

A photograph of the Chicago skyline, featuring several prominent skyscrapers like the Willis Tower. In the foreground, there is a lush green hillside with many purple flowers, likely part of a park or urban green space. The sky is clear and blue.

gROWing Chicago: Prioritization Mapping of Chicago Wilderness' Built Infrastructure CW Focus Area



GOALS FOR TODAY

- Learn about the gROWing Chicago Habitat Initiative's Prioritization Strategy goal
- Bring together land managers and GIS specialists
- Begin to frame what a useful Prioritization Strategy looks like

AGENDA



gROWing Chicago Habitat Goals



Establish

a network for ROW organizations, public and private landowners, and conservation organizations in the Chicago-area



Build

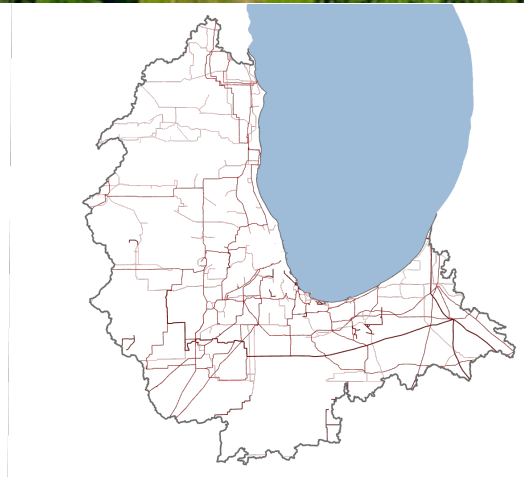
a collaborative platform to share ROW projects, success stories, and coordinate on initiatives



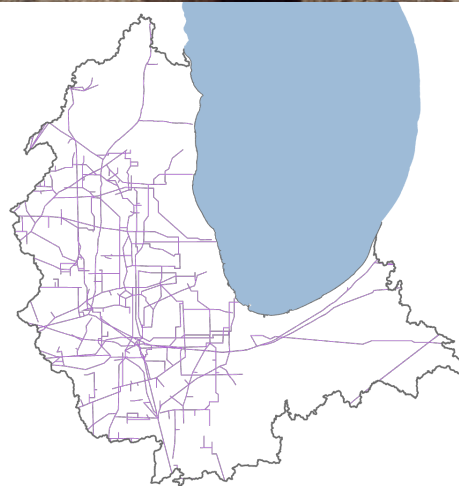
Create

a prioritization strategy to focus habitat conservation efforts across Chicagoland ROWs

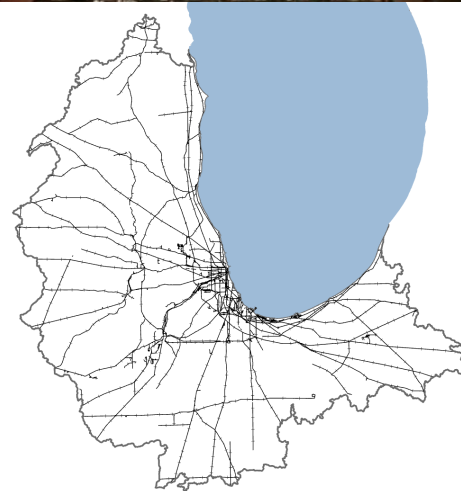
Electric Transmission



Pipelines



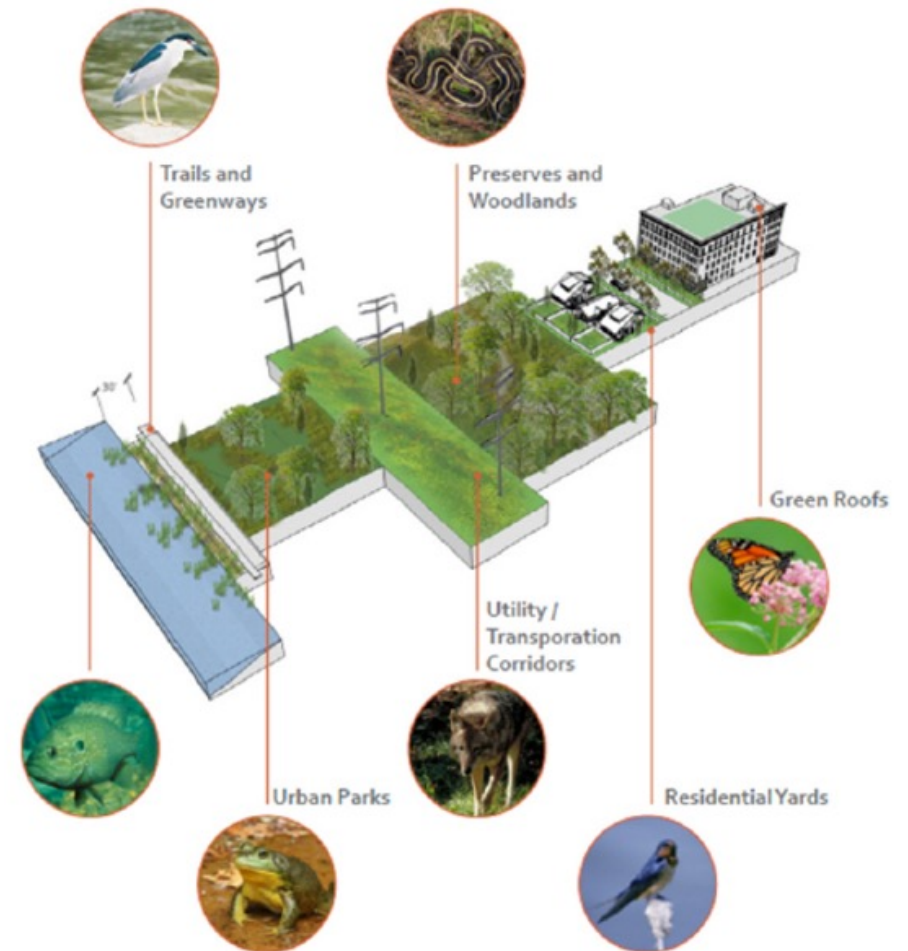
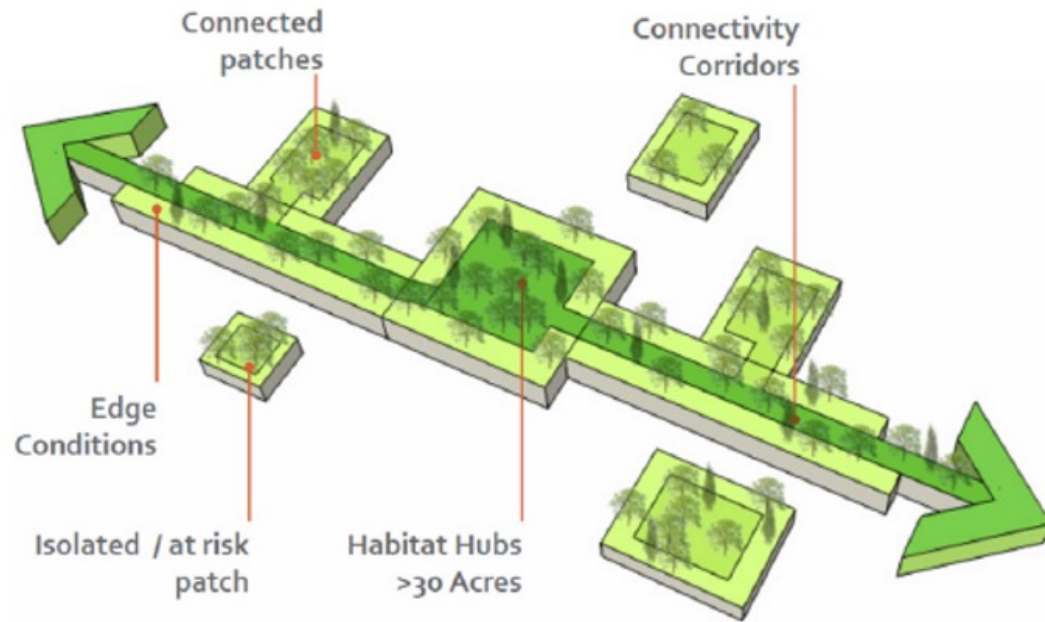
Railroads



Highways



Habitat Intersections



Source: Friends of Chicago River



All Major ROWs in CW Region (~27,000 miles)

Major ROWs Connecting Protected Lands

Major ROWs Adjacent to Protected Lands
(without Protected Lands)

