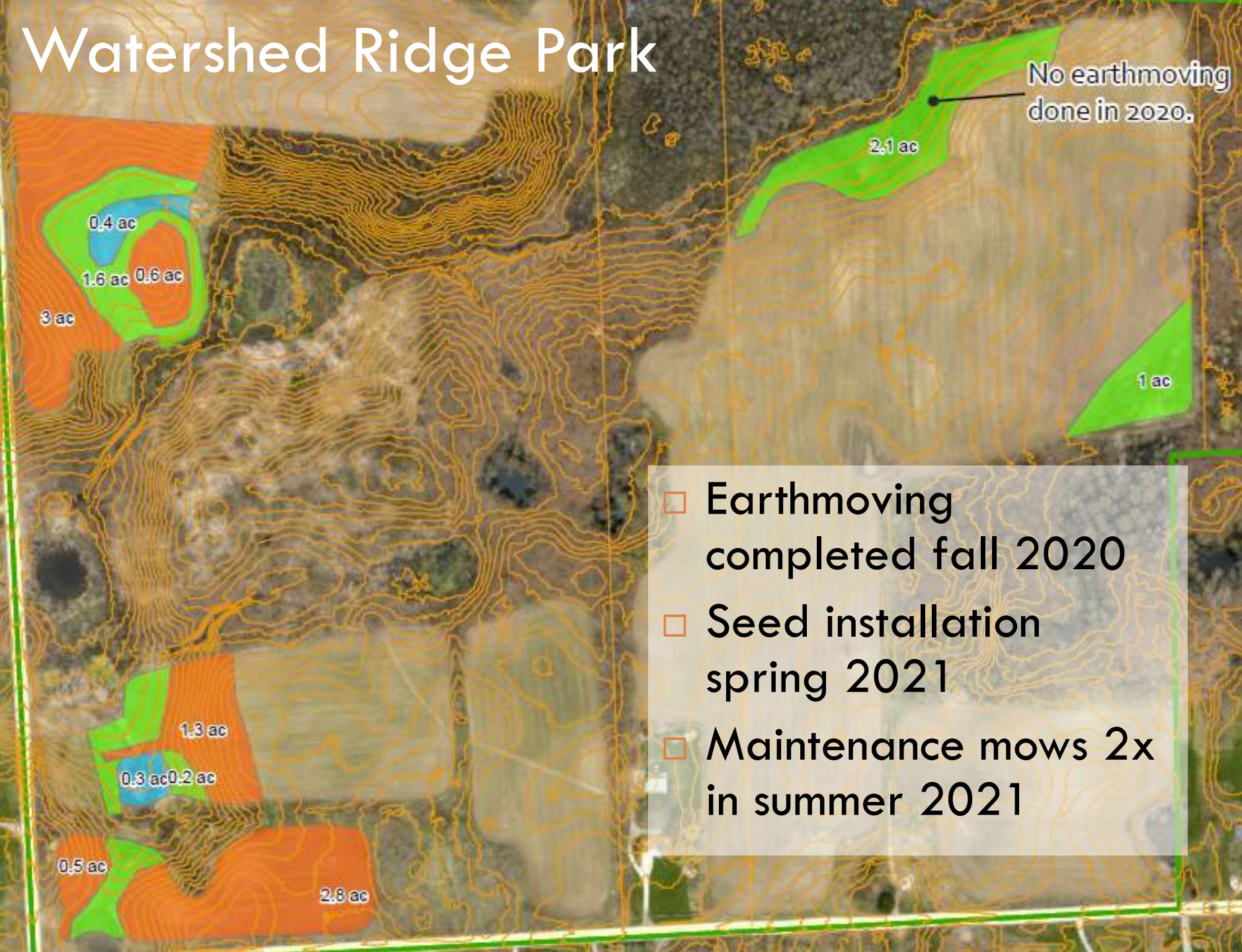
Blue Heron Environmental Area



- Earthmoving completed fall 2020
- Seed installation spring 2021
- Maintenance mows 2x in summer 2021



Watershed Ridge Park



- ❑ Earthmoving completed fall 2020
- ❑ Seed installation spring 2021
- ❑ Maintenance mows 2x in summer 2021

