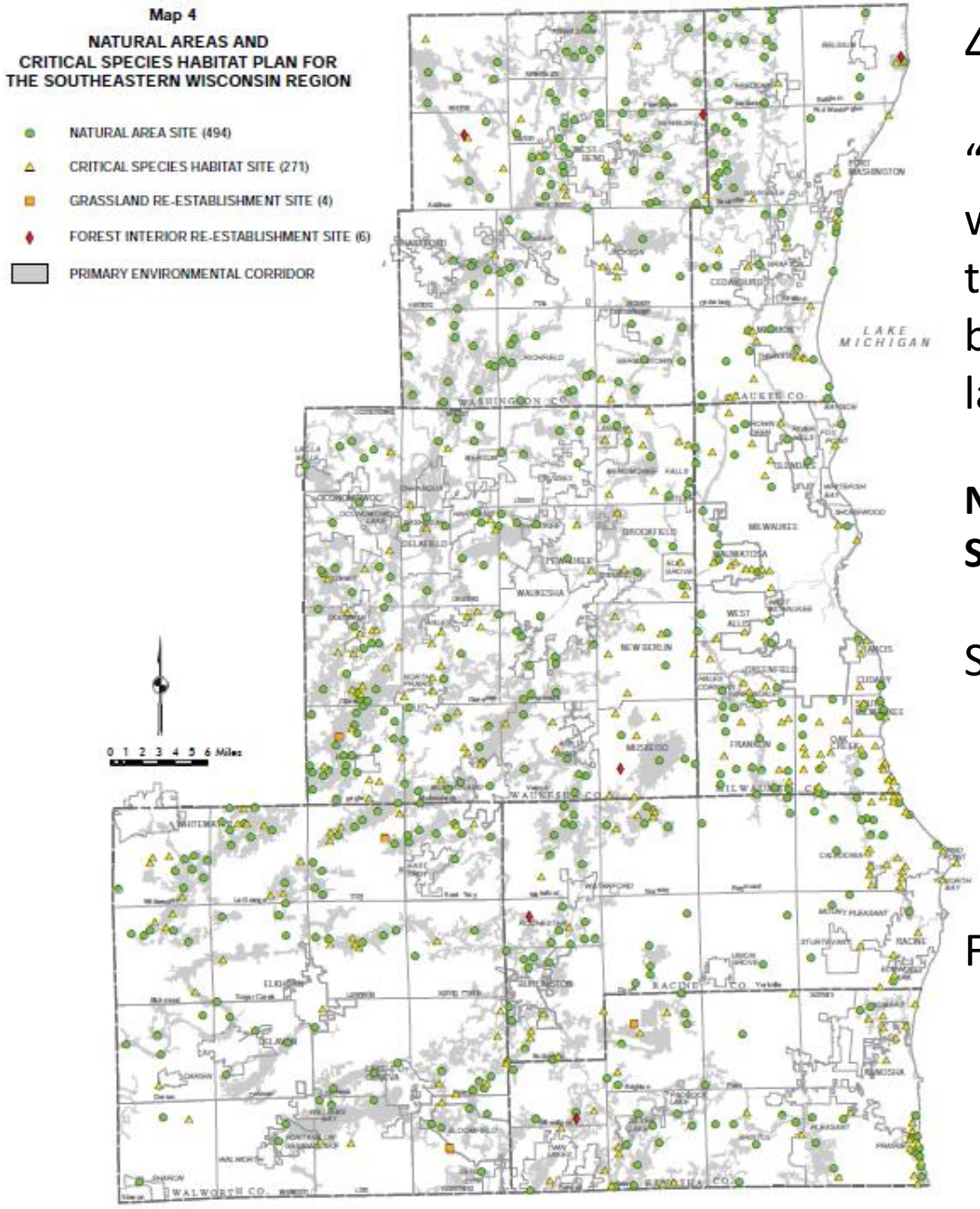
Natural Areas Technical Advisory Committee Meeting

Dr. Daniel Carter

September 23, 2019



494 Natural Areas Cover 101 Square Miles as of 2010

"Tracts of land and water so little modified by human activity, or which have sufficiently recovered from the effects of such activity, that they contain intact native plant and animal communities believed to be representative of the pre-European-settlement landscape."

Not to be confused with Isolated Natural Resource Areas, which are a SEWRPC corridor designation.

Sites are Ranked

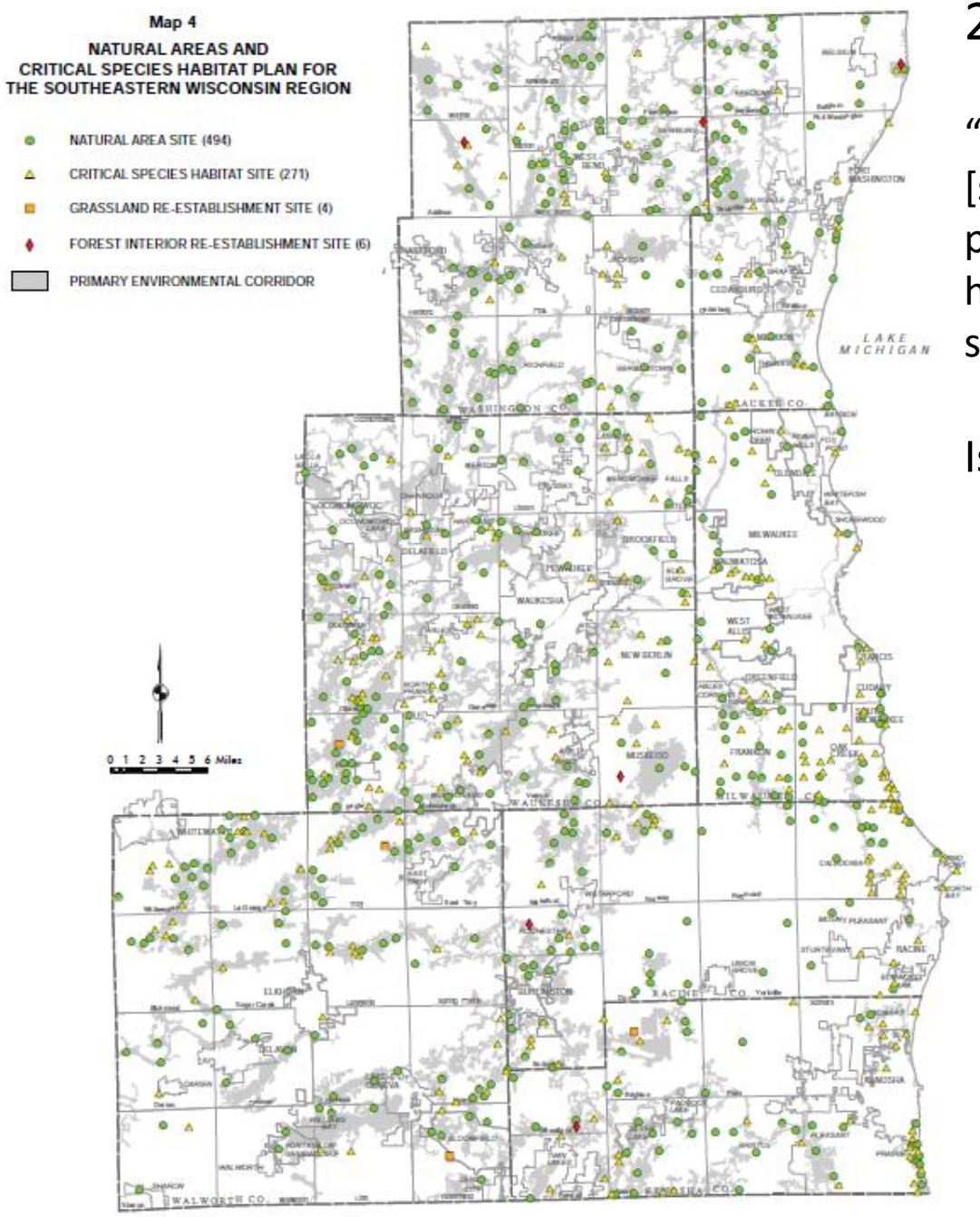
- NA-1: Statewide or greater significance
- NA-2: Countywide or regional significance
- NA-3: Local significance

Factors in ranking and designation include:

- Biodiversity
- Natural communities present and their rarity
- Structural and ecological integrity
- Extent of human disturbance

You can find a more detailed case for natural areas preservation on page 10 of the 2010 amendment to the Natural Areas Plan, but:

- These sites are where SE Wisconsin's biodiversity resource is.
- These sites support research and are fundamental to any restoration efforts we undertake.
- Aesthetic values should not be understated. Natural beauty is much of what engages people with nature. Degraded natural resources disengage people.