560 mi of Transmission Lines

23 mi of Interstate Highways

605 mi of County Roads

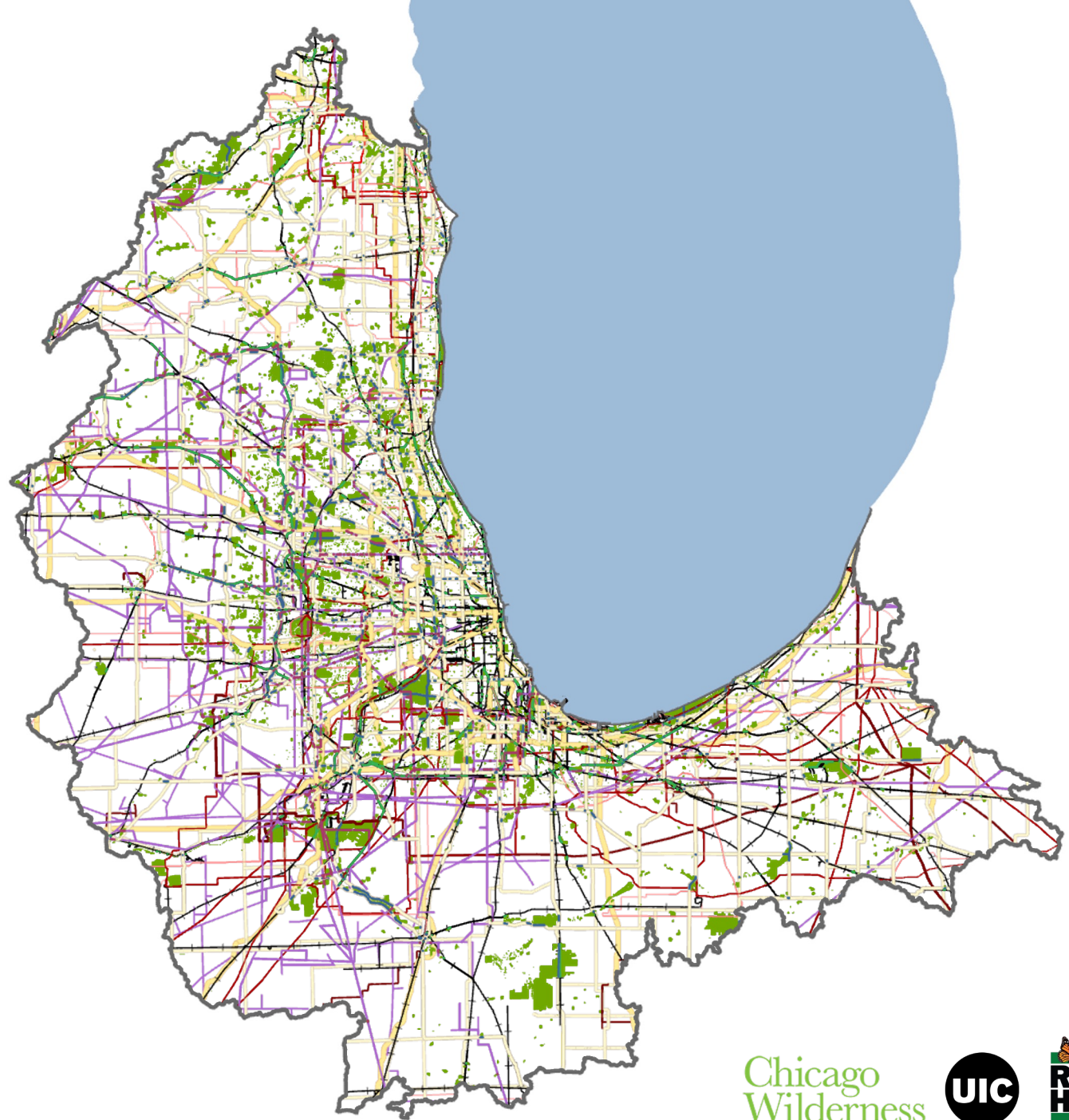
418 mi of Major railways

244 mi of Pipelines

1,850 mi in/adjacent to Protected Lands

~ 7% of total ROWs

~ 23,000 Acres



gROWing CHICAGO



Create a prioritization strategy to focus habitat conservation efforts across Chicagoland ROWs.



GOAL: create a decision-support tool for ROW managers and partners to guide habitat conservation on energy and transportation lands

REVIEW

**existing mapping data and
plans in the region**

IDENTIFY

**prioritization
criteria for
habitat on ROWs**

ENGAGE

**stakeholders in
strategy
development**

Case Studies



Aligning Conservation Action Plans in the Calumet Region

*A project supported by the Calumet Land Conservation Partnership
Report prepared by Victoria Wittig, Ph.D. (vwittig@pnw.edu)*

Susan Kirt Photography



Heart
of the
Calumet



J. Janiga



IDNP Flickr

Ecosystems of the
Indiana Dunes

West Branch
of the
Little Calumet
River



G. Sullivan

Hobart Marsh
& Deep River



Shirley Heinze Land Trust

East Branch
of the
Little Calumet
River

Conservation Action Planning – Eight Sub-geographies in the Calumet Region

- Ambler Flatwoods
- Moraine Complex
- Hoosier Prairie
- Indiana Dunes Ecosystems
- East Branch of the Little Calumet River
- West Branch of the Little Calumet River
- Hobart Marsh
- Heart of the Calumet



Introduction

Across the Calumet Region of Northwest Indiana and Southeast Chicago, conservation partners have undertaken dedicated work for many years in eight focus areas that represent diverse ecosystems, river corridors and the impressive biodiversity they collectively support. Aligning Conservation Action Plans (CAPs) in each focus area is an endeavor made possible by the numerous stakeholders involved and the strong partnerships they have forged while working toward shared conservation goals.

Conservation action planning provides a globally recognized framework for engaging in conservation work to benefit people and the environment. Utilizing the Conservation Action Planning toolkit, a Conservation Action Plan, or "CAP," was formulated for each of five focus areas of the Calumet region during 2020 using traditional workshops for one (the West Branch of the Little Calumet River) and by identifying key conservation action planning elements from existing planning documents, strategic frameworks, workplans, reports, presentations and personal communications for four others: the Heart of the Calumet, Hobart Marsh, Ecosystems of the Indiana Dunes and the East Branch of the Little Calumet River. Hoosier Prairie, Moraine and Ambler Flatwoods were the focus of conservation action planning in 2018 and the three CAPs produced from that process were the inspiration for aligning CAPs for all eight focus areas in the region.

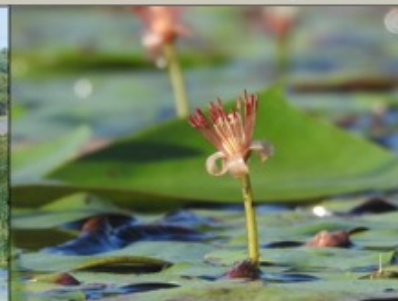
At all stages, "conservation partners," including conservation organizations, land managers, planning organizations and communities, provided their experiences, knowledge, expertise and resources to develop the fundamental aspects of a CAP for the focus areas in the Calumet landscape. These fundamental aspects include: the conservation vision, geographic scope, conservation targets, human well-being targets, conservation threats and strategies to achieve targets and/or minimize threats for each focus area.

The result is this public-facing Conservation Action Plan Alignment report, along with one-page companion factsheets for each of the eight focus areas, which may be used to communicate with new and existing conservation partners, community stakeholders, potential funding bodies and more. As with all conservation work, conservation action planning is never truly finished; conservation partners will adjust the targets, threats and strategies according to new information and opportunities as they arise. As work unfolds conservation partners will have the opportunity to continue to employ the CAP toolkit into advanced stages leading to the development collaborative workplans, projects, community engagement initiatives. In this way the CAPs will become living documents that may guide restoration and community engagement throughout the Calumet Region for years to come.

Conservation Action Planning (and the CAP process) is flexible and adaptable as more information and resources become available - *CAPs are living documents*



analyze and share
developed by The Nature
conservation impacts
with the conservation



Conservation Strategies

Conservation Action Planning includes identifying the strategies to minimize and/or overcome threats to conservation and human well-being targets. Based on their experience working within this landscape, conservation partners identified a suite of strategies they can employ including: Coordinated efforts to restore conservation targets, increased habitat connectivity, outreach to communities, cooperative invasive species management, programming, addressing limited funding to sustain efforts into the future, cultivate new and sustaining existing partnerships, assess climate change threats, limit pollution and many more.

