Niles Township Park: Preliminary Ecological Assessment

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I. Executive Summary

A preliminary survey of Niles Township Community Park has identified four zones with unique management considerations.

1. A **city park** that has been recently renovated with pickleball courts, pavillion, and landscaping. This park is dominated by centuries old white oaks.

2. A potentially significant **mature oak-hickory forest** that may meet the requirements to be designated as an Old Growth Forest. Further documentation of tree age, size, and disturbance history are needed to support a nomination. Designation would lead to recognition but also increases funding opportunities.

3. A **field that was acquired** ~10 years ago that has a high maintenance cost (mowing) for limited use by public. It is facing different invasive species (mugwort, tree of heaven) due to the artificial woodland edge. Due to the heavy disturbance of this ecosystem, management is different from the adjacent woodlands.

4. A **woodland that was acquired** ~10 years ago that appears to have been cleared at some point. This region is dominated by woody invasive species, particularly privet, that is starting to invade the old growth portion of the park. Management here will need to be in an annual plan to remediate this issue.

Additional results include establishing mapped walking routes, planning for interpretive nature tours, and native seed collection. This assessment documents initial findings and identifies potential next steps. Additional surveying, mapping, and planning will be needed to develop specific restoration proposals.

II. Goals

1. Survey the field on 3rd Street first, mark plants of interest, and get an idea of ecological condition.
2. Survey the wooded portion of the property:
    - Map the trails for planning, maintenance, and reference.
    - Map the plants of interest.
3. Consider long-term planning.

III. Initial Findings

1. Four Park Zones and Their Management Needs



MAP A - Regions in Community Park

The park consists of four distinct zones defined by their history and current use, each with different ecological characteristics and management needs.

1.1 City Park (CP) - The more manicured portion of the park, ~7 acres, with substantial tree cover consisting largely of white oak. Measuring oak diameters is planned to help establish their age structure. Several appear large enough to be centuries old, placing them within the old-growth age range.

1.2 Mature Oak-Hickory Forest (OHF) - Approximately 17 acres of mature oak-hickory forest with more potentially old-growth trees. This portion has established trails and substantial potential for conservation and educational programming.

Oak-Hickory is the historic vegetation type dating for this parcel, as per the circa 1800 MNFI interactive map, further supporting the possibility that the area retains old-growth characteristics. The forest type is also relatively uncommon in the county; the dry-mesic southern forest community (MNFI definition) is classified as "infrequent." This is a hidden gem reminiscent of the very popular Yankee Springs Recreation Area ecosystem and likely of interest to state agencies.

1.3 3rd Street Acquisition - Approximately 9.5 acres was acquired from Dave Davies about 10 years ago (he was friendly and gave me his card), consisting of two distinct areas:

Field (~1.5 acres; Fd) - This portion of the Davies acquisition appears to have been planned as a baseball field, though the home plate structure is overgrown and in disrepair. A raised entrance with tables and a covered information panel was installed recently. Historic satellite imagery indicates the field has been mowed regularly for at least a decade.

To the north is a vacant plant nursery that most recently operated as a hemp facility and is currently for sale or rent. Ornamental plants have survived and spread from the nursery, namely hardy kiwi, peppervine, and Tree of Heaven, possibly along with others such as mugwort.

Woodland (~8 acres; Wd) -The forested area south of the field. In contrast to the adjacent Oak Hickory Forest, it was likely cleared at some point, given the dense under story of woody invasive species, largely privet. Trails are limited, limited to one leading to monitoring wells near the Meditation Center property line. Invasives from this area are large and established, and have visibly encroached beyond the original property line into the Mature Oak-Hickory Forest, making it an important management target to prevent further degradation of the adjacent mature forest.

2. Goal 1 - Surveying the 3rd St Field (Fd)

Plants are documented on maps in four color coded categories to balance ease of interpretation and density of markers.



MAP B - Color Coded Plants in 3rd St Field of Community Park

2.1 Natives of Note (GREEN) - Native plants of particular ecological or educational interest, plus trees that are easy to identify from a distance and useful for matching field photographs to satellite imagery. Examples include spicebush (in woodland), sumac (1 on Map B), and woodland aster (2 on Map B), along with catalpa (3 on Map B) and sycamore (4 on Map B) for photographic identification.

2.2 Lower-Priority Invasive Plants (YELLOW) - Individual instances are marked on the map, along with a priority region on Map B (yellow highlight). The dominant woody invasive is privet, some of it mature and actively fruiting. Honeysuckle and multiflora rose are more common in the Oak-Hickory areas, but are still present. The eastern and southern boundaries of the field are rimmed with mugwort and privet. Buckwheat is overgrowing privet and blackberry on the eastern side. Honeysuckle is also present along the woodland edge.