271 Critical Species Habitat Sites as of 2010

"Tracts of land or water which support Federally or State-listed rare [special concern or species of concern], threatened, and/or endangered plant or animal species as defined by State or Federal agencies. These habitats include abiotic and biotic factors necessary for the long-term support of the critical species population."

Issues for later discussion:

- There are so many species across taxonomic groups that qualify as critical species, that almost all open space with any level of survey effort supports least one critical species. It's not just plants. We have lichens, reptiles, breeding birds, insects, crayfish, etc. While rare, many of these utilize degraded natural communities, and some even utilize urban or residential areas.
- We are getting more information now, which is good, but there is so much of it that data curation is a huge problem.
- The WDNR Natural Heritage Inventory should be a central repository of this information, but important stakeholders find that information difficult to access, and many observations are not reported.

Barloga Woods: Natural Area of Local Significance (NA-3)
Level of Protection: High (Conservation Ownership with Site Management Plan)
Level of Threat: Medium (Invasive Species)

Size	64 Acres
Ownership	Milwaukee County
Site Management Plan	Yes
Number of Native Plant Species	134
Endangered, Threatened, or Special Concern Species	Yes, Plant and Animal

Formerly known as Esch-Honadel Woods, this remnant of the pre-European Beech-Maple hardwood forest and hardwood swamp was renamed in honor of the late local botanist and conservationist, Richard Barloga, whose efforts led to the recognition and preservation of many irreplaceable remnant communities in the Milwaukee area. Barloga Woods boasts a rich display of spring ephemeral wildflowers, with toothwort (*Cardamine concatenata*) and spring beauty (*Claytonia virginica*) in particularly high abundance. Several rare plants and animals are known to occur here, and many bird species have been observed, particularly during migration.

While most of the woods is protected, a small portion adjacent to Interstate High 94 was lost in the early 2010s with the redevelopment of a Drexel Avenue on-ramp. However, invasive species present an ongoing threat, and surrounding residential properties are potential sources of introduction. The 2016 SEWRPC survey discovered such a case; extremely invasive lesser celandine (*Ficaria verna*) was spreading from residential properties into a portion of the woods near a tributary to Oak Creek. Since that time, Milwaukee County has been working to address that particular threat.

A large opportunity to reconstruct forest habitat exists on County-owned agricultural land immediately to the north of the portion of the woods east of S. 20th Street. This would buffer the remnant community, increase interior habitat, and reduce the erosion of sediments into a tributary of Oak Creek that flows along the northern boundary of County property. Restoration of or the maintenance of a 250 meter buffer of open lands to the south of the woods would also help to ensure maintenance of critical wildlife habitat.

Left: Toothwort puts on an impressive display in early spring. **Right**: Dutchman's breeches (*Dicentra cucullaria*), one of several uncommon plant species afforded refuge at Barloga Woods. Credit: SEWRPC staff - Dan Carter

Scope

This year:

- Update site inventory.
- Develop or finalize a concise site profile format.
- Address issues with critical species habitat sites/data and proceed.
- In the background, we are improving our database to facilitate all of this.
- Grapple with the reality of management needs and incorporate those into our concept of protection.

Next year:

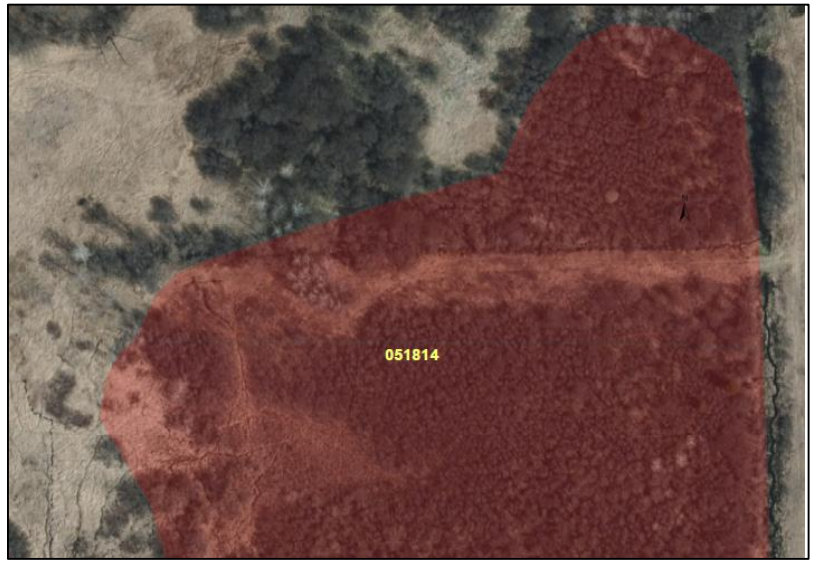
- Produce site profiles for natural area sites
- Develop/update any supplementary information outside of site profiles (e.g. the list of regionally uncommon species, management decision making tools)
- Decide what level of site mapping can be published.

End Product:

- Individual site profiles published online
- Provide information through online data viewer with links to site attributes and site profiles

Rapid Changes in Natural Area Condition Case of Vernon Prairie—Fen (NA-2)

- Ortho-photography from 2000 to 2015 shows the rapid deterioration of prairie fen within the Vernon Wildlife Area as it is overwhelmed by glossy and common buckthorn.



Natural areas site management plans and stewards are not protected, regardless of ownership.

Research summary from Damschen Lab, including Alstad's resurvey of Curtis sites:

"Species losses are prevented in sites that have greater connectivity with other prairie habitat and are managed with frequent, low-intensity fires similar to those that characterized the historic disturbance regime. Oak savannas have also changed significantly due to the encroachment of woody species and the loss of fires that once maintained their open structure."

e.g. Ladwig, Damschen and Rogers (2018, *Ecology and Evolution*).

"Our data suggest there may still be time to revitalize remnant savanna sites and the prairie- savanna-forest mosaic, but the time is now."

From Bowles' and Jones' working on Chicago Region remnant prairies:

Ecological Applications, 23(2), 2013, pp. 464–478

Repeated burning of eastern tallgrass prairie increases richness and diversity, stabilizing late successional vegetation

MARLIN L. BOWLES[1,3] AND MICHAEL D. JONES[2]

[1]*The Morton Arboretum, Lisle, Illinois 60532 USA*
[2]*Christopher B. Burke Engineering, Rosemont, Illinois 60018 USA*

Other consequences are becoming better understood.

EcoHealth 12, 398–403, 2015
DOI: 10.1007/s10393-015-1024-5

EcoHealth

Forum

Fire and Parasites: An Under-Recognized Form of Anthropogenic Land Use Change and Mechanism of Disease Exposure

John Derek Scasta

Department of Ecosystem Science and Management, College of Agriculture and Natural Resources, University of Wyoming, Agriculture C 2004, Department 3354, 1000 E University Avenue, Laramie, WY 82071

Bloomfield Prairie

- Six acres of remnant mesic prairie that supported 112 native plant species as of 1994.
- The northern portion is now all cultivated row-crop. The southern portion is a boxelder forest and buckthorn thicket.
- WDNR NHI estimates that less than 100 acres still exists in the state, so this was a big loss.

WHEREAS, the Wisconsin Department of Natural Resources is tentatively awarding this grant to the Waukesha County Land Conservancy to support the acquisition of 41 acres in the Town of Eagle; and,

WHEREAS, the proposed acquisition would once again remove these parcels from the Town of Eagle tax base, thereby causing a larger tax burden on the Town residents.

NOW THEREFORE BE IT RESOLVED, that the Town Board of the Town of Eagle, Waukesha County, does hereby OPPOSE the award of the grant from the Knowles-Nelson Stewardship Program to the Waukesha County Land Conservancy.

Adopted this 21st day of August, 2019 by the Town Board of the Town of Eagle, Waukesha County.