Conservation action planning was used in 2018 to guide conservation work for the Calumet Land Conservation Partnership and their collaborators in three focus areas of the Calumet region: Hoosier Prairie, Moraine, and Ambler Flatwoods. Between 2020-2021, the Little Calumet River Partners embarked on conservation action planning for the West Branch of the Little Calumet River. Both sets of plans are available online at savedunes.org/resources. Openlands recently completed a conservation action plan for the Illinois branch of the Little Calumet River. The following report covers conservation action planning completed by the Calumet Land Conservation Partnership for four additional focus areas: Heart of Calumet, Hobart Marsh & Deep River, the Ecosystems of the Indiana Dunes and the East Branch of the Little Calumet River. By aligning the approach to determining the conservation vision, geographic scope, conservation targets, conservation threats and conservation strategies for each of these "sub-geographies," conservation partners have the ability to identify commonalities across the region that will enable them to share best practices and limited resources. Unique attributes also become clear through this alignment approach which then helps to elevate that significance they each hold. This document is intended to be a record of where conservation efforts are focused and to guide next steps. It is also intended to engage partners, support fundraising initiatives and communicate the incredible nature of the Calumet region for its diverse communities.

Conservation Targets

Conservation targets across the Calumet Region take many forms from landscape-level approaches to controlling localized flooding, from preserving high-quality natural areas to prioritizing restoration on degrade sites; from preserving wetland and migratory species to protecting threatened species and habitats; from reducing pollution to reducing stormwater runoff. Conservation partners working in each focus areas identified the targets that they are aiming for in their work to preserve, protect and restore them for years to come.



Marsh Wren, David Greenhalgh/APA

Conservation Partners

Conservation in the Calumet region relies on a variety of stakeholders that work together to identify conservation targets, threats and strategies.

Collectively these stakeholders are referred to as "conservation partners" that each fill distinct roles. Conservation partners in the Calumet region include local, federal and state agencies, local and national non-profit organizations, land trusts, private landowners, planning commissions and utilities.

Regular meetings convened by a core group of conservation partners focused on the Calumet region, referred to as the "Calumet Land Conservation Partnership," have provided a robust framework to bring these stakeholders together to coordinate projects, source funding and identify new opportunities.

Working together, these partners collaborate on achieving conservation targets by implementing the strategies that move their collective goals forward. This alignment of Conservation Action Plans for focus areas in the Calumet provides an overview of the work these partners have been engaged in for many years.



Conservation Threats

Conservation action planning includes identifying the threats to conservation and human well-being targets; conservation partners identified several common threats in the Calumet Region including invasive species, habitat fragmentation, lack of prescribed fire, flooding and altered water levels, lack of awareness of and appreciation for nature, limited funding to address conservation, community engagement needs, pollution, and climate change impacts.



CALUMET REGION FOCUS AREAS

Conservation action planning was used in 2018 to guide conservation work for the Calumet Land Conservation Partnership and their collaborators in three focus areas of the Calumet region: Hoosier Prairie, Moraine, and Ambler Flatwoods. Between 2020-2021, the Little Calumet River Partners embarked on conservation action planning for the West Branch of the Little Calumet River. Both sets of plans are available online at savedunes.org/resources. Openlands recently completed a conservation action plan for the Illinois branch of the Little Calumet River.

The following set of Conservation Action Plans were completed by the Calumet Land Conservation Partnership for four additional focus areas: Heart of Calumet, Hobart Marsh & Deep River, the Ecosystems of the Indiana Dunes and the East Branch of the Little Calumet River. By aligning the approach to determining the conservation vision, geographic scope, conservation targets, conservation threats and conservation strategies for each of these "sub-geographies," conservation partners have the ability to identify commonalities across the region that will enable them to share best practices and limited resources.

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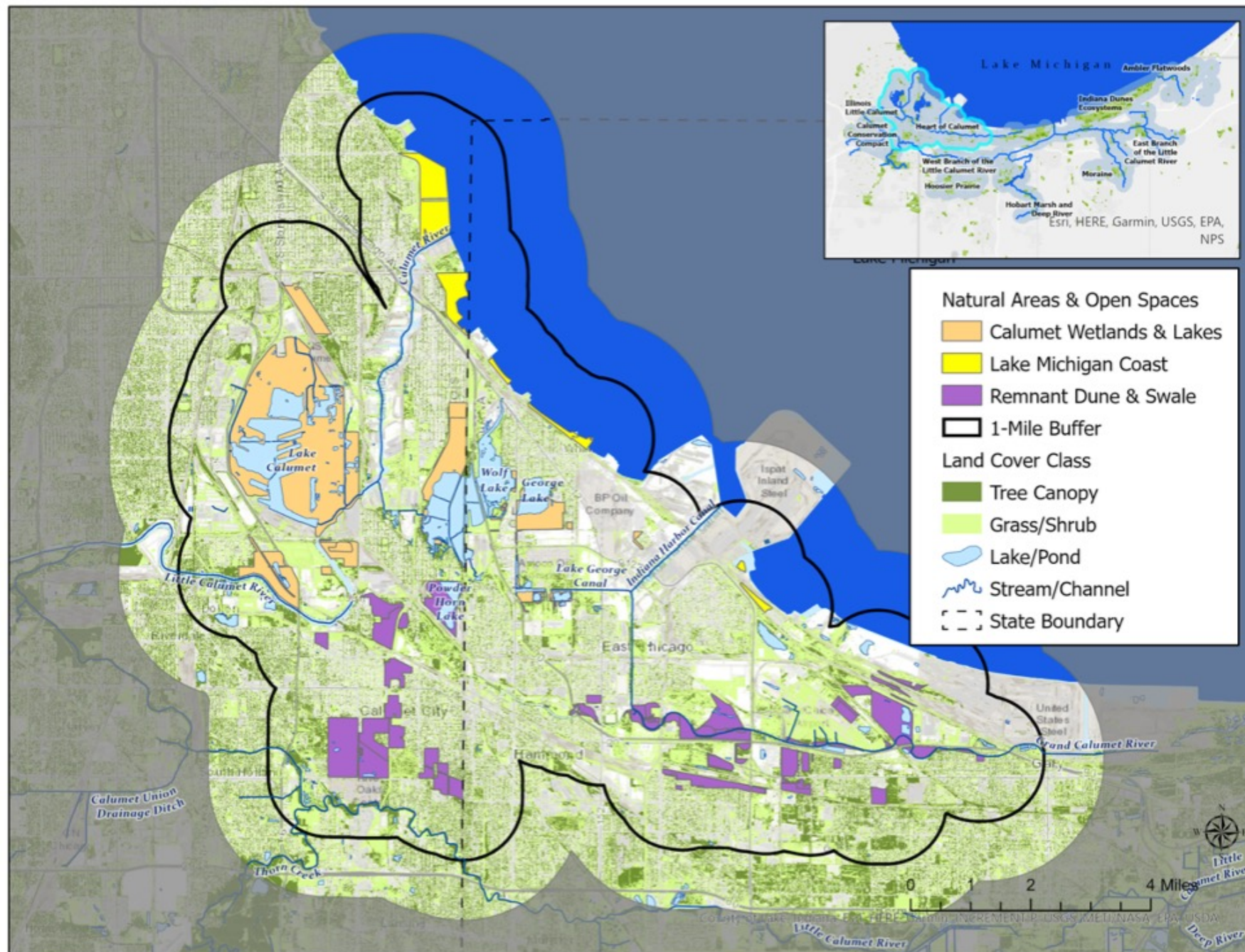


HEART OF CALUMET

The Calumet region sits at the very crossroads of the country, and at the very center of the Calumet region lies the Heart of Calumet. Rail, road, water, pipeline and air transportation routes converge here; major steel, auto, petroleum refining and other industrial facilities power the economy and affect the environment; hundreds of thousands of people live, work, and play here. And in this heartland can also be found prized dune and swale remnants; wetlands and lakes that harbor marsh and migratory birds; path-breaking ecological restorations; and exciting new opportunities for active recreation. These elements neighbor each other in a challenging patchwork, sometimes hiding conservation opportunities from general view, sometimes generating diverse and conflicting priorities. This Conservation Action Plan creates a high-level view of the landscape, outlining the targets, threats, and opportunities for conservation in one of the nation's most distinct landscapes.

