City Council Agenda Item Report

FROM: Mark Ondersma- Director of Public Works

MEETING DATE: September 9, 2026

SUBJECT: SHNA Trail Remediation, Habitat Restoration, and Signage

DESCRIPTION:

The City has been working with Outdoor Discovery Center Conservation Services to complete a Trail Assessment Report and develop recommendations for the 173-acre Saugatuck Harbor Nature Area. Staff are seeking approval to move forward with the recommended trail remediation, habitat restoration, signage and wayfinding improvements, and establishment maintenance. The proposed work will focus on closing and remediating informal and redundant trails; restoring closed trail areas using the recommended hybrid approach of native seed and targeted native plantings; improving visitor orientation and education through a comprehensive signage and wayfinding program; and providing first-year establishment maintenance to support the successful restoration of the site. This aligns with the Saugatuck Harbor Natural Area Master Plan and City Council's FY 26/27 priorities to update signage and wayfinding and continue invasive species treatment.

BUDGET ACTION REQUIRED:

Approval of the following project components:

- Trail Remediation (Closures & Improvements): $31,050
- Habitat Restoration- Hybrid Approach: $25,750
- Signage & Wayfinding Program (Design & Fabrication): $16,500
- Establishment Maintenance: $5,000

Total Project Cost: $78,300

The spendable balance of the SHNA Endowment Fund is currently $221,957.69. Of this amount, $20,000 was budgeted for the current invasive species management efforts at SHNA. A budget amendment will be necessary to account for the additional project expenses, along with the corresponding offsetting revenue from the endowment fund.

COMMITTEE/COMMISSION REVIEW:
Land Conservancy of West Michigan has approved the plan & will be involved with the signage project.

Parks & Public Works Committee has reviewed & recommended approval of the proposal from the ODC.

LEGAL REVIEW:
N/A

SAMPLE MOTION:
Motion to approve the ODC Network proposal for the Saugatuck Harbor Natural Area, including Trail Remediation, Habitat Restoration- Hybrid Approach, Signage & Wayfinding Program (Design & Fabrication), and Establishment Maintenance, in an amount not to exceed $78,300, with project costs to be reimbursed from the Saugatuck Harbor Natural Area Endowment Fund.

Trail Assessment Report

Property Under Review: Saugatuck Harbor Natural Area

Location: Oval Dr, Saugatuck, MI 49453

Prepared for: City of Saugatuck

Prepared by: ODC Network (ODC Conservation Services)

Contact Information:

Project Background
The ODC Conservation Services team conducted a trail assessment of parcel #'s: 57-004-008-00, 57-004-010-00, and 57-004-008-10, located on Oval Dr in Saugatuck, MI. The site consists of a coastal dune and interdunal wetland complex characteristic of the Lake Michigan shoreline, supporting a mosaic of sensitive plant communities and dynamic dune processes.

This assessment evaluates existing informal and established trail conditions and provides recommendations related to trail alignment, decommissioning of redundant routes, wayfinding improvements, and opportunities for interpretive signage. No construction-level design or engineering is included as part of this phase of work.

Field assessment was conducted between **April and May of 2026**. The methodology consisted of a comprehensive pedestrian survey of accessible trail corridors across the property, with field observations documented on-site and reviewed in conjunction with available aerial imagery and GIS base layers. Key assessment priorities included:

- Identification of an optimal trail footprint with emphasis on protection of sensitive ecological communities
- Identification of informal, redundant, or unsustainable trails recommended for decommissioning
- Recommendations for improved wayfinding and visitor circulation
- Identification of key natural features suitable for interpretive signage and educational programming

Executive Summary
The existing trail system requires targeted modifications to reduce impacts to sensitive ecological communities while improving overall circulation, safety, and visitor experience. Based on our assessment, the system could be consolidated into a single primary loop without the need for substantial new infrastructure investments, allowing the site to function more sustainably while still accommodating public access needs and showcasing the unique ecology of the site.

A refined trail alignment would help concentrate use within more resilient and established corridors, reducing fragmentation and minimizing disturbance to interdunal wetlands, open dune habitats, and adjacent upland communities. These systems support a high diversity of plant and wildlife species, many of which are sensitive to compaction, repeated off-trail disturbance, and informal path creation. By guiding users more intentionally through the landscape, the redesign would help balance ecological protection with recreational and educational access.

In addition to ecological benefits, the revised layout provides an opportunity to elevate the interpretive value of the site. Key natural features including dune succession gradients, wetland transition zones, and associated native plant communities could be highlighted through strategic trail placement and potential interpretive elements. In coordination with the ecological evaluation scheduled for completion in September 2026, these improvements could support expanded educational programming, including field-based learning opportunities and culturally informed interpretation where applicable.