Supervisor

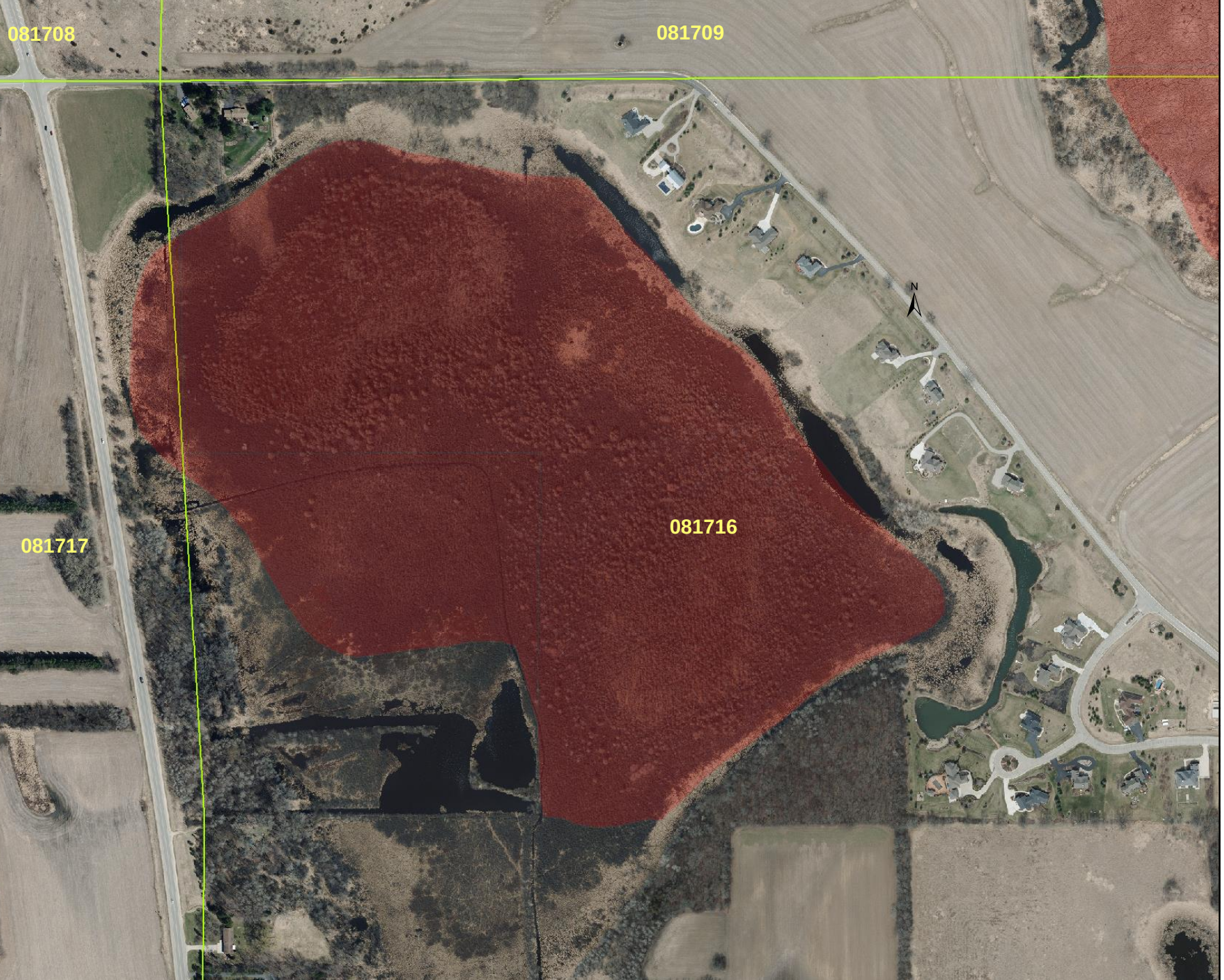
Steve Muth Supervisor

Supervisor

Supervisor

Chairman

Clerk



Raasch Tamarack Swamp, Lisbon Low Woods, and East Troy Tamaracks Proposed DNR Land Sales

- Conditions were placed on the sales
- To my knowledge, none of these have actually been sold.

Backlog of “New” Proposed Sites and Designation Changes

Army Lake Lowlands

041808

041809

041817

041816

- Rename “Army Lake Wetlands and Oak Woodlands”
- Upgrade to NA-2 (~115 acres)
- Recommendation: Private conservation organization

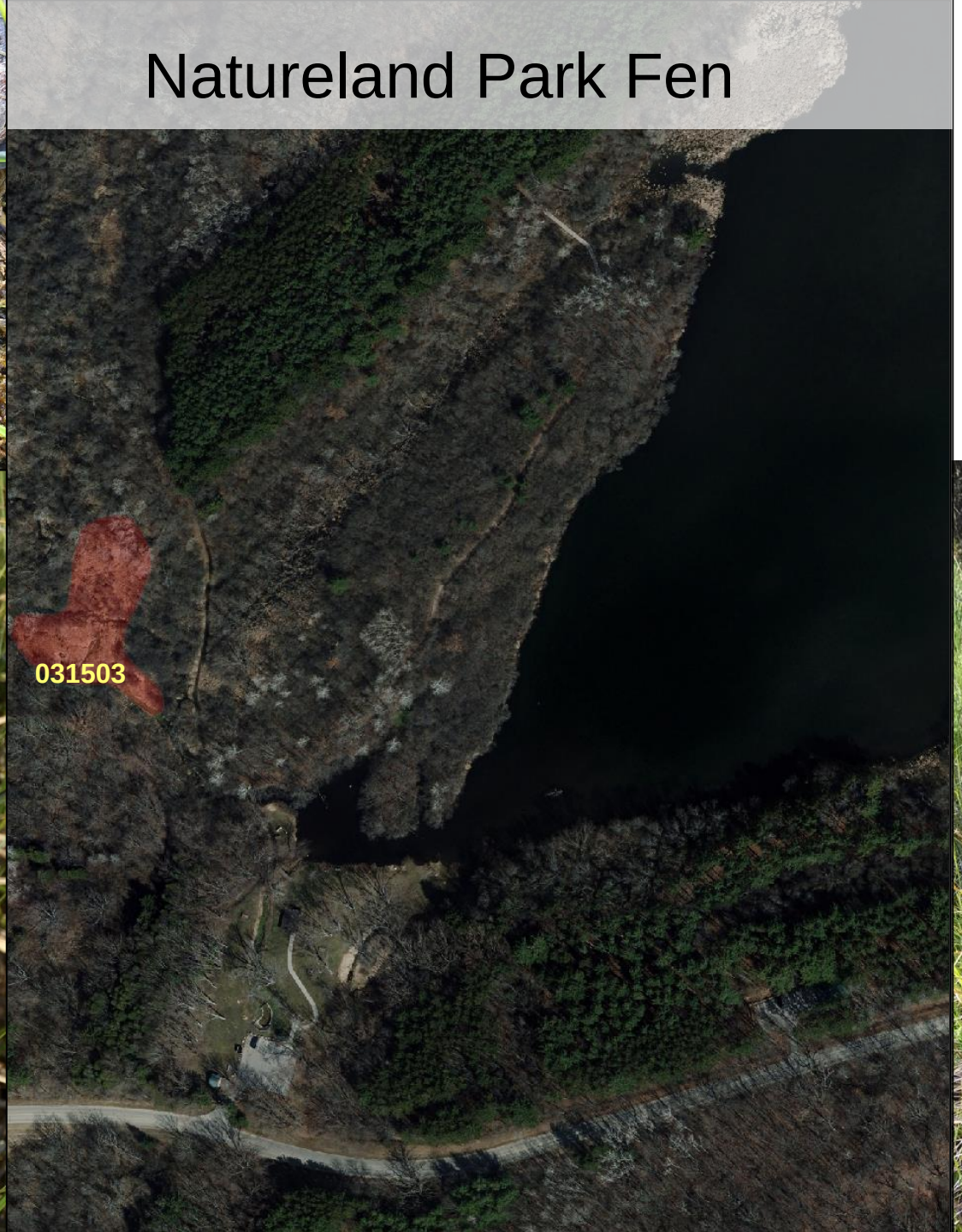
Beulah Bluff Oak Woodland and Tamaracks

- ~40 acres
- Kittentails and forked aster
- Many oak woodland / savann indicator species
- Recommendation: Private conservation organization