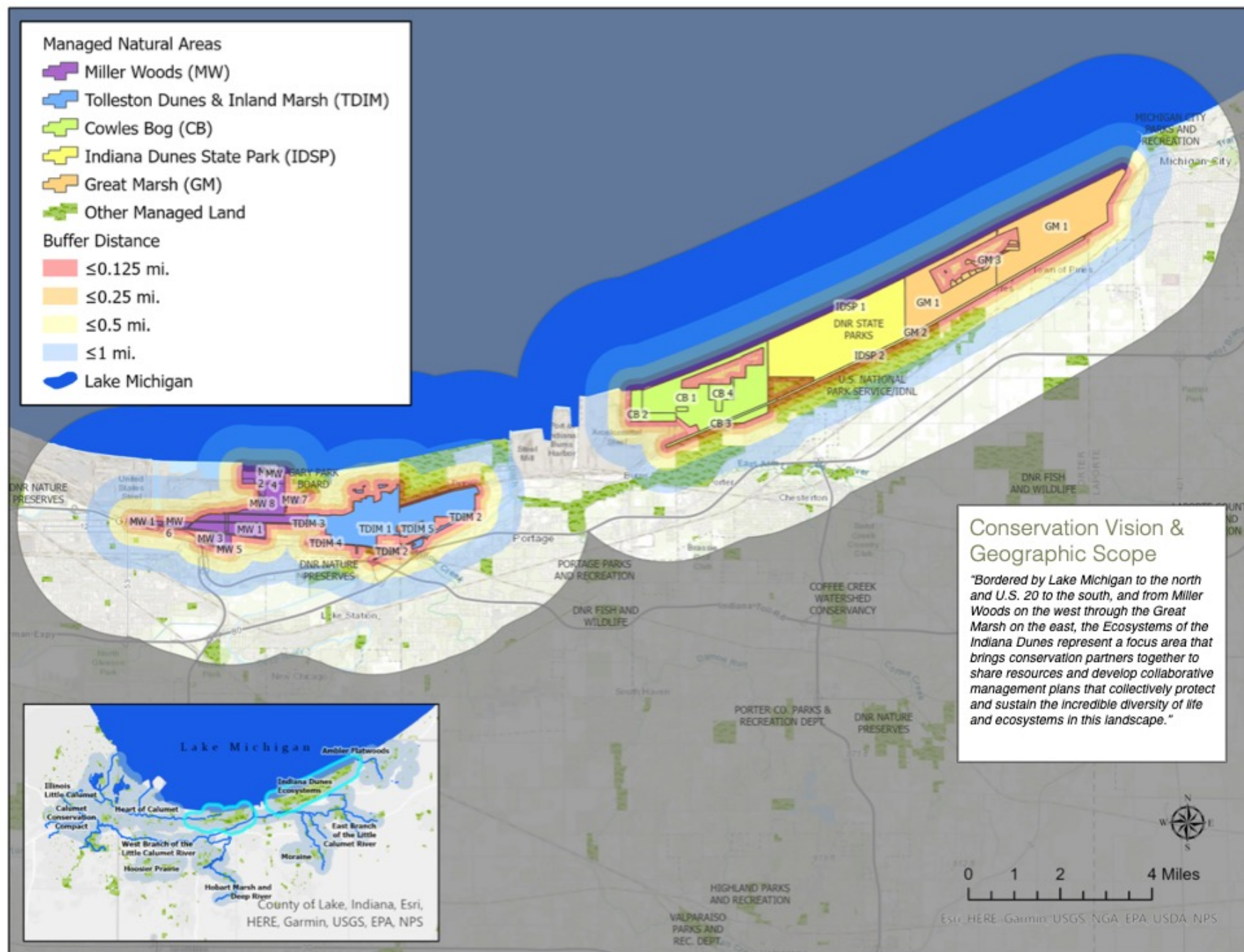
Conservation Vision

"Conservation partners working in the Heart of the Calumet envision that natural areas and open spaces are enhanced, expanded, and connected in ways that benefit Calumet residents and biodiversity."



Located on the southern shores of Lake Michigan, the ecosystems of the Indiana dunes represent some of the most biodiverse natural areas within the United States. Conservation partners described five priority sites within this focus area to enable strategic discussion, decision-making, workplan development and project implementation to protect conservation targets. The priority sites include Miller Woods, Tollester Dunes/Inland Marsh, Cowles Bog, Indiana Dunes State Park, and the Great Marsh.

Conservation work in the Indiana Dunes is a collaborative endeavor that brings together a variety of stakeholders operating at federal, state, regional and local levels. Large land managers include the National Park Service that manages units of the Indiana Dunes National Park (IDNP) and the Indiana Department of Natural Resources Division of Nature Preserves staff who manage the Indiana Dunes State Park (IDSP); Shirley Heinze Land Trust (SHLT) owns and manages several parcels adjacent to the IDNP and IDSP. Private land-owners such as The Northern Indiana Service Company (NIPSCO) and the Northern Indiana Public Transit District (NICTD) manage Right-of-Way (ROW) corridors that traverses the Indiana Dunes. Other stakeholders include the Northwestern Indiana Regional Planning Commission (NIRPC), conservation organizations such as Save the Dunes and The Nature Conservancy (TNC), shoreline communities among others such as US Steel and the railways. Collectively these stakeholders are referred to as "conservation partners" that each fill distinct roles for the collaboration. Regular meetings convened by a core group of conservation partners focused on the Indiana Dunes has been termed the "Indiana Dunes Ecosystem Alliance," or IDEA. Over the course of several years, IDEA has developed collaborative workplans based on an Indiana Dunes Ecosystem Alliance Strategic Framework, the Indiana Dunes Climate Change Adaptation Plan and the Indiana Dunes National Park Resource Stewardship Strategy.

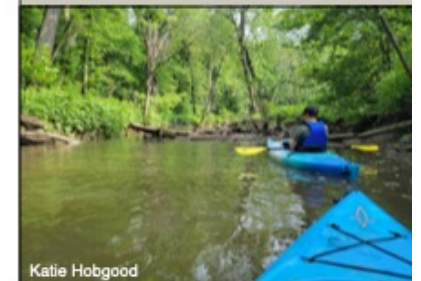


EAST BRANCH OF THE LITTLE CALUMET RIVER

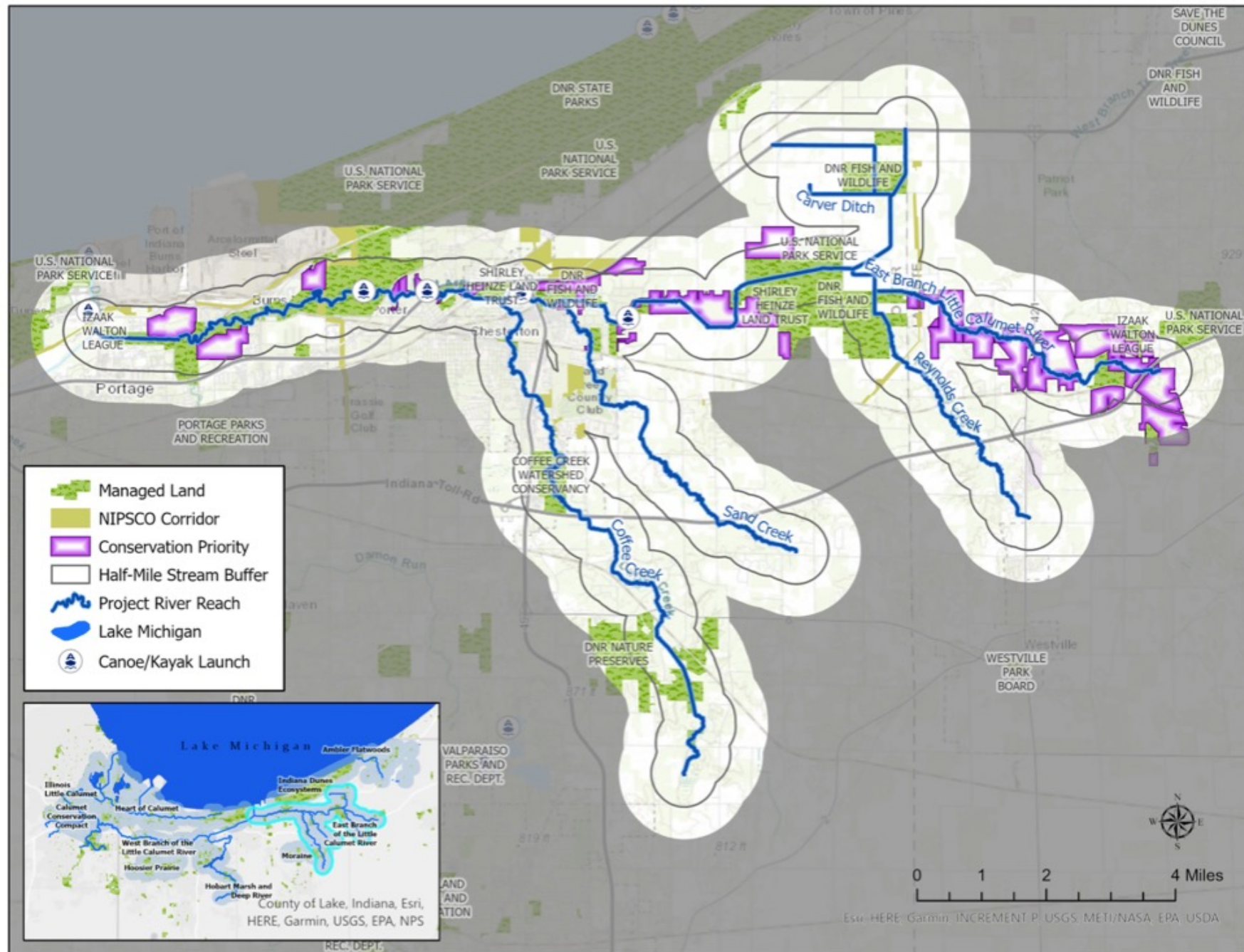
The East Branch of the Little Calumet River corridor exists within a mosaic of high-quality natural areas including remnant and old growth ecosystems managed by Shirley Heinze Land Trust, the Indiana Dunes National and State Parks, and others, in addition to areas formerly used for agriculture that are now undergoing restoration. Effective strategies to address threats to conservation targets identified by partners working in this area, such as those developed through Conservation Action Planning and listed below, help to keep challenges and their solutions in focus.