Wetland Restoration





Oakland Township Stony Creek Ravine Nature Park Project

2020:
NWSG Restoration: 23.6 acres

2021:
NWSG Restoration 18.9 acres
Wetland pushout

2022:
NWSG Restoration: 21.1 acres
Wetland pushout


2021 NWSG
18.9 acres
Wetland shallow pushout

2020 NWSG
23.6 acres

2022 NWSG
21.1 acres
Wetland shallow pushout

Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNR/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

 Property Boundary

 Wetland Pushout

Michigan Private Lands Office
Partners for Fish and Wildlife Program



2021 Prairie & Wetland Restoration

- Install seed at BHEA and WRP in spring
 - ▣ Maintenance mow 2x in summer
- Prep 2021 planting areas at Stony Creek Ravine Nature Park and install seed in the fall



Monitor

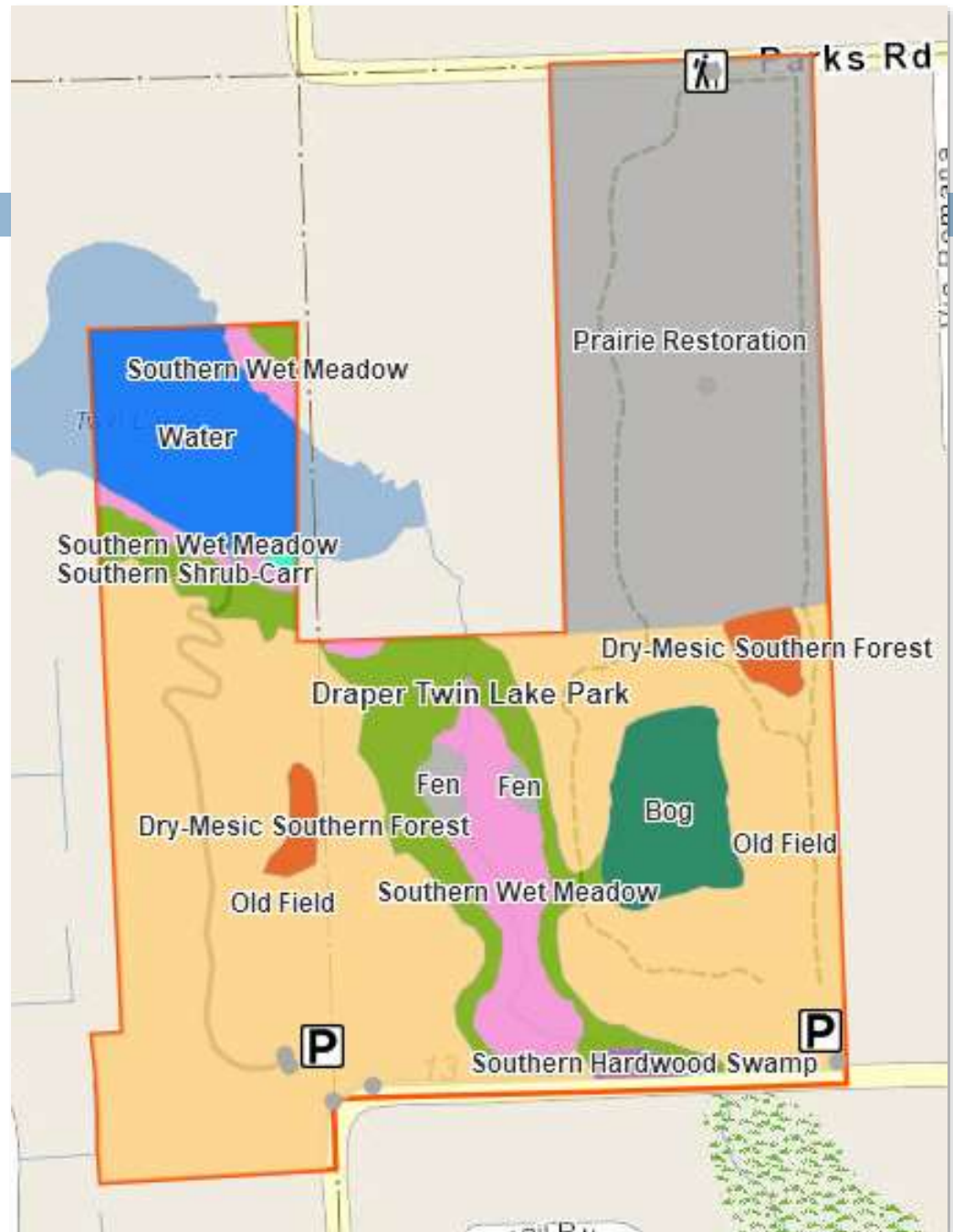
Document baseline and changes

Botanical Inventories

Park	Acres	1st Survey Year	2020s Survey Year (Adjusted 10 yr interval)	2030s Survey Year (10 yr interval)	Total Spp	No. Native	No. Non-native	Total FQI
Draper Twin Lake Park	Row Labels <input type="button" value="▼"/> Count of 2020s Sum of Acres						86	45.2
Charles Ilsley Park							15	30.5
Cranberry Lake Park	2020		1		90		37	42.6
Bear Creek Nature Park	2021		2		333		41	39.7
Marsh View Park	2022		2		203		40	24.6
Blue Heron Environmental Area	2023		2		139.5		6	48.5
PCHA - Fen	2024		2		25		38	29.9
Gallagher Creek Park	2025		2		268		61	31.9
O'Connor Nature Park	2026		3		20		67	37.9
Stony Creek Ravine (208 ac Expansion)	2027		3		298		76	50.6
Stony Creek Ravine Nature Park (original)	2028		2		170.5		39	46.05
Kamin Easement	2029		4		11.5		40	36.8
Nicholson Prairie	(blank)						32	28.8
PCHA - Wet Prairie	Grand Total						38	56.2
Lost Lake Nature Park Expansion							52	58.7
Lost Lake Nature Park							20	41.9
Other Paint Creek Trail ROW habitats								
Paint Creek Trail - Art Project							21	20.9
Watershed Ridge Park							41	43.6
Mill Creek Crossing							34	23
Mill Race Trail							39	20.4
Paint Creek Junction	5.5	2019	2029	2039	114	88	26	25.6
Paint Creek Trail Parcel	2.5	2017	2029	2039	73	47	26	14.5

2020 Botanical Inventory Draper Twin Lake Park