These species require management, particularly where they are expanding into native woodland, but are currently secondary to Tree of Heaven in priority.

2.3 High-Priority Invasive Plants (RED) - Red indicates the highest management priority, currently Tree of Heaven only. A massive specimen (~16" diameter at breast height (DBH), 5 on Map B) is growing through the wood fence on the north side of the 3rd Street field, and the species has established smaller stands (3–10 trees, 6s on Map B) along the field edges.

Tree of Heaven spreads aggressively and can alter surrounding vegetation due to its toxicity. It is also the primary host plant of the invasive Spotted Lanternfly and, to a lesser extent, Brown Marmoratted Stinkbugs. Several trees bordering the field have been stripped entirely of foliage by insects. **The established population and continued spread make this the most immediate invasive species concern.**

2.3.1 Tree of Heaven Is Spreading - The massive (~16") Tree of Heaven on the property bordering the park to the north is easily the largest and presumably oldest of the invasive trees and a likely source of the growing population in the field. Small stands of varying ages are marked along the field boundaries, mostly 4–5" in diameter with some saplings. There are larger established trees, but none as large as the one just off the property. One stand has several trees stripped of foliage entirely; the cause should be investigated in the spring.



Priority should go to assessing and controlling the established population, to prevent further breeding.

2.3.2 MSU Study Site - While mapping the Tree of Heaven stands, a study site marking was identified (Right). Further information was not sought at the time, and its age is unknown. Prior data for this site might exist.

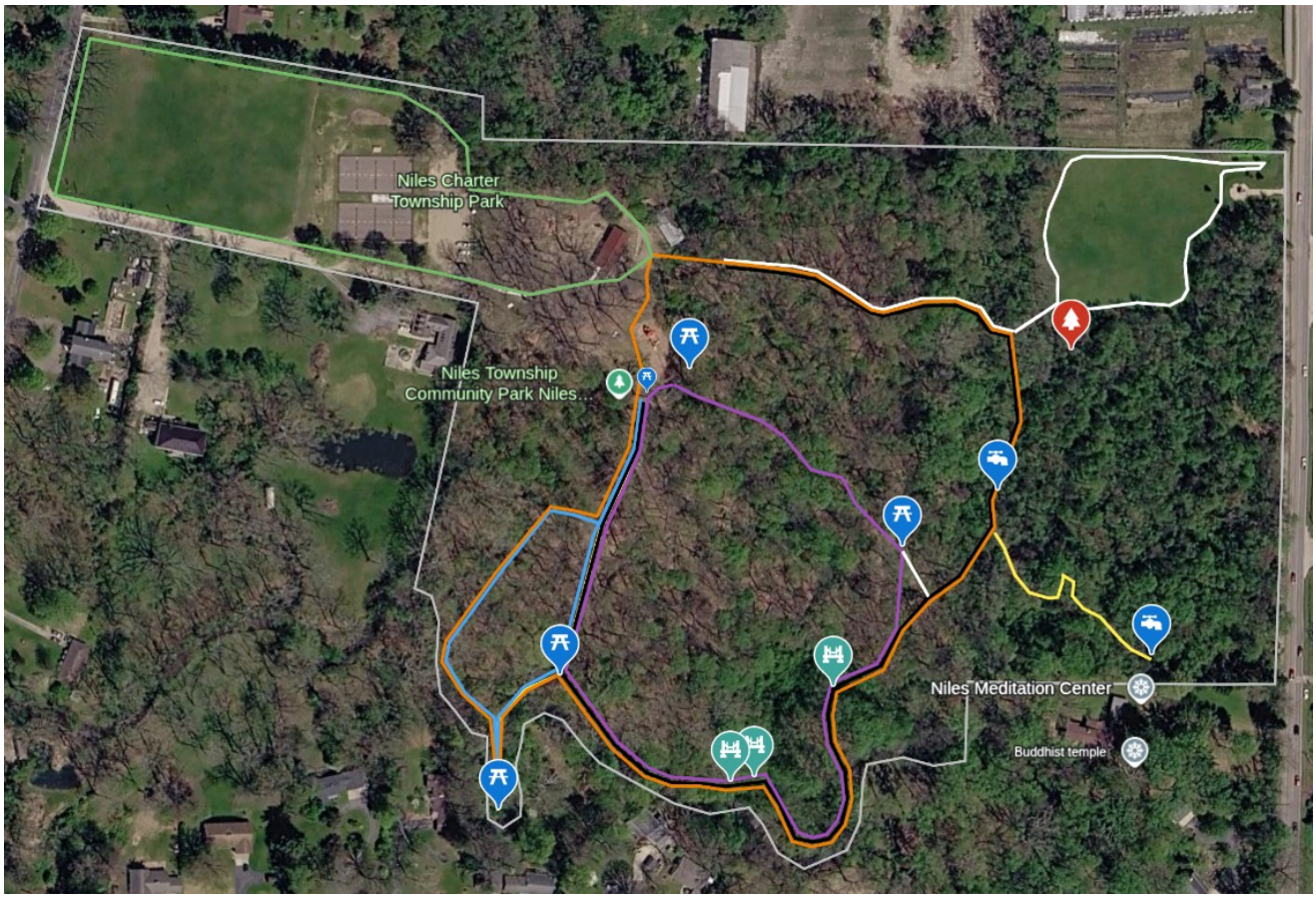
2.4 Edible and Useful Plants (BLACK) - Black is primarily used for blackberry, of which there is a substantial amount: approximately 1/8 acre on the west side of the 3rd Street field (8 on Map B), with many additional small patches throughout (9 on Map B). A stand of Paw Paws was