Radio Station Fen

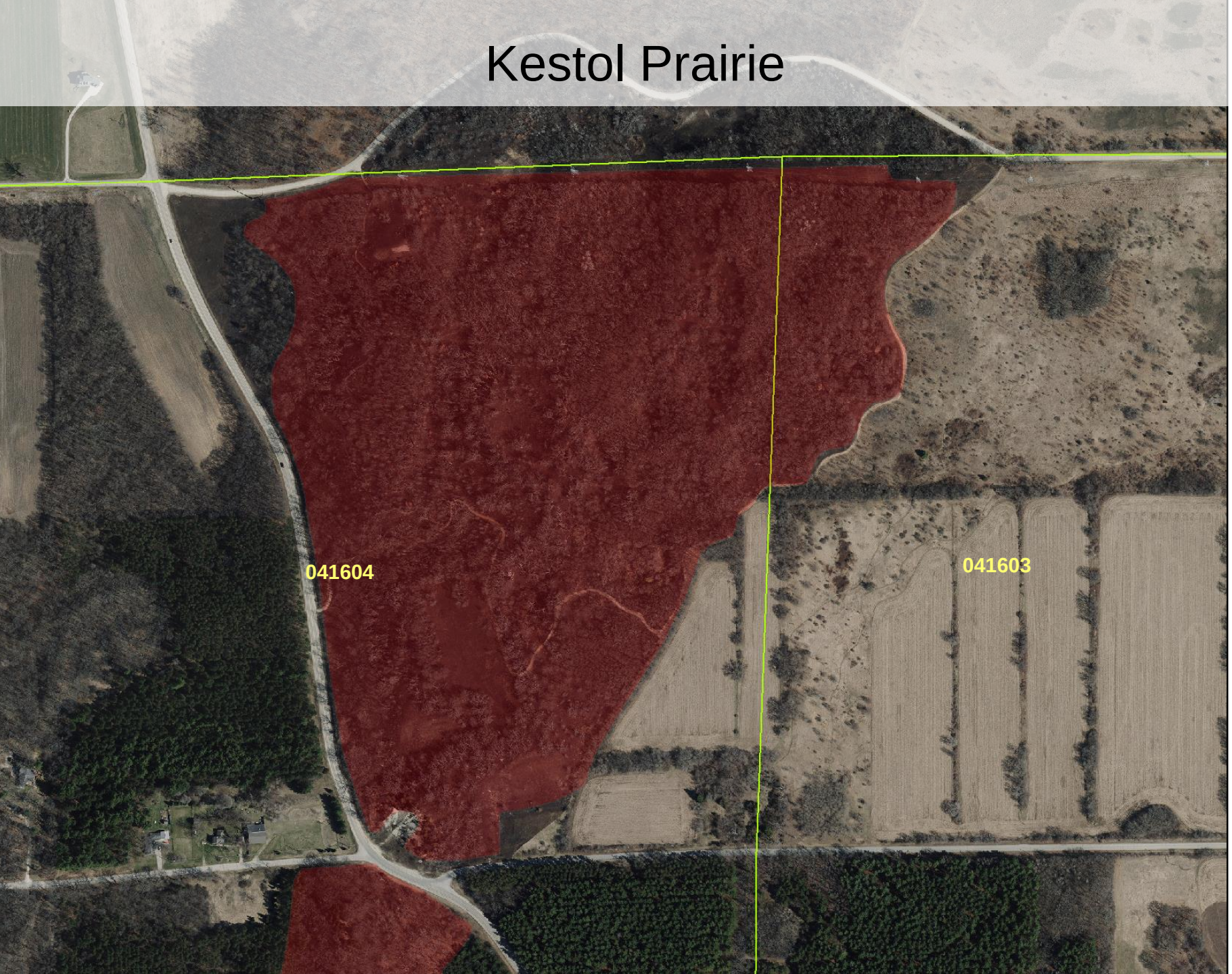
- Was borderline
- Tremendous off-road / ATV impact now, so withdrawn

Natureland Park Fen



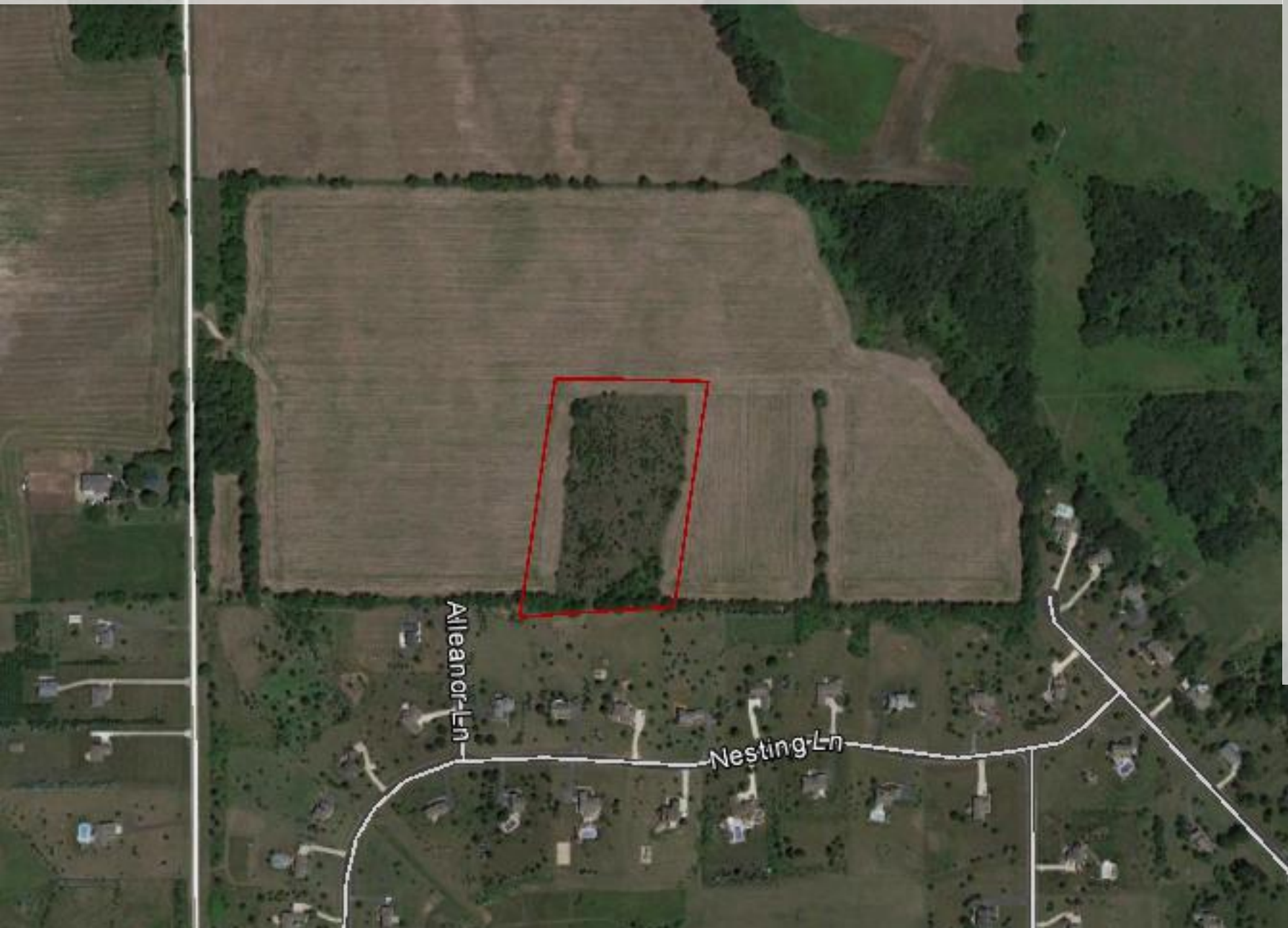
- Request to visit from Neal Frauenfelder from the County
- Many characteristic fen species
- Forked aster just above the fen
- County-owned

Kestol Prairie



- Upgrade from NA-2 to NA-1
- Rename from “Kestol Prairie” to “Kettle Moraine Oak Opening—South”
- Numerous and abundant rare and uncommon plant species
- Eastern hognose snake
- Ice Age Trail passes through site
- WDNR property

Badger Knoll Prairie (or Hidden Knoll Prairie)



- New NA-3
- ~4 acres
- Reasonably intact dry prairie with abundant pasque flower, prairie smoke, prairie dropseed, and rock sandwort.
- Many other rare and uncommon plant species present
- Recommendation: Private conservation organization

Faulkner Road Fen

- ~3 acres
- Hair beak-rush, sage willow, autumn willow, shrubby cinquefoil
- Historically extended under what is now I-43
- Recommendation: Private conservation organization