- Total FQI = 45.2
- 280 plant species
 - ▣ 194 native
 - ▣ 86 non-native
- Documented **fen** and kettle **bog** on property (not in 2010 mgt plan)



Special Survey Efforts

- Targeted surveys to document species of interest
 - ▣ Reptiles
 - ▣ Insects
 - ▣ Threatened and Endangered Plants



2020 Pollinator Surveys

- Established butterfly monitoring routes
 - ▣ Draper Twin Lake Park
 - ▣ Charles Ilsley Park
- Black lighting for moths
 - ▣ Gallagher Creek Park
 - ▣ PCHA – Wet Prairie



Photo Monitoring

Photo Monitoring Planning Sheet

Natural Areas Stewardship
Oakland Township Parks Recreation

Park	No. Points	Target Frequency	2019	2020	2021	2022	2023	2024	2025
Bear Creek Nature Park	12	Biennially		Yes		Planned		Planned	
Blue Heron Environmental Area	9	Biennially	Yes		Planned		Planned		Planned
Charles Ilsley Park	10	Annually	Yes	Yes	Planned	Planned	Planned	Planned	Planned
Cranberry Lake Park	5	Biennially		Yes		Planned		Planned	
Draper Twin Lake Park	5	Annually	Yes	Yes	Planned	Planned	Planned	Planned	Planned
Gallagher Creek Park	6	Annually	Yes	Yes	Planned	Planned	Planned	Planned	Planned
Kamin Conservation Easement	4	Biennially		Yes		Planned		Planned	
Lost Lake Nature Park	15	Biennially	Yes		Planned		Planned		Planned
Paint Creek Junction	3	Triannually				Planned			Planned
Paint Creek Parcel	0	Every 5 years	Yes					Planned	
Marsh View Park	8	Biennially		Planned		Planned		Planned	
Mill Race Trail	3	Triannually			Planned			Planned	
Mill Creek Crossing	2	Triannually			Planned			Planned	
Nicholson Prairie	3	Biennially		Yes		Planned		Planned	
O'Connor Nature Park	4	Biennially		Yes		Planned		Planned	
Paint Creek Heritage Area - Fen	3	Biennially		Yes		Planned		Planned	
Paint Creek Heritage Area - Wet Prairie	5	Biennially	Yes		Planned		Planned		Planned
Paint Creek Junction	3	Biennially		Yes		Planned		Planned	
Paint Creek Trail - Art Project	3	Triannually			Planned			Planned	
Paint Creek Trail - Right-of-Way	10	Triannually			Planned			Planned	
Stony Creek Ravine Nature Park	6	Biennially	Yes		Planned		Planned		Planned
Watershed Ridge Park	10	Biennially	Yes		Planned		Planned		Planned