Clear access definition, improved wayfinding, and reduced trail redundancy would also play a critical role in minimizing user confusion and limiting off-trail disturbance. This would help protect sensitive vegetation communities, reduce maintenance needs over time, and improve long-term resilience of the trail system.

The proposed approach supports a phased, low-impact implementation strategy that can be aligned with ongoing site management goals and stakeholder input. By prioritizing consolidation and clarity over expansion, the project emphasizes ecological integrity, long-term sustainability, and a more intentional visitor experience rooted in the unique characteristics of the landscape.

Current Trail Network
The current trail network (see Appendix A) consists of a broad and poorly delineated system of informal and formalized pathways. Several trails terminate without clear destinations or interpretive value, while others are in degraded or unsafe condition due to erosion, overhanging vegetation, limited maintenance, or repeated off-trail use.

The lack of consistent wayfinding and defined circulation patterns contributes to user confusion and encourages the creation of informal social trails, further fragmenting sensitive ecological areas. In several locations, multiple parallel routes have developed, resulting in unnecessary habitat disturbance and increased edge effects within adjacent plant communities.

Overall, the existing network does not clearly guide users through the site's key ecological features, nor does it effectively concentrate use within appropriate corridors. This contributes to both reduced visitor experience quality and increased pressure on sensitive habitats, particularly in interdunal wetland and transitional zones.

The accompanying map in Appendix A illustrates the current trail network in its existing condition, highlighting redundant segments, unclear junctions, and areas where trail proliferation has resulted in ecological and safety concerns.

Figure 1. Photo showing parallel trail networks causing unnecessary soil disturbance.

Trail Recommendations

We recommend simplifying the overall trail layout to improve ecological protection, user experience, and long-term manageability of the site (see Appendix B). Based on field surveys and observed use patterns, several lesser-used or redundant paths should be closed and restored to reduce unnecessary disturbance to sensitive ecological areas and prevent encroachment on private property.

Consolidating the system into a more defined primary loop will help focus visitor use within more resilient corridors while reducing fragmentation of interdunal wetlands, open dune habitat, and transitional plant communities. This approach also reduces the proliferation of informal social trails, which are currently expanding pressure into areas not intended for recreation or foot traffic.

Trail closures should be paired with clear physical and visual cues such as signage, small barriers, or natural material blocking and followed by passive restoration using native seed and plantings appropriate to each impacted community type. Over time, this will help reestablish vegetation, stabilize soils, and discourage reuse of closed segments.

In addition, redefined access points and improved wayfinding are recommended to guide users onto the primary loop and reduce confusion at trail junctions. This will support safer circulation patterns while also enhancing the interpretive value of the site by directing visitors toward key ecological features rather than dispersed or fragmented routes.

The accompanying map in Appendix B identifies recommended closures, proposed restoration areas, and the simplified primary trail alignment, providing a clear framework for phased implementation.

Figure 2. Photo showing a stretch of the simplified single loop trail concept.

Trail Wayfinding & Interpretive Signage
A clear and consistent wayfinding system is recommended to support navigation throughout the simplified trail network and to reduce the development of informal social trails. Signage should be strategically placed at key decision points, including trailheads, junctions, and transitions between major habitat types, to reinforce the primary loop and improve overall user orientation within the site (see Appendix C).

Given the ecological diversity of the area, including interdunal wetland, Great Lakes marsh, and open dune systems; interpretive signage represents a strong opportunity to enhance visitor understanding of site ecology and sensitivity. These systems can be used to communicate key concepts such as hydrologic connectivity, dune dynamics, and vegetation succession, while also reinforcing the importance of staying on designated trails and not disturbing sensitive plants.

While signage design and production is not included as part of this assessment, the recommended framework identifies key locations and interpretive themes where future signage would be most effective. Our team, or a qualified partner, can support subsequent phases of signage development and design if desired.

Wayfinding elements should remain clear, durable, and context-sensitive, using a consistent design approach that is appropriate for a natural setting. A simple hierarchy of information is recommended, prioritizing navigation at primary junctions and more interpretive content at key ecological focal points.

Interpretive messaging should focus on helping visitors understand the distinct ecological functions of the site's major communities, including the water storage and biodiversity value of interdunal wetlands, the dynamic and disturbance-driven nature of open dunes, and the productivity and habitat complexity of Great Lakes marsh systems.