identified on the trail to the field, but likley infertile due to the clonal nature of Paw Paws. This is easily remedied by planting genetically unique individuals (sources identified).

Non-native ornamental peppervine and hardy kiwi (10 on Map B) are in the northeast corner of the field, spreading from the vacant nursery to the north. The hardy kiwi may require a female plant to reproduce, which will be confirmed in the spring. Two burning bushes (ornamentals) were found on the path to the field, and may originate from those at the front of the drive on the Beeson Mansion property. More plants will become evident in the spring and will be added to the maps.

These plants are documented separately because some edible or useful plant locations may not be appropriate for public disclosure due to liability concerns.

3. Goal 2a - Survey of Trails (OHF)



MAP C - Trails, Monitoring Wells, and Wood Bridges

3.1 Mapped Routes and QR Codes - Trails were mapped using Google Earth, with several loops identified ranging from 0.5–1.3 miles (Map C). These routes could be made publicly accessible through scannable QR codes, allowing visitors with Google Earth on their phones to follow them. The same maps could also direct maintenance and management efforts.

3.2 Marked Features - Picnic tables, benches, and wooden planks along the paths are shown on Map C. Two sets of monitoring wells were found on the 3rd Street acquisition near the Meditation Center. A set of Spotted Lantern Fly traps were found and are marked in red, as they are on Trees of Heaven.

3.3 Maintenance Required - Some portions of the trails have downed trees, erosion, sections where trails intermittently disappear, and narrowing paths, particularly on the west side. These issues have not yet been marked but will be included in upcoming reports.

4. Goal 2b - Survey of Woodlands (OHF and Wd)



MAP D - Invasive Species Mapping

4.1 Invasive Species Mapping - This effort has just begun. A general survey identified privet as the dominant invasive in the 3rd Street Acquisition Woodland, while honeysuckle appears to be more of an issue in the Oak-Hickory Forest.

Two priority regions are highlighted on Map D. The western zone is the previously cleared acquisition area, where invasives may have spread along Brandywine Creek to the southern bend of the creek. Mapping individual plants is not feasible or particularly useful here, as management will largely require removal using cut-and-dab methods.

Treatment options are being developed. **The highest priority should be preventing further spread of Tree of Heaven**. **A second priority is managing the extensive privet and honeysuckle in the 3rd Street Acquisition Woodland** and preventing further encroachment into the Mature Oak-Hickory Forest.

Planning should allow work to be organized by area and treatment method rather than addressing individual plants without a broader strategy. It could also support volunteer workdays through

programs such as MSU Extension (Master Gardener, Master Naturalist, Conservation Steward), provided appropriate training and supervision are available.



Three additional invasive plants are not yet mapped but shown in a photograph (above): two Tree of Heaven trees and one honeysuckle flanking the Niles Township Park Maintenance Sign.

4.2 Ecological and Educational Features - There are many positive features to highlight, and a walking tour map could be constructed. Plants of interest such as Doll's Eyes, Woodland Aster, Sassafras, and Spicebush are favorites on tours. Plants characteristic of the local ecotype will be surveyed and marked along the trails in the spring. Eventually, seeds from native plants could be collected for a seed library and future plantings.

Surveying the diameter and age of the largest canopy trees is also planned, as this is of particular conservation interest. Marking the biggest trees usually makes them popular points of interest.

IV. Conservation and Restoration Opportunities

1. Old-Growth Forest Recognition



The mature oak-hickory forest may be a candidate for recognition by the Old-Growth Forest Network, whose criteria include forest age, disturbance history, ecological characteristics, and minimum acreage. Published benchmarks include a minimum forest age of 150 years and a minimum area of 10 acres. Love Creek has received this designation for approximately 20–25 acres (Old-Growth Forest Network), despite having been farmed as late as 1936.