Conservation Vision & Geographic Scope

"From the Little Calumet Headwaters Nature Preserve at Red Mill County Park in LaPorte County to the Indiana Dunes National Park in Porter County, the East Branch of the Little Calumet River Conservation Corridor preserves riparian habitats to connect managed lands, restore natural habitat, improve water quality, reduce flooding, and provide recreational access to the river and associated ecosystems."



Katie Hobgood



HOBART MARSH & DEEP RIVER

The Hobart Marsh and Deep River Conservation Area is a diverse landscape that includes several habitat types within a relatively developed area within Lake County. The presence of several conservation management entities and strong partnership with the municipality offers a unique opportunity for exemplary collaboration in natural area preservation and management. The vision for the conservation area includes a preserved landscape with a unique municipal "conservation district" zoning that supports appropriate natural area management within an urban area, provides access to natural areas and green space that improves quality of life for surrounding residents, and promotes economic development that is sensitive to the biodiversity of the area.

Hobart Marsh is a large complex of nature preserves owned and managed by several entities including the Indiana Dunes National Park, the Indiana Department of Natural Resources, Shirley Heinze Land Trust, and others. Hobart Marsh sits on the northwest border of Lake George in Hobart, Indiana. Deep River extends southeast from Lake George, and is bordered by extensive riparian habitat. Effective strategies to address threats to conservation targets identified by conservation partners working in this area, such as those listed below, help to keep challenges and potential solutions in focus.

Geographic Scope

"Surrounding Lake George in Hobart, IN, the Hobart Marsh and Deep River focus area represent a large complex of nature preserves owned and managed by local, state, federal and private entities. Hobart Marsh borders Lake George to the northwest, while Deep River winds its way to the southeast through riparian habitat."