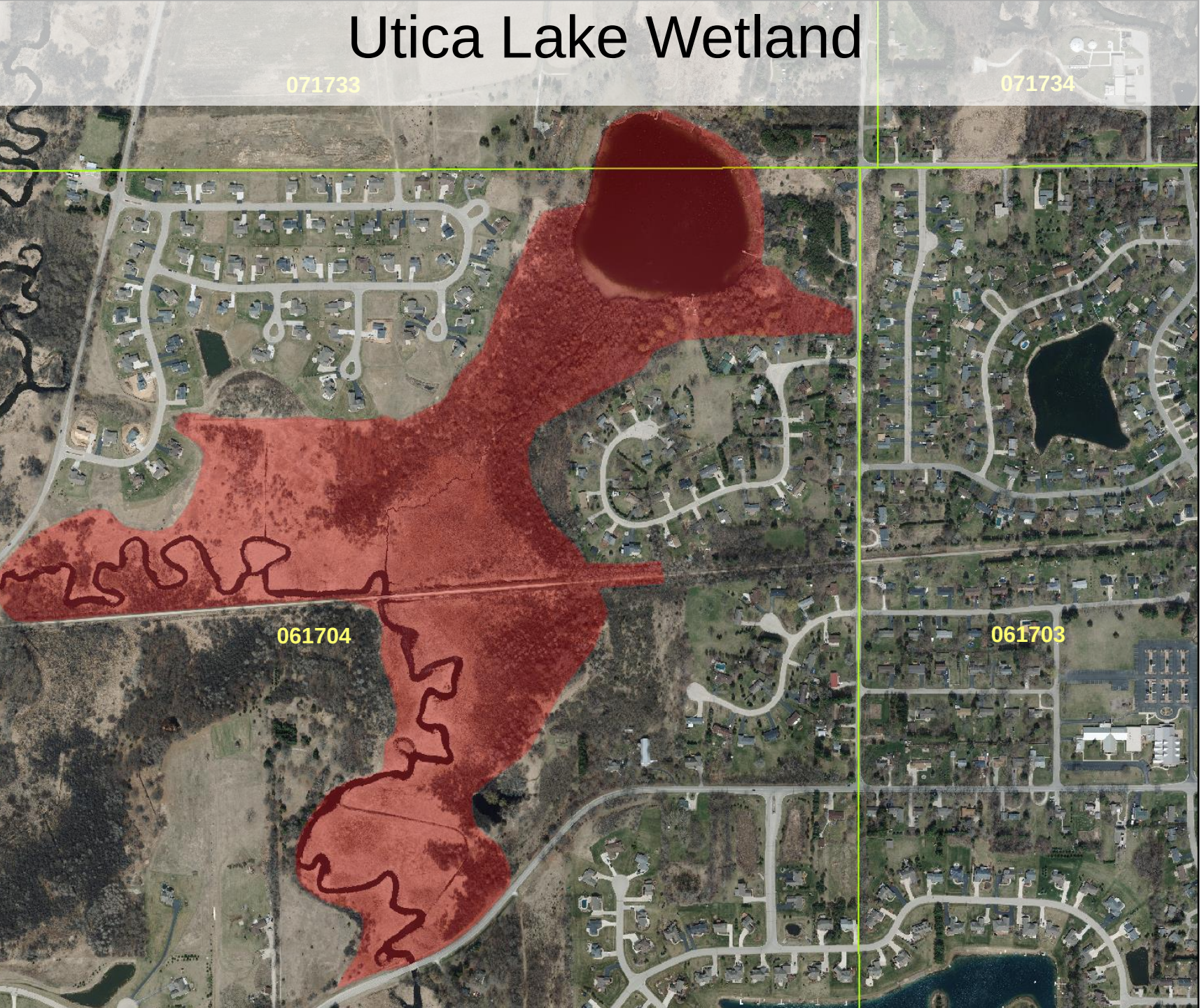
Party Island Oak Woodland and Dry Prairie

- ~2.3 acres
- Good representation of rare and uncommon species, including hairy beardtongue, large-flowered false-foxglove, cream gentian, pale vetchling, rock sandwort, prairie dropseed, and snowberry.
- Recommendation: Private conservation organization

Stephenson Shrub-Fen

- Upgrade from CSH to NA-3
- ~31 acres
- Bay on eastern side of Hunter Lake associated with large mat of twig-rush and supports water bulrush and northern mannagrass
- 10 new rare and uncommon species were found in in 2015
- Recommendation: Private conservation organization

Utica Lake Wetland



- Upgrade from CSH to NA-3
- Was first proposed as “Utica Lake Tamaracks”
- ~50 acres
- 138 native plant species present. Tamarack seepage swamp supports showy and little yellow lady’s slipper orchids, naked miterwort, starflower, and spikenard.
- Skunk cabbage seeps occur along much of the wetland edge.
- Blandings turtle, common nighthawk, American woodcock, and blue-spotted salamander are present
- Mostly owned by Waukesha County

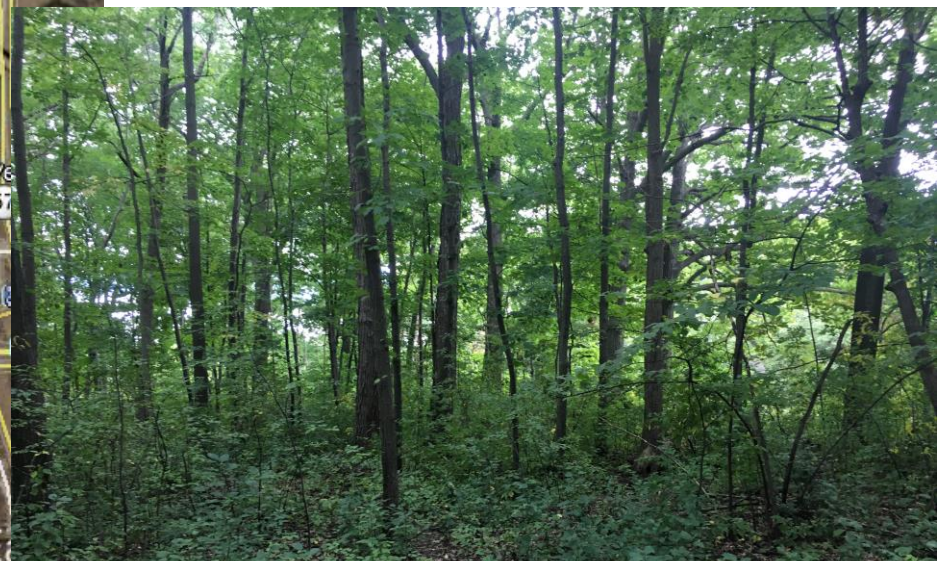


Saylesville Road Fen

- New NA-3
- ~1.8 acres
- Dominated by hair beak-rush and sterile sedge, kalm's lobelia and northern bog violet present
- Visited after hard freezes, so inventory is sparse
- Large springs at the headwaters of a tributary to Genesee creek
- Recommendation: Private conservation organization

Sydney Woods

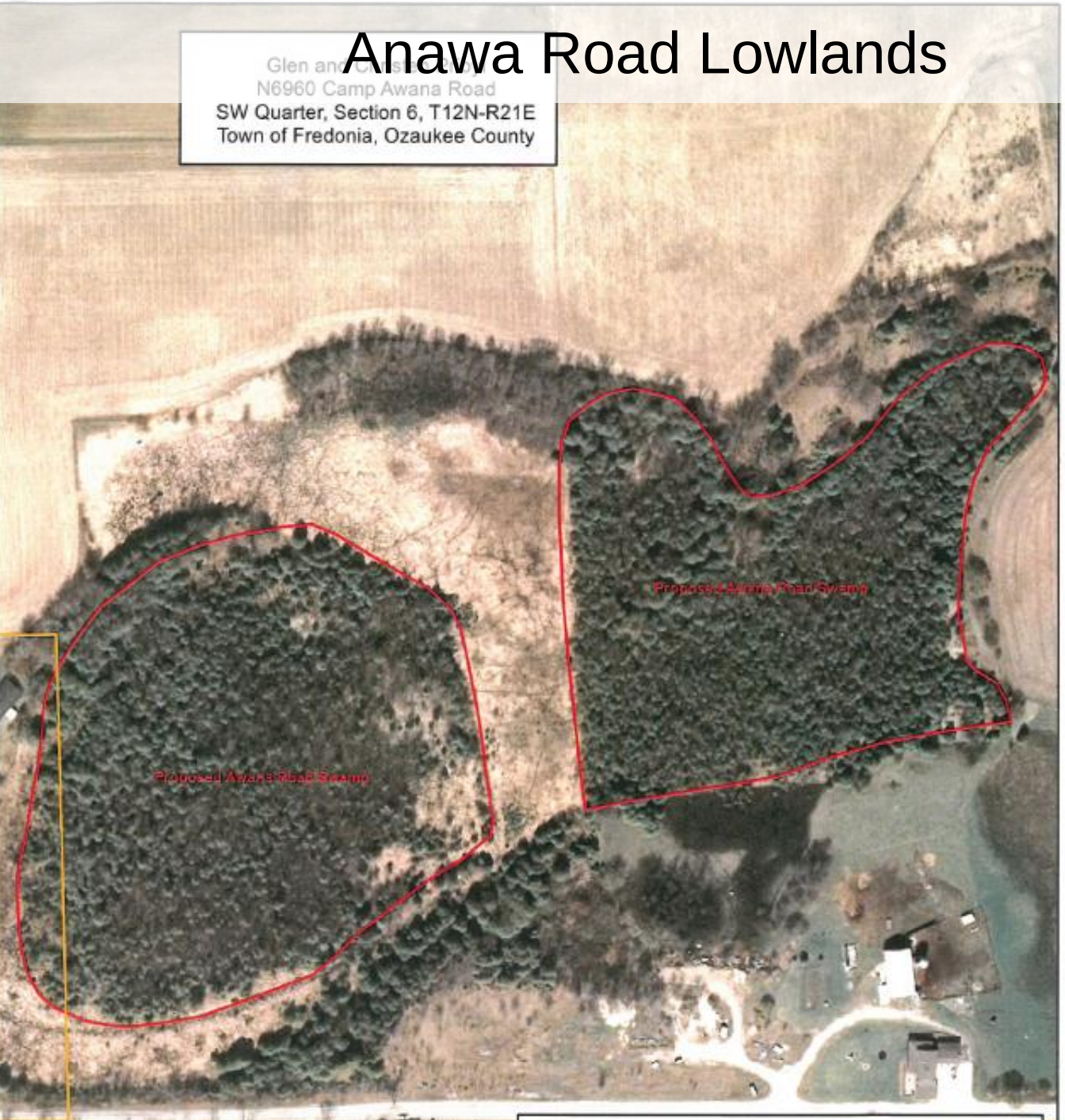
- New NA-3
- ~4 acres
- Extremely small, but a good diversity of native species in a very urban area (from Dr. Larry Leitner)
- Ephemeral ponds present
- American beech present (1 tree?)
- Owned by Milwaukee Area Land Conservancy