The accompanying map outlined in Appendix C identifies recommended signage locations and interpretive nodes aligned with the proposed trail consolidation, providing a framework for future design and implementation.

Figure 3. Photo showing recommended placement for a trailhead kiosk to direct foot traffic off the beach and avoid the private residence. See Appendix C for relative location on the property, and F for reference images.

Appendix A: Current Trail Layout

Figure 1: *GPS-derived layout of the current trail system based on site walkthrough conducted in April 2026. The existing network includes several redundant or informal trail segments that do not appear to receive consistent or sustained use. These areas are identified to help inform recommendations for consolidation, closure, and restoration, particularly where trail proliferation intersects with sensitive ecological communities.*

Appendix B: Recommended Trail Layout

Figure 2: *Recommended trail footprint showing the proposed simplified trail alignment and primary loop configuration, along with identified trail segments recommended for decommissioning. Decommissioned routes are intended to reduce habitat fragmentation and limit disturbance to sensitive ecological communities, while concentrating use within a clearly defined and more sustainable circulation network.*

Appendix C: Recommended Interpretive Signage Locations

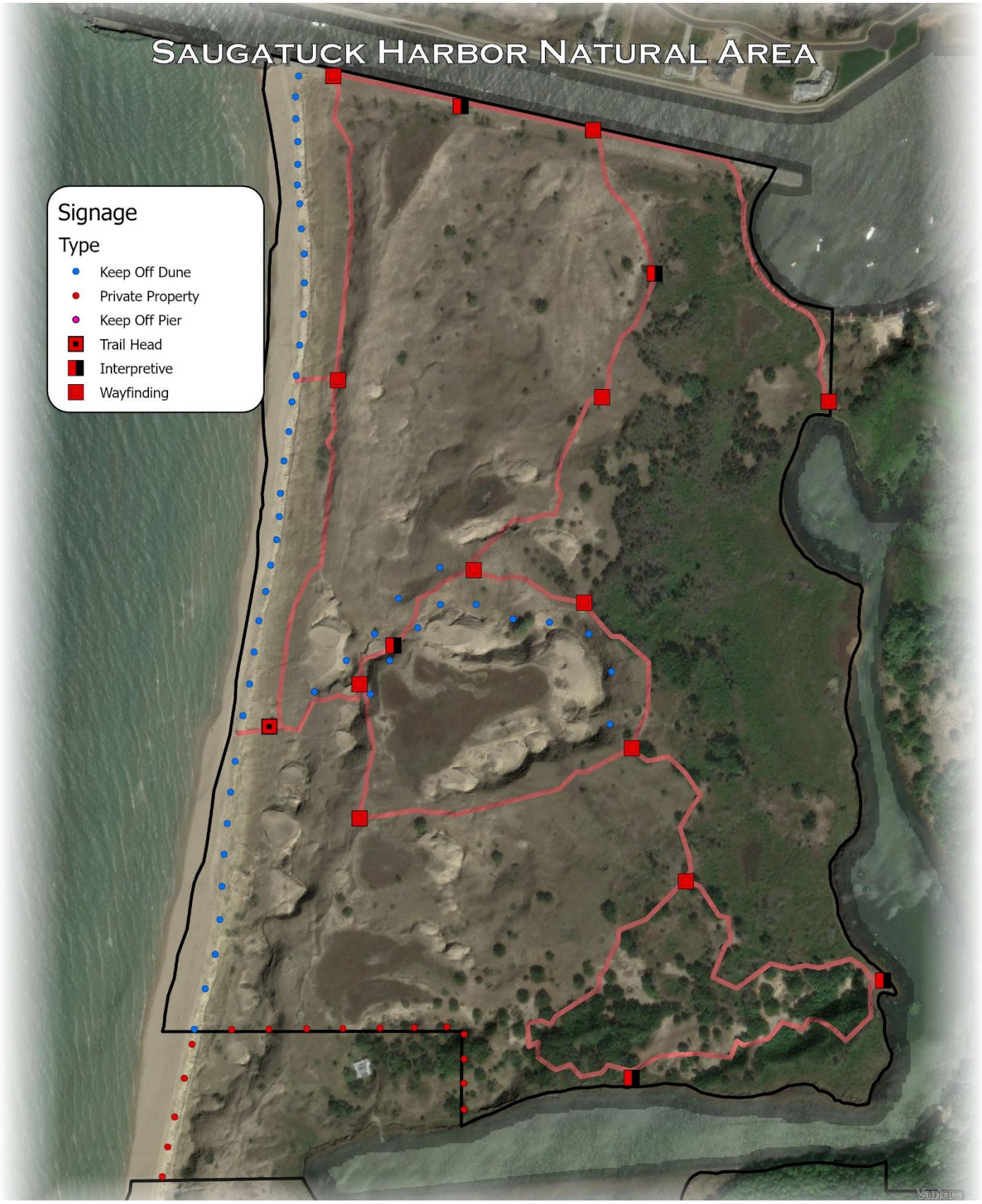
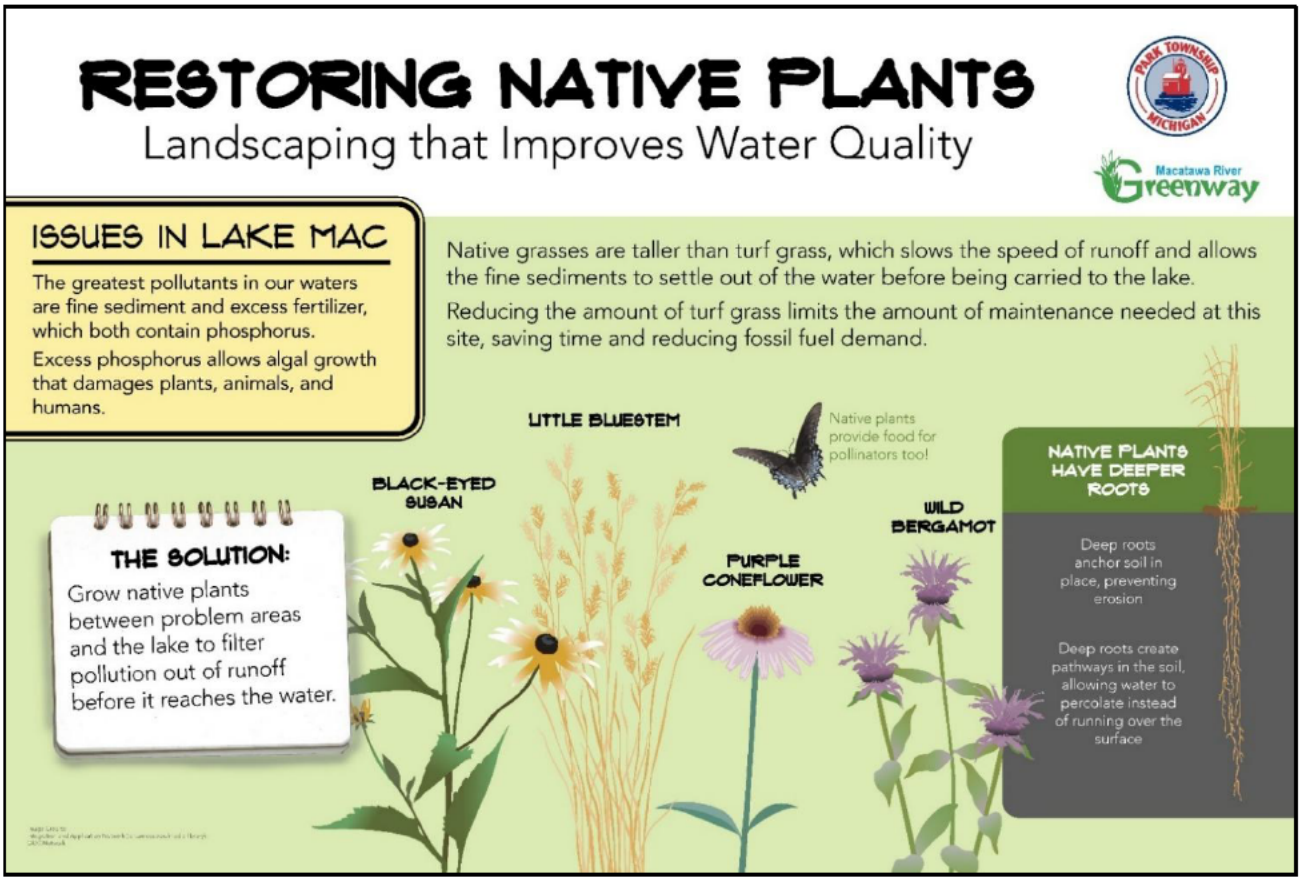


Figure 3: *Proposed interpretive signage locations including commands to help maintain safety and prevent disturbance of sensitive ecological communities.*