Gallagher Creek Park

Photo Monitoring

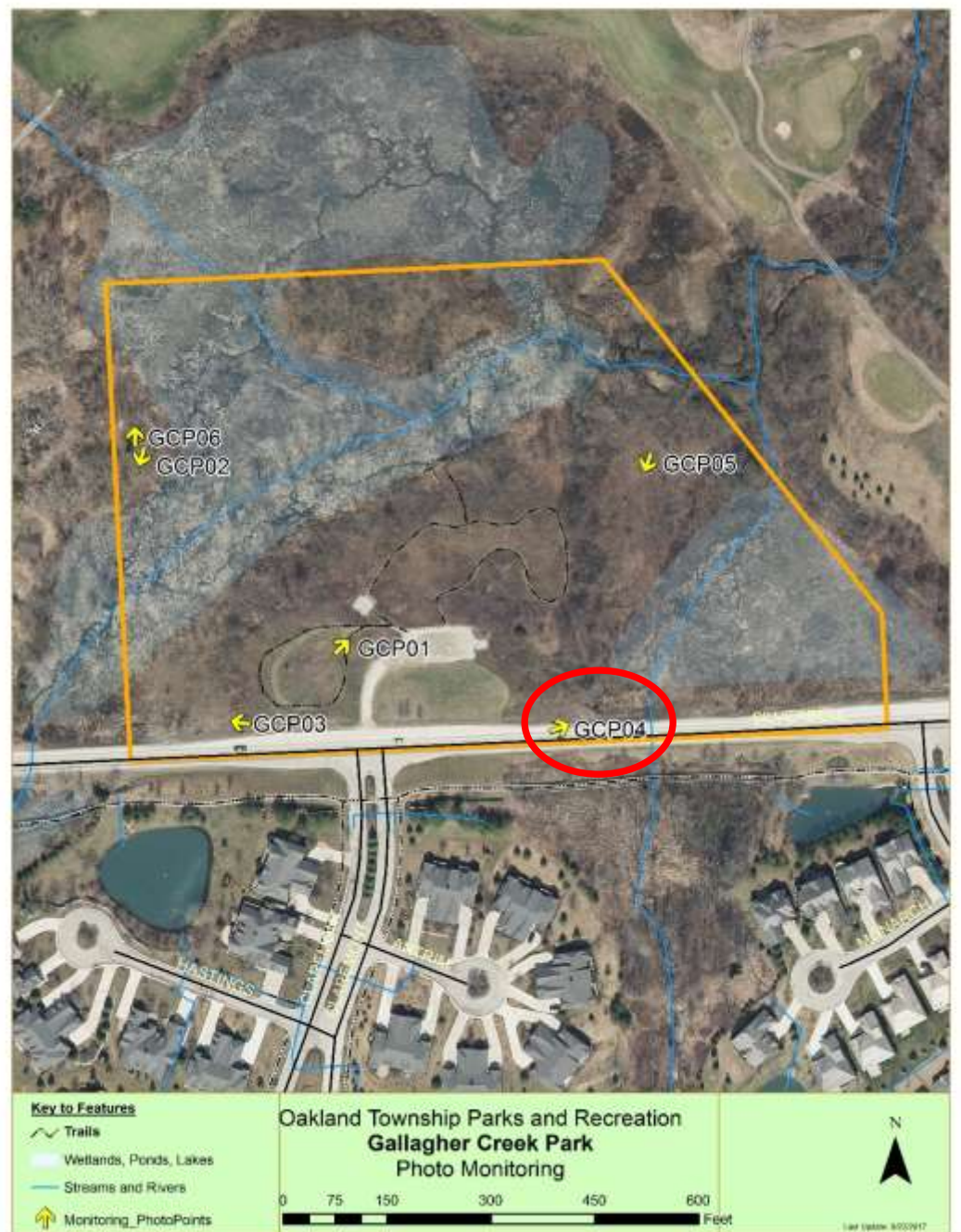


Photo Monitoring GCP04

2011



08/30/2011 14:29

2012



2013



2014

28.08.2014 10:46

Fall 2014 Chemical Control



Photo: Great Lakes Phragmites Collaborative

Prescribed Burn Spring 2015



2016

09.14.2016 01:41



2017

09.06.2017 02:37



2019

08 20 2019



2020

25-08-2020 13:26



Gallagher Creek Park Phragmites Treatment



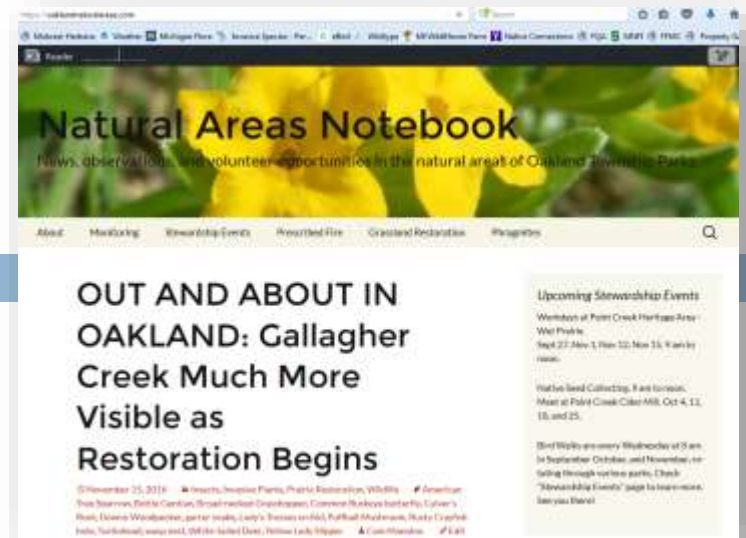


Outreach

Building Community Around Our Ecological
Restoration Work

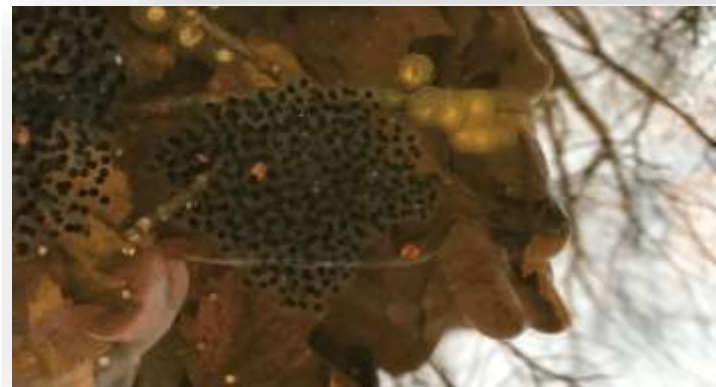
Outreach Initiatives

- Natural Areas Notebook
oaklandnaturalareas.com
- Volunteer Workdays
- Park Stewards
- Prescribed Fire Volunteer Crew
- Prescribed Fire Outreach Program
- Wednesday Bird Walks
- Winter Stewardship Talks
- Parks Seasonal Newsletters
- Phragmites Outreach Program



Partnerships

- ❑ Oakland County Cooperative Invasive Species Management Area (OC CISMA)
- ❑ Oakland University Faculty
- ❑ Michigan Vernal Pools Partnership



Prescribed Fire Volunteer Crew

- Training annually in February
- Assist with implementing prescribed fire



Phragmites Outreach Program

- Assist private landowners with Phragmites treatment
 - ▣ Screen contractors
 - ▣ Handle MDEQ aquatic nuisance control permit
 - ▣ Provide technical assistance

Need Help with Invasive Phragmites?

New Phragmites Treatment Program

The Program is Simple

We're excited to announce the new Phragmites Outreach Program for park neighbors! **This large, invasive grass takes over and does not recognize property boundaries!** We reduce the hassle for you by securing needed permits, qualifying contractors, and coordinating treatment work. Proper treatment can kill 80 to 95% of Phragmites in the first year! **Application deadline is August 1.**

1. **Get a no-obligation cost estimate** from our professional contractor
2. **Agree to treatment** once you receive the estimate
3. **Pay** for your treatment

Get started by filling out the No-Obligation Cost Estimate form at oaklandtownship.org.



Burning, pulling, and mowing will not kill Phragmites! Up to 80% of the plant is belowground!

2020 and 2021 Outreach

- 2020 - Able to continue all outreach initiatives, modified for COVID-19 precautions
- 2021 – Continue to build on existing outreach programs





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