Mee-Kwon Park Woods

- Upgrade from CSH to NA-3
- ~40 acres
- Good example of beech-maple forest with spring ephermals
- Leatherwood, chinkapin oak, American gromwell, butternut, and grove sandwort
- Partially owned by Ozaukee County

Anawa Road Lowlands

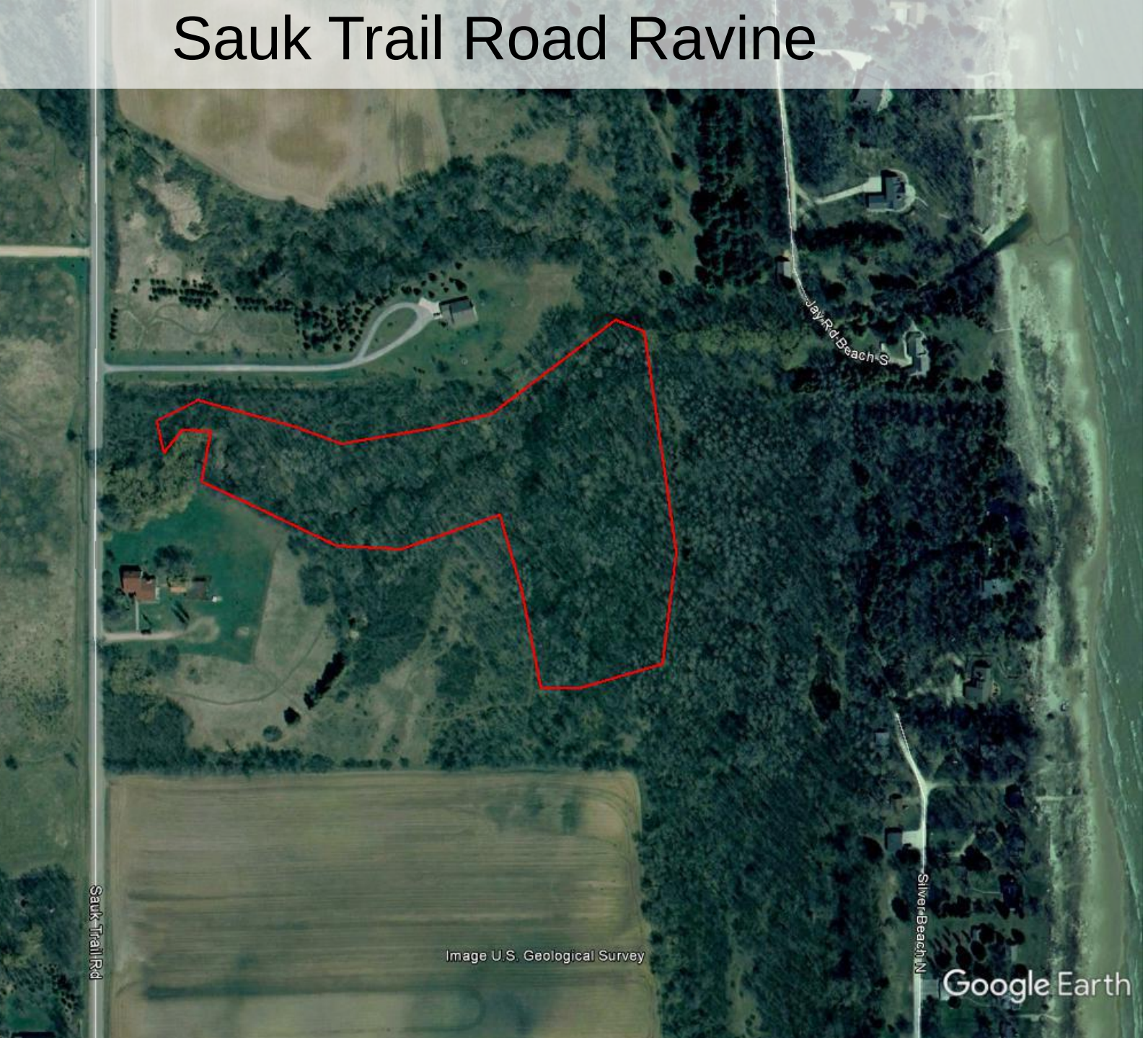


- New NA-3
- ~17 acres
- White cedar swamp
- Fen twayblade orchid (*Liparis loeselii)*, goldenthread (*Coptis trifolia)*, partridgeberry (*Mitchella repens*)
- Recommendation: Private conservation organization
- A separate tract on WDNR property across the road will be visited.

Port Washington Clay Banks

- Upgrade from CSH to NA-3
- ~35 acres
- Good example of coastal clay bluff supporting buffaloberry (*Shepherdia canadensis*), golden-fruited sedge (*Carex aurea*), greater fringed gentian (*Gentianopsis crinita*), and pale beardtongue (*Penstemon pallidus*)
- Bedrock is exposed along a portion of the beach
- Owned by Ozaukee County