Appendix D: Interpretive Signage Examples Produced by ODC



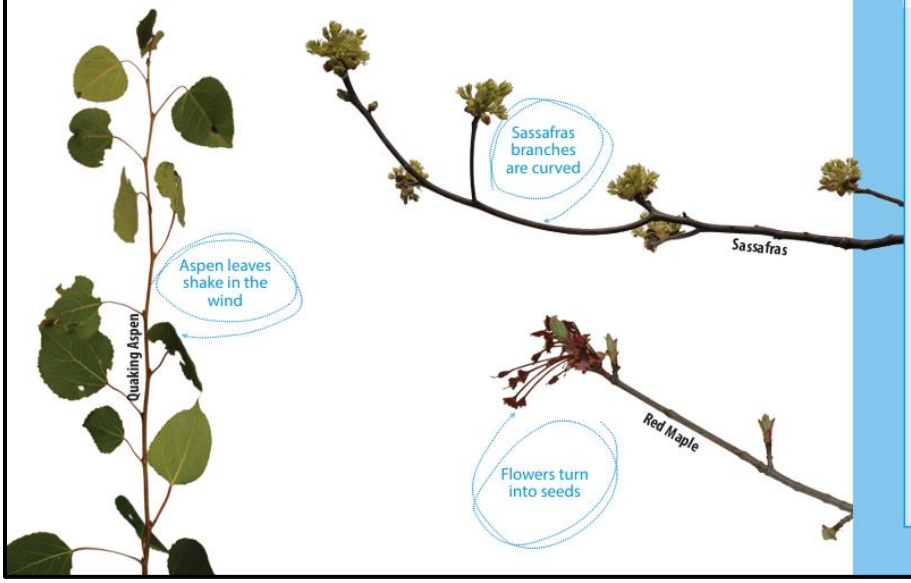
Deciduous Trees

Outdoor Discovery Center

Deciduous trees may lose their leaves when conditions are unfavorable.

In Michigan, deciduous trees lose their leaves in Autumn, in preparation for lower light and drier conditions of Winter.

Most of our deciduous trees in Michigan are also flowering trees. Many of those trees have small flowers and bloom in early Spring, before leafing out again.



Deciduous Tree Area Sponsored by:

Community Foundation of the Holland/Zeeland Area

Sensory Experiences

Look at the branches of the trees along this portion of the trail. Notice the leaves may be directly across from one another or in a zig zag pattern along the branch.

Smell a sassafras leaf or freshly broken twig.

Listen for the rustling leaves of the aspen trees along this portion of the trail.

Touch the bark and the leaves of the trees along this stretch of trail. Leaves may have a unique edge or texture.

Managing Habitat with Fire

Outdoor Discovery Center

Fire returns nutrients to the soil and helps remove invasive plants.

Non-native and invasive plant species do not provide food for wildlife. Removing the plants that are not supposed to be here helps us maintain high-quality habitat for wild animals.

Native plant species are tolerant of burning. Controlled burning lowers the danger of wild fires and promotes quality, native habitat.

When conditions are appropriate, the ODC conducts a controlled burn in the spring. We contract with PlantWise, a native habitat restoration company.

Did you know?

Fire = Faster Growth

Removing the dead plant stems allows the sunlight to reach the soil. The black earth left behind after the fire absorbs sunlight and heats up quickly.

Native warm season grasses and wildflowers germinate faster and grow better in the warm soil.

Grassland plants have annual growth that dies after each year though the roots are still alive.

Dead plant stalks provide fuel for the fire.