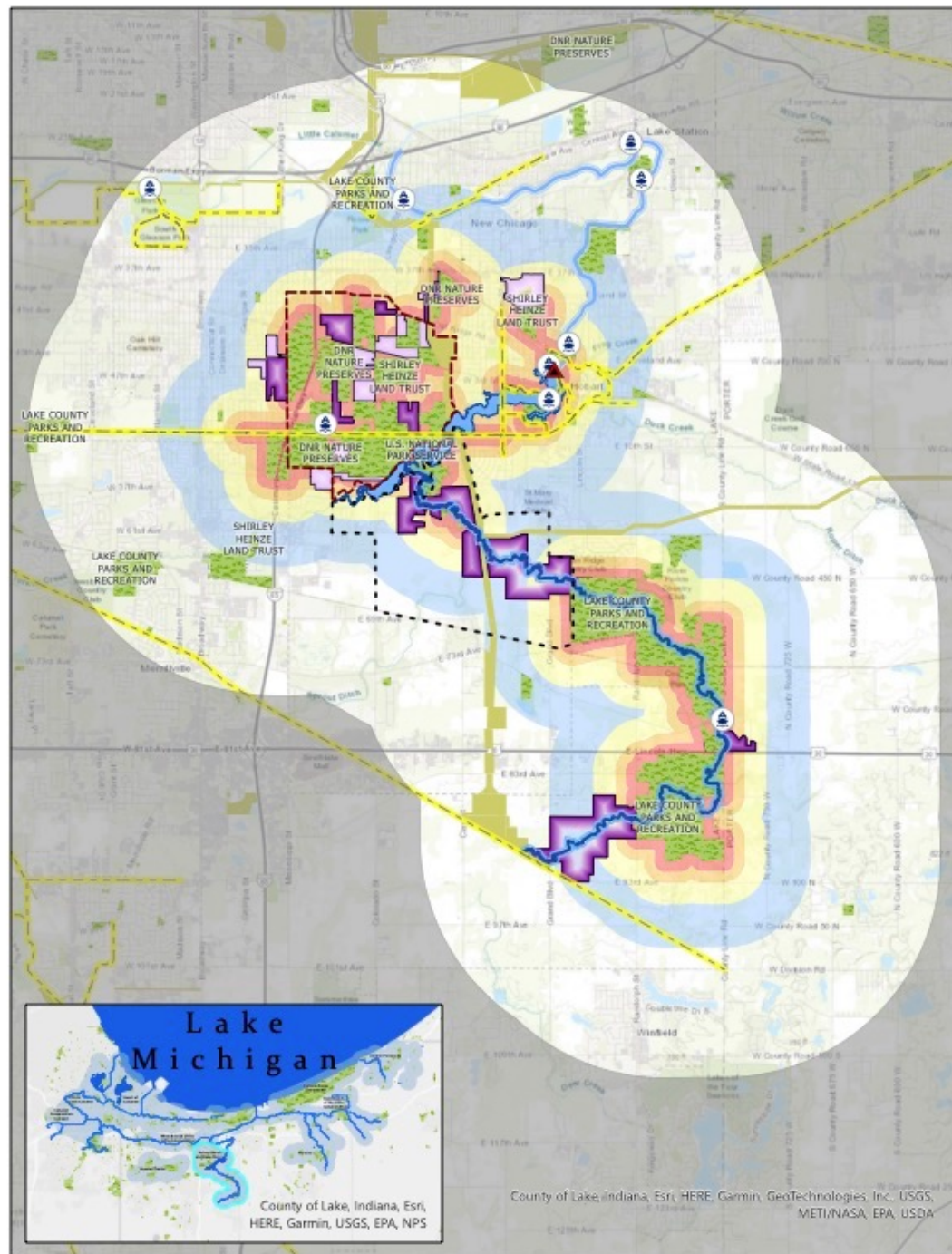
- Managed Land
- NIPSCO Corridor

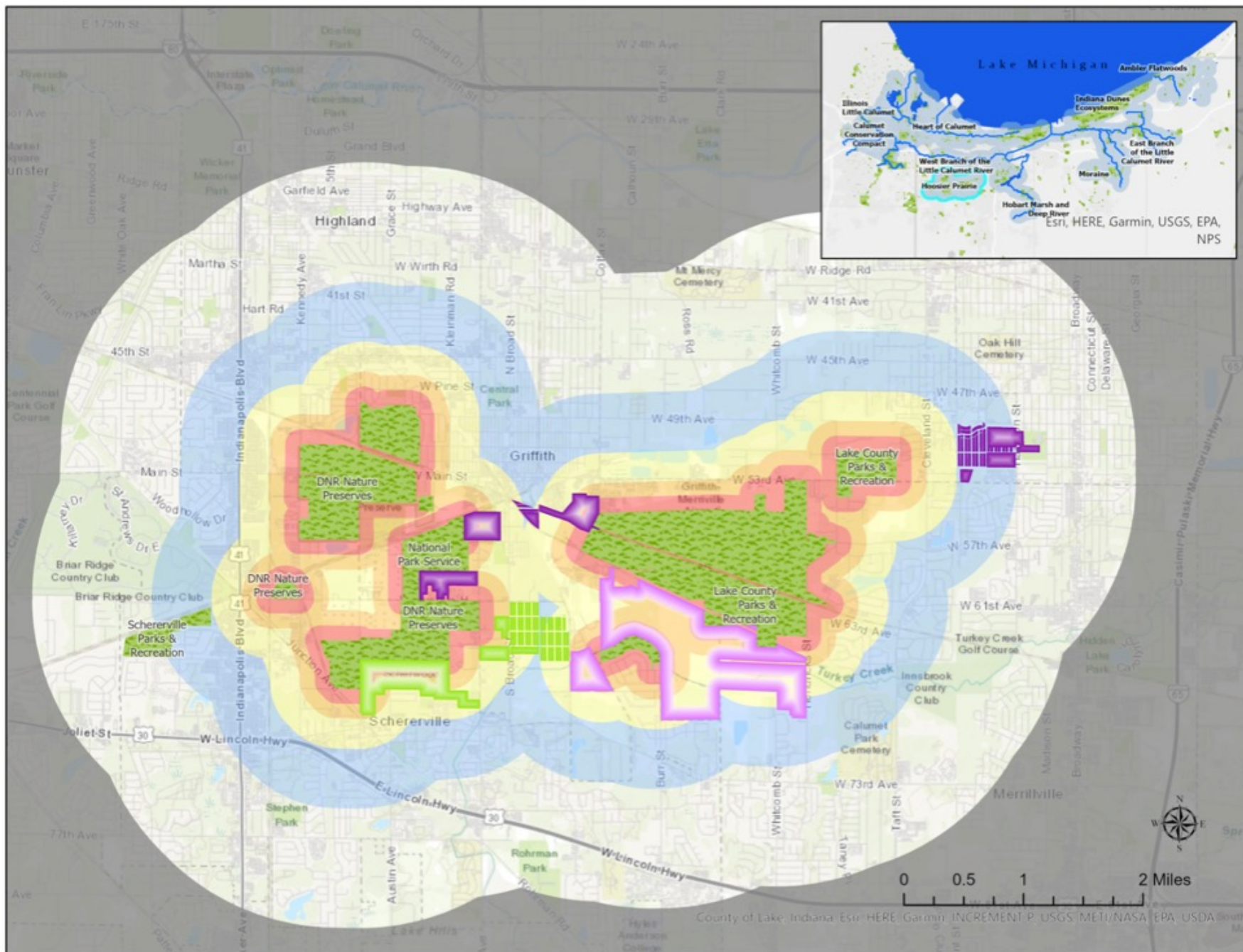
Buffer Distance

- ≤0.125 mi.
- ≤0.25 mi.
- ≤0.5 mi.
- ≤1 mi.

Conservation Priority

- 1
- 2
- Lake George
- Deep River Project Reach
- Deep River Phase 2 Reach
- Trail
- Dam
- Boat Launch
- Sub-Area Plan Boundary
- Conservation Zoning Boundary





HOOSIER PRAIRIE

The Oak Ridge/Hoosier Prairie Complex (i.e. Hoosier Prairie) is an approximately 2098-acre area comprised of lands managed by local, state and federal entities, as well as private land owners including utilities and railroad companies. The land considered for conservation in this report is distributed across municipal boundaries in Griffith, Schererville, and Merrillville in Lake County, Indiana. Hoosier Prairie contains excellent examples of lake plain prairies that were preserved during industrial development due to the requirement that land be set aside to support infrastructure on energy and railroad industrial complexes. Today, this land is a recreational hub that connects regional trail systems and contains high-quality biodiversity.



MORaine

The Moraine/Sunset Hill Complex (i.e. Moraine Complex) in Porter County is an approximately 1569-acre area managed by a variety of land managers including municipal departments, the state of Indiana, and private land owners. It includes Moraine Nature Preserve, the 14th nature preserve dedicated as such in the United States. Land included in the Moraine Complex that is addressed in this report is highly fragmented and spread across the municipalities of Valparaiso, Chesterton and Liberty, Jackson, and Washington Townships.