Sauk Trail Road Ravine

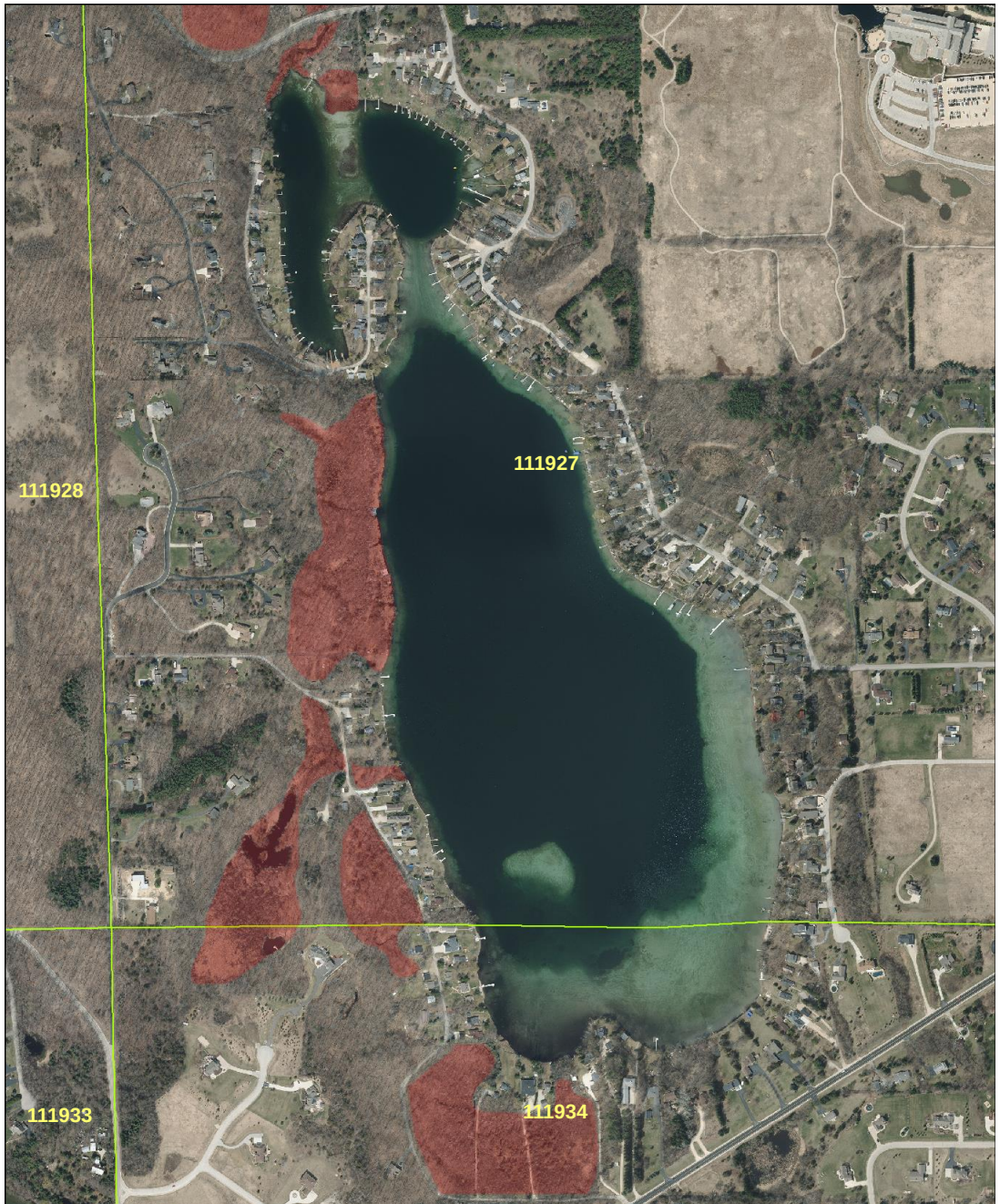


- New NA-3
- ~7 acres
- Coastal ravine with a small stream, skunk cabbage seeps, and northern mesic hardwoods.
- Yellow birch (*Betula allegheniensis*), Beech (*Fagus grandifolia*), Crooked-stem aster (*Symphyotrichum prenanthoides*), and large yellow lady's slipper orchid (*Cypripedium parviflorum* var. *pubuescens*) present.
- Recommendation: Private conservation organization

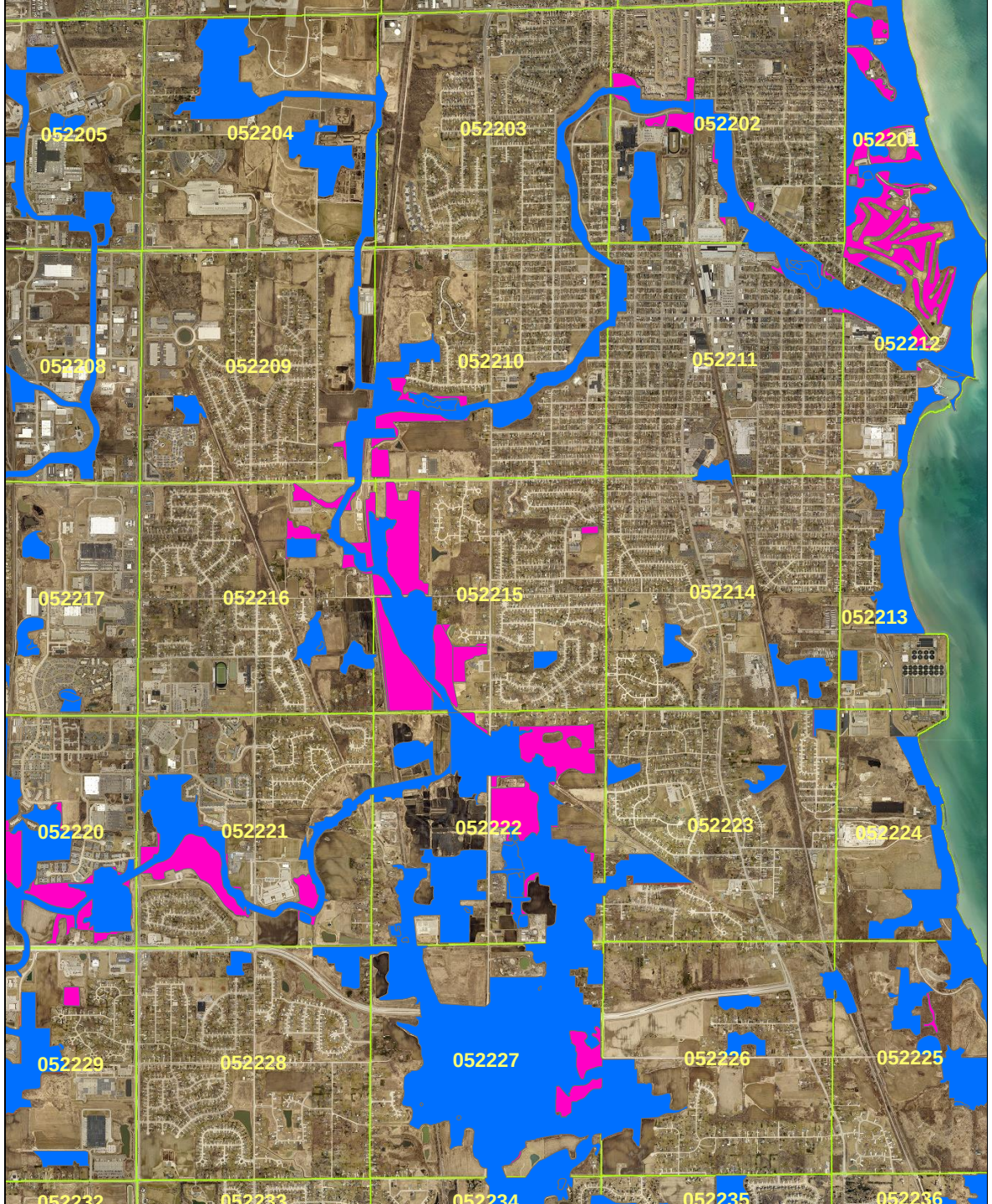
Kohlsville River woods

- Withdrawn as proposed NA-3
- Originally ~20 acres
- Uncommon and conservative species present
- Site assessed, in part, based on 2010 air photo, which predates the construction of the house. It was also less clear at the time that the pond was an unnatural excavation of a kettle wetland.

Silver Lake Fen and Tamaracks



- Upgrade from CSH (Silver Lake Woods and Silver Lake Swamp) to NA-3 and expand
- ~36 acres
- Calcareous fens associated with springs and tamarack swamps around Silver Lake
- Slender bog arrow grass (*Triglochin palustris*), grass of Parnassus (*Parnassia glauca*), Sage willow (*Salix candida*), fen twayblade orchid (*Liparis loeselii*), and green bog orchid (*Platanthera huronensis*) among new species observed
- Recommendation: Private conservation organization