7 days after the burn

10 days after the burn

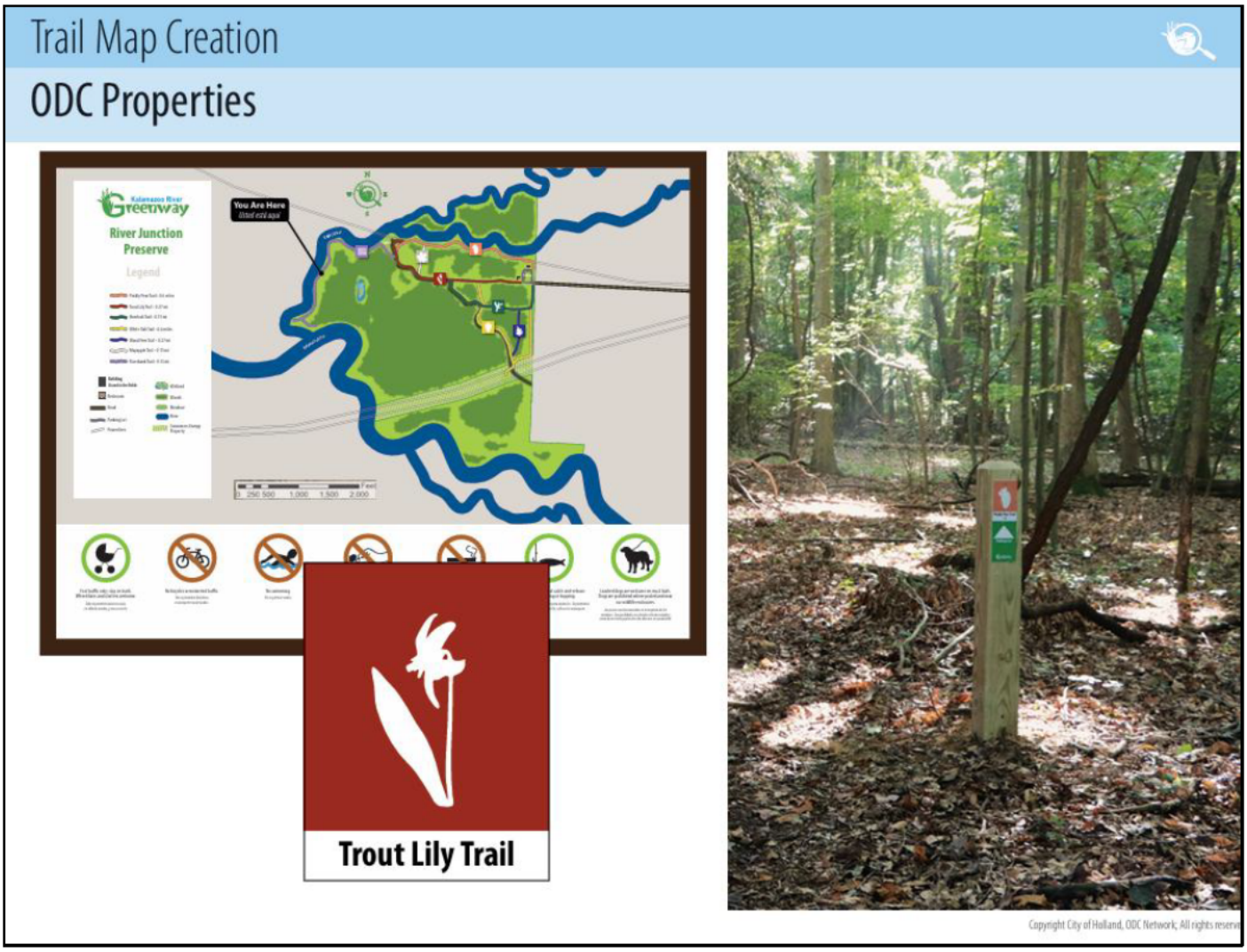
20 days after the burn

31 days after the burn

Appendix E: Examples of Trail Wayfinding Signage Produced by ODC

Outdoor Discovery Center
Legend Leyenda
Sensory Trail • 0.6 miles
Art Trail • 0.2 mi
Kestrel Trail • 0.3 mi
Sumac Trail • 0.2 mi
Ironweed Trail • 0.3 mi
Wintergreen Trail • 0.7 mi
SassafrasTrail • 0.3 mi
Tupelo Trail • 0.4 mi
Dragonfly Trail • 0.3 mi
Restroom
Pond
Wetland
Nature Play Areas
Woods
Meadow
Boardwalks
Road or Parking Lot
Open to the Public during listed hours unless being used for programs
Closed to the Public with the exception of special programs or events
outdoordiscovery.org
143rd Avenue
142nd Avenue
56th Street
N
S
E
W
De Witt Birds of Prey Center
Zwier Remnant Prairie
CFNZA Wetland
You Are Here
Usted está aquí
Fishing Pond
Spoelhof Outdoor Classroom
Cultural History Trail
VanDam Outdoor Classroom
Kuipers Archery Education Facility
Remnant Dune
Bradford Cultural History Classroom
Fillmore Discovery Park
Visitors Center
Fishing Pond
Trailhead
Founders Hall
Foot traffic only; stay on trails. Wheelchairs and strollers welcome.
No bicycles or motorized traffic.
No swimming.
Do not pick plants without permission. Do not remove or collect wildlife. Do not harass captive wildlife.
No smoking.
Fishing allowed only at catch-and-release ponds. No hunting or trapping.
Leashed dogs are welcome on most trails. Dogs are prohibited where posted and near our wildlife enclosures.