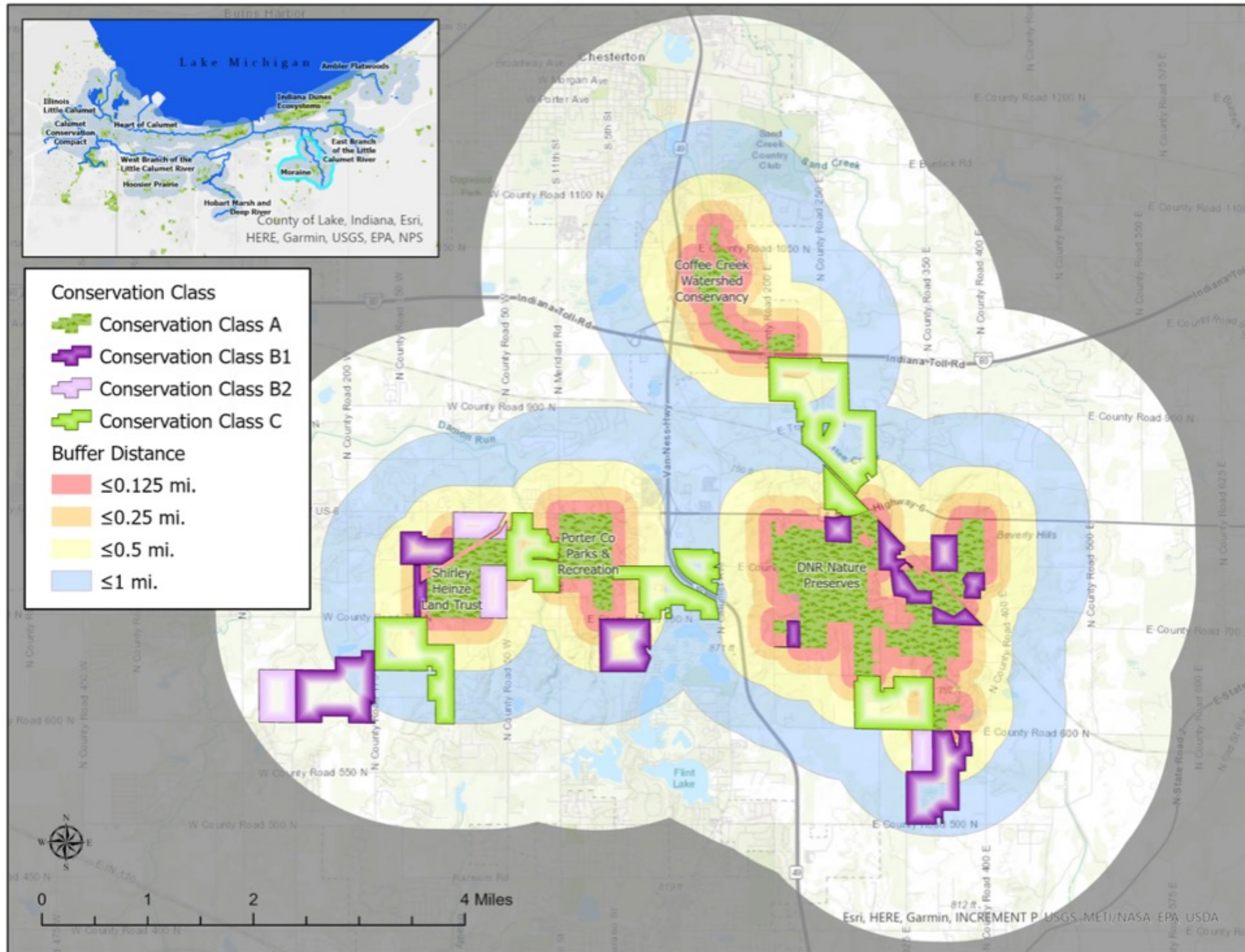
Photo by Derek Nimetz, IDNR



Photo by Eben Briggs



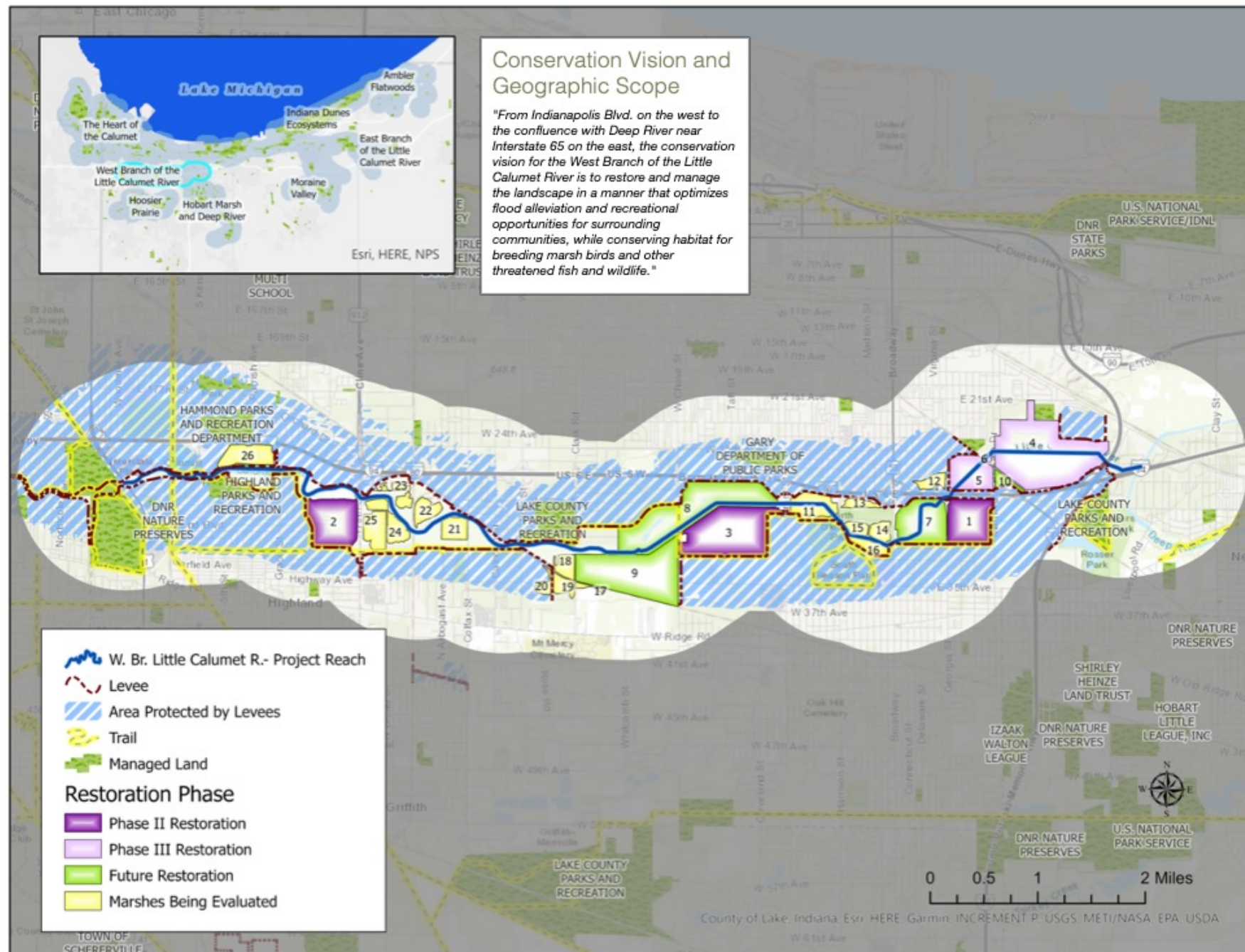
Photo by Derek Nimetz, IDNR



During the CAP process, conservation partners defined the geographic scope of the West Branch River Corridor to focus their conservation efforts moving forward. They recognized that a landscape-level approach that captures the river corridor would enable the most meaningful conservation goals to be achieved.

To that end the geographic scope of the West Branch of the Little Calumet River corridor was defined on the west by its intersection with Indianapolis Boulevard, near Wicker Park; on the east by its confluence with Deep River near Interstate-65; and to the north and south by these three areas: 1. those within the levees that protect nearby communities from flooding, 2. areas adjacent to the levees including communities where public access improvements can be made and 3. areas that are otherwise ecologically connected to the river.

These dimensions include a suite of management units (i.e. land parcels highlighted in the adjacent map) that are in various stages of restoration. Some are undergoing intensive restoration efforts and have potential to become high-quality habitat; some are highly degraded and in need of intensive restoration; others may offer opportunities for increasing public access and enhancing community resilience. There are a mosaic of landowners along the West Branch including the Little Calumet River Basin Development Commission, local municipalities, private landowners and conservation organizations such as The Nature Conservancy, which underscores why partnerships between them are essential for achieving collective conservation goals. Working together, they have the capacity to improve the ecological integrity and human well-being of the West Branch.



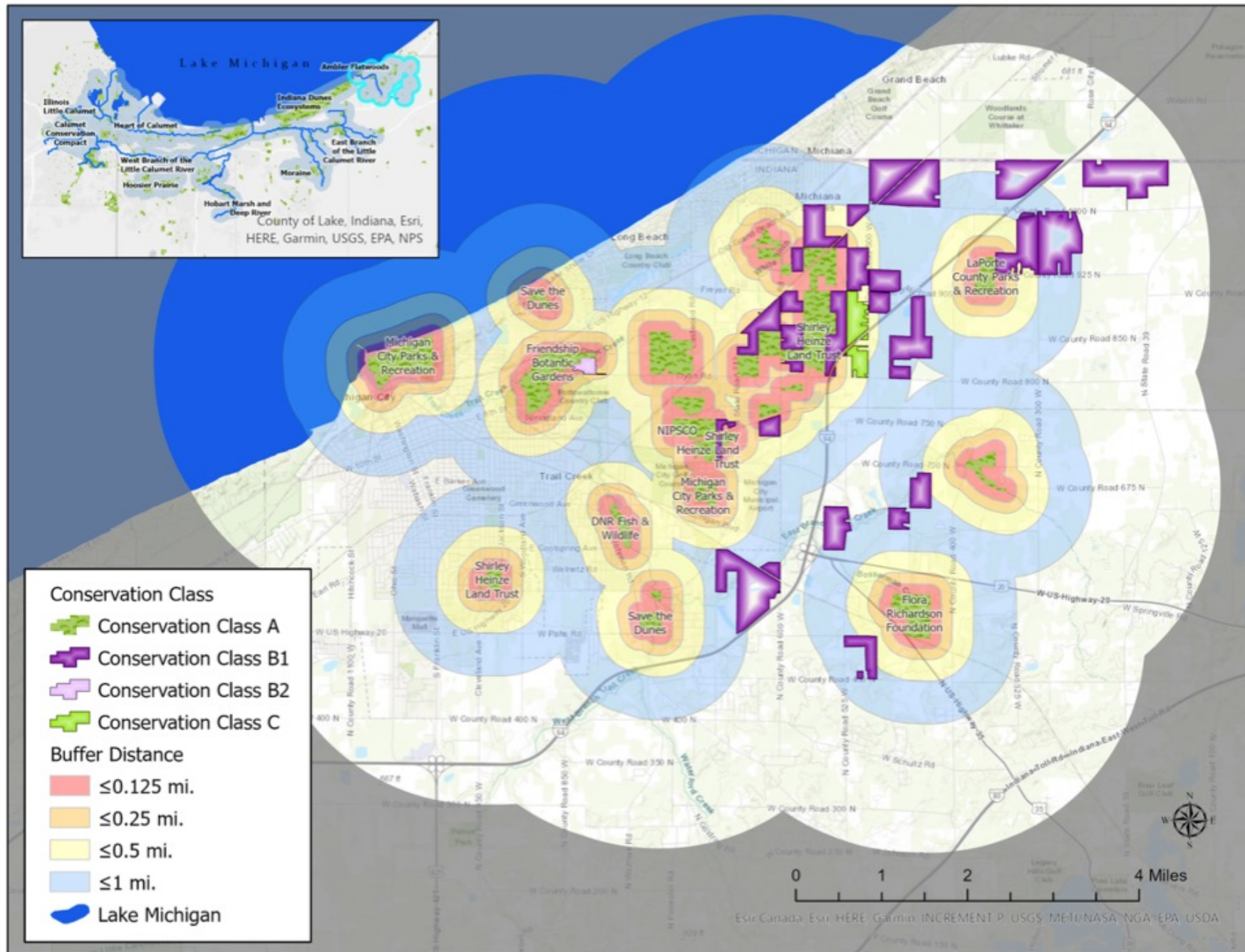
The Ambler Flatwoods Conservation Area (i.e. Ambler Flatwoods) is an approximately 1429-acre area in LaPorte County. Land currently managed for conservation in this area is highly fragmented. Opportunities for improving connectivity involve land managers at the local and state level as well as public and private entities. Ambler Flatwoods contains the best example of a boreal flatwood habitat type in coastal Indiana and it boasts high ecotourism potential. Parcels of interest for conservation are located within the municipal boundaries of Michigan City and Springfield Township.