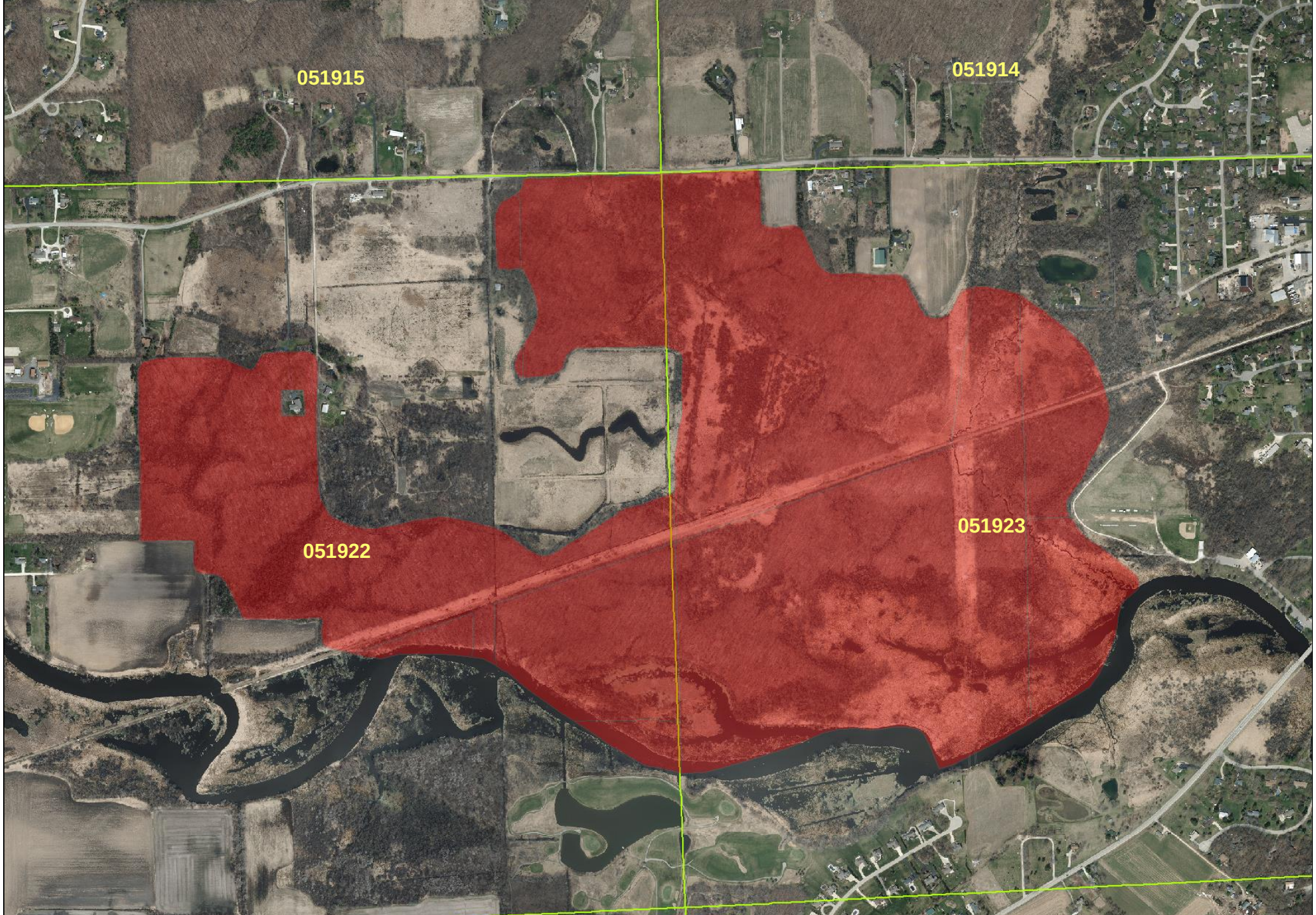


Critical Species Habitats (CSHs) are ballooning based on increasing information availability.

- They look less like discrete sites and more like SEWRPC environmental corridors.
- Reasonably up-to-date data curation on the regional scale is eclipsing our capabilities.
- It is increasingly clear that most uncultivated or un-manicured open space support at least one rare species when all taxonomic groups are considered.
- Rare species data is also curated by the WDNR NHI, but users have difficulty with access, and much rare species data is not reported to absorbed by NHI. New repositories of data are popping up all the time.
- Species designations change, potentially leading to big swings in CSH designations.
- Some users wish to track additional species that aren't rare at the state level.

Supplementary information:

- Fire in Upper Midwestern Oak Forest Ecosystems: an Oak Forest Restoration and Management Handbook: http://cedarcreek.umn.edu/biblio/fulltext/Felich-etal_USFS_Report_2015.pdf
- Oak Reproduction in Midwestern Savannas and Woodlands: http://www.mccdistrict.org/rccms/wp-content/uploads/2014/08/Oak-Reproduction-in-Midwestern-Savannas-and-Woodlands_Vol-1_Aug-2018-web.pdf
- Stephen Packard's blogs (consider subscribing). Stephen Packard and his volunteer corps is the gold standard of how to leverage volunteers to do amazing work.
    - http://vestalgrove.blogspot.com/
    - http://woodsandprairie.blogspot.com/
- Rapid change in Wisconsin prairies / importance of prescribed fire:
    - https://news.wisc.edu/60-years-after-pioneering-survey-wisconsin-prairies-are-changing-rapidly/
    - The pace of plant community change is accelerating in remnant prairies (Alstad et al., 2016, in *Science Advances*): https://advances.sciencemag.org/content/2/2/e1500975
    - Repeated burning of eastern tallgrass prairie increases richness and diversity, stabilizing late successional vegetation (Bowles and Jones, 2013, in *Ecological applications*): https://www.researchgate.net/publication/236601175_Repeated_burning_of_eastern_tallgrass_prairie_increases_richness_and_diversity_stabilizing_late_successional_vegetation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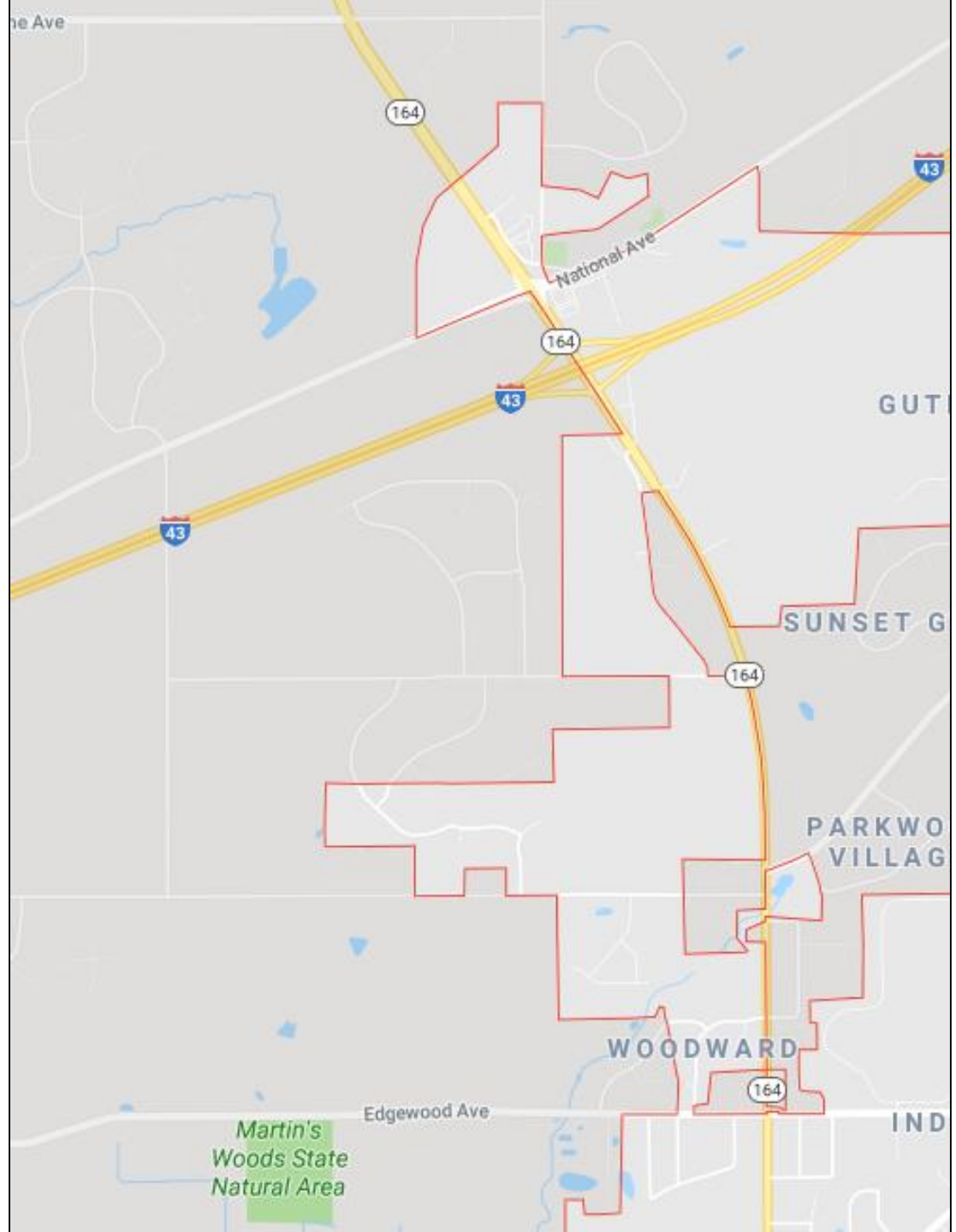
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