Seedlings
Discovery Preschool
Welcome to our Neighborhood!
You Are Here
Usted está aquí
Legend
Sidewalk
Park
Road
Train Track
Water
Building
Parking Lot
Walking Routes to Sally Smoly Nature Playscape
Shortest/Direct (5 mins)
Mid Distance/Sidewalk (7-8 mins)
Longest/Scenic Boardwalk (15min)
N
S
E
W
Window on the Waterfront Park
W 3rd St
W 4th St
Sally Smoly Nature Playscape
E 5th St
Stow Building
E 6th St
E 7th St
E 8th St
S River Ave
Central Ave
College Ave
Columbia Ave
Lincoln Ave



Note: These examples of interpretive signage concepts were developed by ODC and are provided for conceptual reference only. They are intended to illustrate potential styles, layouts, and integration within a natural landscape setting. Final signage design is not included within the scope of this assessment; however, interpretive signage could be developed in the future through coordination with ODC or another qualified design partner to highlight the site's unique dune ecology and associated ecological communities.

For custom signage design and production support, please contact our Creative Director, Dylana Eisaman

Appendix F: Reference Images of Trailhead Kiosk

PROPOSAL FOR CONSERVATION SERVICES

This proposal was created for:

City of Saugatuck - Saugatuck Harbor Natural Area
Oval Dr, Saugatuck, MI 49453

General Background and Scope of Work:

The purpose of this proposal is to address trail management and ecological restoration opportunities within the 173-acre Saugatuck Harbor Natural Area. The site is experiencing pressure from informal trail development and associated impacts to sensitive dune and interdunal wetland plant communities. Based on findings from the Trail Assessment Report, ODC Network recommends a focused approach that prioritizes trail system remediation, ecological restoration, visitor experience improvements, and long-term site resilience. The following scope outlines recommended work for 2026 and 2027:

1. **Trail Remediation (Closures & Improvements)**
   - Based on the Trail Assessment Report, we will implement targeted trail remediation measures, including:
     - Closure of designated informal and redundant trail segments. This includes installation of natural deterrments available on site (downed logs, brush, and other natural materials), and small keep out signs to discourage re-entry
     - Coordination of field layout to confirm closure extents and sensitive habitat buffers
   - The scope focuses on consolidating user activity into the existing primary trail loop while reducing fragmentation and protecting sensitive ecological areas.

2. **Habitat Restoration of Closed Trail Sections**
   - On sections of closed trail (~20,000 ft), we are available to seed and/or plant native plant material to restore these sections and prevent discouragement of continued usage.
   - **Option 1 – Native Plugs**
     - High-establishment, high-visibility restoration approach
     - Immediate vegetative structure for reinforcing closure areas
     - Species may include marram grass, puccoon, prairie sand reed, sand coreopsis, spotted bee balm, and other regionally-appropriate native species
     - Installed at approximately 18” spacing (~10,000 plugs total)
   - **Option 2 – Native Seed Only**
     - Lower-cost approach
     - Longer establishment timeline
     - Less immediate visual deterrence compared to plugs
     - Suitable for broader, lower-priority restoration zones
   - **Option 3 – Hybrid Approach (Recommended)**
     - Combination of native seeding with targeted plug installation
     - Approximately 3,500 plugs placed in high-visibility or high-use pressure areas
     - Seed applied across remaining restoration zones
     - Balanced approach between cost, establishment speed, and ecological performance

3. **Signage & Wayfinding Program (Design & Fabrication)**
   - ODC Network's Creative Team will develop a cohesive signage package that improves visitor orientation, protects sensitive habitats, and enhances interpretation of the site's unique ecological communities.
   - The proposed signage package includes:
     - **Welcome Kiosk and Map Development (x1)**
       - Two 24x36” signs on kiosk or upright board
       - Outlines welcome/rules and trail map

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        - Creates a visual starting point for a visitor's park experience
        - See Appendix B for example
    - **Interpretive Signs (x5)**
        - Topics for each ecological community: Open Dunes, Great Lakes Marsh, Interdunal Wetland, Mesic Northern Forest, and Native Plant Benefits
        - 18x24" panels on angled post
        - See Appendix B for Example
    - **"You Are Here" Map Signs (x6)**
        - Includes rules or other policy/wayfinding information
        - 18x24" panels on angled post
    - **Boundary Sings (x50)**
        - Keep Off Dune, Private Property, Keep Off Pier
- This scope includes signage planning, interpretive content development, trail map development, graphic design, up to three (3) rounds of design and content revisions, and fabrication, procurement, and delivery of signage components. Additional revisions requested following the included three rounds, or changes to the approved scope, content, dimensions, or overall design direction, may be treated as additional work and billed separately.