The area at Niles Township Community Park is currently estimated at ~17 acres. Further documentation is needed to establish age and characteristics and determine whether it meets the Network's criteria, but initial surveying indicates it is likley. A nomination could provide valuable recognition, raise the park's conservation profile, and potentially strengthen its case for state and other conservation investment, including restoration of the western areas.

Recommended next steps:

- Measure the diameter of the largest canopy trees. Estimate tree ages using diameter.
- Document historic land use and disturbance.
- Survey characteristic native plants and forest composition.
- Contact the Old-Growth Forest Network to discuss eligibility and nomination requirements.

2. Restoration of the 3rd Street Field

The 3rd Street Field is mowed regularly but underused. This is an increasingly expensive maintenance choice and leaves the field edges open to continued invasion. A potentially fundable alternative is a two-stage restoration, beginning with tall grass prairie and potentially transitioning to oak savanna. Both are historically significant and relatively uncommon in this part of Michigan. Tall grass prairie was historically found in portions of our region, particularly south of M-12 along US-31, while oak savanna was characteristic of parts of the Brandywine Creek - Beeson Drive was Oak Savannah.



MAP E - 1ac of possible prairie restoration.

2.1 Tallgrass Prairie Restoration

The approximately 1-acre proposed area on Map E could be converted through several restoration approaches. This would create wildflower and native grass habitat that supports pollinators and wildlife while reducing routine mowing. Once established, a prairie can be maintained with periodic (every 5-7 yr) mowing, prescribed fire, or grazing, and can help limit invasive establishment when properly managed. The proposed area preserves a bike/walking path and access to existing blackberry patches.

2.2 Community and Educational Opportunities

Tall grass prairie has several marketable features if used creatively:

- **Photography:** Wildflower areas curated for attractive photography, with attention to lighting and layout, could draw local photographers. This could be a natural choice for senior pictures, instagram posts, and family outings.
- **Education:** Interpretive materials could support programming for schools, scouts, and other groups. These could be shared from other conservation groups locally.
- **Seasonal Activities:** Fall prairie mazes (McCloud Nature Park Prairie Maze in IN) attract citizens while introducing periodic disturbance to the habitat.
- **Picnic Spaces:** Low wooden platforms (such as those used by the power company) provide flexible picnic spaces without extensive infrastructure, and highlight disturbance in prairie.
- **Volunteer Projects:** Planting, seed collection, invasive removal, and habitat maintenance could engage community groups, including those available through MSU Extension, scouts, schools, etc.

All of these help build a sense of place and give residents a reason to visit and engage with the park.

2.3 Long-Term Oak Savanna Possibility

If there are future plans to develop the space differently, the area could be mowed and reseeded at a lower cost than maintaining a mowed lawn over multiple years. Alternatively, if the prairie becomes popular and more shade is desirable, oak trees could be planted sparsely to gradually establish a locally native oak savanna. This would be a second phase of restoration that retains the open character and ecological value of the prairie. This would result in a more natural mirror to the City Park portion of the property.

3. Vacant Plant Nursery

The vacant nursery to the north is likely to become an eyesore and a continued source of escaping ornamental plants. However, it could also be a useful business opportunity. The property occupies approximately 5 acres and may already have infrastructure suitable for agricultural or horticultural operations. MSU Extension may have suggestions of viable agricultural ventures that could be passed along to the groups trying to recruit businesses to the area. This could address a potential source of invasive species while encouraging productive reuse of a vacant property.

V. Preliminary Action Plan

The following priorities provide a practical starting point for moving from survey to implementation.

Priority	Action	Purpose
Current	Assess and plan treatment of Tree of Heaven	Prevent further spread
Near-term	Complete trail maintenance survey	Improve access and safety
Near-term	Measure large canopy trees and establish forest acreage	Assess old-growth eligibility
Winter/Spring	Consider prairie restoration in more detail?	Reduce mowing and create habitat
Winter/Spring	Contact Old-Growth Forest Network	Explore recognition
Spring	Complete spring native plant survey	Document ecological value
Long-term	Develop interpretive trails and educational programming	Increase public engagement
Delegate	Explore nursery reuse opportunities	Support productive neighboring land use

VI. Conclusion

Niles Township Park has considerably more ecological value and restoration potential than is immediately apparent. The mature oak-hickory forest may be an important conservation asset that could yield recognition, but it is being slowly threatened by expanding woody invasive populations. The 3rd Street Field is particularly interesting because it offers a chance to turn a monetary and conservation liability into expanded recreational and educational opportunities.

These projects do not require large infrastructure investments. Most require time and labor. Many could be developed incrementally through grant funding, partnerships, volunteer projects, and coordination with organizations such as MSU Extension, the Old-Growth Forest Network, and other local natural areas. The initial survey provides a foundation for these efforts, in hopes of informing upcoming planning.