4. **Signage Installation (Optional Add-On)**
    - ODC Network can also provide complete field installation of all proposed signage. Installation includes:
        - Field verification of sign locations
        - Installation of trailhead kiosk
        - Installation of interpretive, wayfinding, and boundary sign posts
        - Final alignment and mounting of all sign panels

5. **Establishment Maintenance (Optional Add-On)**
    - ODC Network can provide post-installation establishment support to ensure long-term success of restoration areas. This includes:
        - First-year vegetation establishment monitoring
        - Spot reseeding or planting adjustments as needed
        - Invasive species spot control within restoration zones
        - Seasonal site visits for adaptive management
    - This scope is recommended to improve long-term restoration success and reduce re-establishment of informal trails.

Project Timeline:

- Signage design & fabrication: ongoing between Summer 2026 – Spring 2027
- Trail remediation: ongoing between Fall 2026 - Summer 2027
- Habitat restoration: Spring 2027 (weather and soil conditions dependent)
- Establishment maintenance: Ongoing throughout 2027 following installation (optional add-on)
- Invasive species management: Ongoing outside of this scope

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Project Budget:

Line Item	Budget	Installation Date	Billing Date
Trail Remediation (Closures & Improvements)	$31,050	Ongoing	Spring 2027
Habitat Restoration – Native Plugs (Option 1)	$50,000	Spring 2027	Spring 2027
Habitat Restoration – Native Seeding (Option 2)	$8,250	Spring 2027	Spring 2027
Habitat Restoration – Hybrid Approach (Option 3)	$25,750	Spring 2027	Spring 2027
Signage & Wayfinding Program (Design and Fabrication)	$16,500	Ongoing	Spring 2027
Signage Installation (Optional Add-On)	$25,500	Summer 2027	Summer 2027
Establishment Maintenance (Optional Add-On)	$5,000	Ongoing in 2027	Summer 2027

Total project cost will be determined based on selected restoration and signage options. All selections above $10,000 will require a 50% deposit at the start of the project.

Note: *This proposal accounts for pricing of all labor, materials, and equipment necessary in order to perform the outlined work plan. If additional work is required beyond the scope of this proposal, we will provide written notification and pricing will be determined on a time and materials basis.*

Project Delivery: ODC Network may utilize qualified subcontractors or specialty vendors for select components of the project, including fabrication or installation of specialty signage and trailhead kiosks, as appropriate. ODC Network will remain the primary point of contact and will oversee all project coordination, scheduling, and quality assurance.

Exclusions: This proposal does not account for:

- New construction of additional trail systems or redesign of the existing primary loop
- Invasive species management outside of restoration or closure areas.
- Long-term maintenance beyond the establishment period unless included as a separate scope.
- Ongoing maintenance, cleaning, refinishing, or replacement of signage, kiosks, posts, or hardware following installation.
- Damage to signage or trail infrastructure resulting from vandalism, weather events, flooding, erosion, fallen trees, or other causes beyond ODC Network's control.
- Utility locating, surveying, engineering, or permitting not specifically identified within this proposal.
- Future revisions to interpretive content or graphic design after final approval.

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Qualifications:
ODC Conservation Services is staffed by highly qualified conservation professionals with extensive experience in invasive species management, habitat assessment, and ecological restoration.

- ODC Network (and its subsidiaries) is a fully insured 501c3 and carries an extensive liability policy to conduct habitat improvement services in Michigan.
- State licensed herbicide applicators with certifications in Forest Pest, Right-of-Way, and Aquatic pesticide application.
- Manage 2,500+ acres of natural area annually across Michigan.
- Combined 30+ years' experience in invasive species management.
- Successfully restored over 250 acres of native prairie habitat.
- Experienced consultants in invasive species management, wetland delineation, habitat assessment, and ecological restoration.
- Experience overseeing prescribed burns on approximately 10-100 acres of natural area annually through qualified subcontractors, including coordination, planning, and post-burn evaluation.
- Experience designing, installing, and maintaining native gardens/landscape beds.
- Proficient in identification of native and non-native Michigan flora and fauna.
- Experienced GIS professionals.

We appreciate the opportunity to submit this proposal. We look forward to discussing the opportunity further with you. Please do not hesitate to ask questions or clarifications. If you choose to accept this proposal, please sign and return a copy.

Tanner Bricker, Conservation Services Director
ODC Network

If you wish to accept this proposal, please initial each page, as well as sign and date below:

_____ _____
Signature of Authorized Property Owner/Manager Date

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