AMBLER FLATWOODS
NATURE PRESERVE

Created and managed by
Shirley Heinze Land Trust

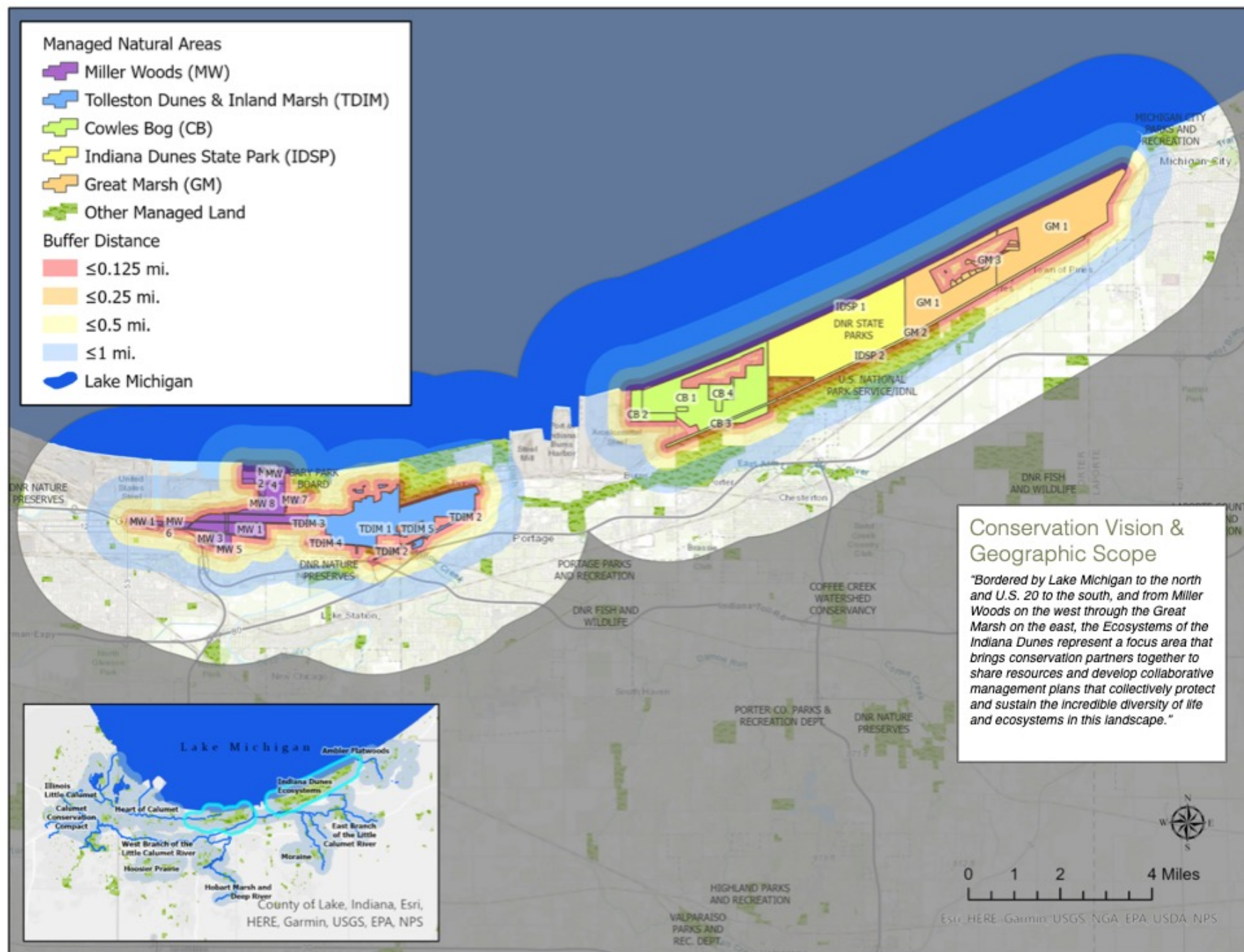
RENEWABLE 1000
NATURE PRESERVE

Photo by:
Derek Nimetz, IDNR



Located on the southern shores of Lake Michigan, the ecosystems of the Indiana dunes represent some of the most biodiverse natural areas within the United States. Conservation partners described five priority sites within this focus area to enable strategic discussion, decision-making, workplan development and project implementation to protect conservation targets. The priority sites include Miller Woods, Tolleston Dunes/Inland Marsh, Cowles Bog, Indiana Dunes State Park, and the Great Marsh.

Conservation work in the Indiana Dunes is a collaborative endeavor that brings together a variety of stakeholders operating at federal, state, regional and local levels. Large land managers include the National Park Service that manages units of the Indiana Dunes National Park (IDNP) and the Indiana Department of Natural Resources Division of Nature Preserves staff who manage the Indiana Dunes State Park (IDSP); Shirley Heinze Land Trust (SHLT) owns and manages several parcels adjacent to the IDNP and IDSP. Private land-owners such as The Northern Indiana Service Company (NIPSCO) and the Northern Indiana Public Transit District (NICTD) manage Right-of-Way (ROW) corridors that traverses the Indiana Dunes. Other stakeholders include the Northwestern Indiana Regional Planning Commission (NIRPC), conservation organizations such as Save the Dunes and The Nature Conservancy (TNC), shoreline communities among others such as US Steel and the railways. Collectively these stakeholders are referred to as "conservation partners" that each fill distinct roles for the collaboration. Regular meetings convened by a core group of conservation partners focused on the Indiana Dunes has been termed the "Indiana Dunes Ecosystem Alliance," or IDEA. Over the course of several years, IDEA has developed collaborative workplans based on an Indiana Dunes Ecosystem Alliance Strategic Framework, the Indiana Dunes Climate Change Adaptation Plan and the Indiana Dunes National Park Resource Stewardship Strategy.



Conservation Targets

The Indiana Dunes Ecosystem Alliance, (IDEA), is the core group of conservation partners working in the Indiana Dunes landscape. IDEA defined biodiversity as the top-level conservation target that is collectively represented within seven ecosystems characteristic of the landscape. These seven ecosystems contain within them the habitats and species land managers are working to maintain, manage for, and restore, and include: Lake Michigan, Dune and Swale, Savanna, Prairie, Wetland, Forest, Rivers and creeks. Each of these ecosystem targets is further subdivided into habitat types that enables conservation partners to focus on the complexity, biodiversity and interconnected nature of the larger ecosystem complexes.

IDEA went further in their strategic framework to identify five priority sites across the Indiana Dunes that represent the biodiversity across the seven ecosystems, including their habitats and species. The priority sites are organized into five management units with the Indiana Dunes National Park and Indiana Dunes State Park, both of which connect to lands managed other conservation partners. Descriptions of these priority sites are derived from the IDEA Strategic Framework.

Dune & Swale: foredunes, interdunal wetlands, dune ridges and swales, lagoons

Savanna: oak savannas, forested dune woodlands

Prairie: mesic prairies, wet-mesic prairies

Wetland: bogs, marshes, fens, shrub swamps, sedge meadows

Forest: floodplain forests, mesic forests

Rivers & Creeks: Deep River, East Branch of the Little Calumet, Dunes Creek, & more

Miller Woods

Miller Woods, located within the City of Gary, is comprised of more than 1,000 acres of land managed by several conservation partners and is the second most biodiverse site in the nearshore Indiana dunes region with more than 520 native plants. Miller Woods contains young foredunes near Lake Michigan, dune and swale habitat, pannes, lagoons, oak savannas, marshes, and sedge meadows, and is notable for the high-quality of these natural communities. State and federally-listed plant and wildlife in Miller Woods include the piping plover, Blanding's turtle, and pitcher's thistle. It is prioritized due to the presence

and quality of conservation targets, an intact successional gradient, and heterogeneity and rarity of plant and wildlife species.

Invasive species removal, application of consistent prescribed fires, and successful restoration projects sustain the health and integrity of conservation targets within Miller Woods. Conservation partners working together to implement conservation strategies are the IDNP, Indiana Department of Natural Resources (IDR), SHLT, the City of Gary, NIPSCO and private landowners.



Lupine, Katie Hobgood

Cowles Bog

Cowles Bog is a 1,700-acre site in Winchester Township, is a National Natural Landmark and the most biodiverse site in the nearshore Indiana dunes region. The priority site includes the IDNP Cowles Bog unit, adjacent Town of Dune Acres land, the NIPSCO Greenbelt, and NIPSCO and railroad ROWs. Conservation targets included within Cowles Bog are Lake Michigan, foredunes, interdunal wetlands, oak savannas, forested dunes, mesic forests, wet-mesic prairies, mesic prairies, bogs, fens, shrub swamps, and marshes.

Cowles Bog is home to 788 native plant species and is ranked the highest for biodiversity because the presence of conservation targets,

rare/endangered species, and ecological communities and species that do not exist anywhere else in the park. Cowles Bog demonstrates significant heterogeneity in ecological communities and species, and many conservation targets within the site are in healthy and stable condition.

The IDNP Cowles Bog unit has a number of subunits: the Cowles Bog Wetland Complex, Cowles Dunes, Howes Prairie, and Lupine Lane. Great Lakes Restoration Initiative Funding has been used to restore hydrology, wetland communities, and waterfowl populations in Cowles bog. Continued management of invasive species such as cattail and common reed is required to sustain conservation targets in Cowles Bog.



Katie Hobgood

Indiana Dunes State Park

The Indiana Dunes State Park (IDSP) is a 2,200-acre site located between the Town of Porter and the Town of Beverly Shores. It is managed by the Indiana DNR and is the third most biodiverse site in the Indiana dunes focus area. Conservation targets within IDSP are Lake Michigan, foredunes, interdunal wetlands, oak savannas, forested dunes, mesic forests, floodplain

forests, wet-mesic prairies, mesic prairies, bogs, fens, shrub swamps, marshes, and Dunes Creek. IDEA has prioritized two sites within IDSP: the Dunes Nature Preserve (1530 acres) and the Dunes Prairie Nature Preserve (58 acres). In addition to the Dunes Nature Preserve's National Natural Landmark status, the two nature preserves contain at least 550 native species.

The Great Marsh

The Great Marsh is a 2,800-acre site located in the Town of Beverly Shores and the Town of Pines, and is comprised of the IDNP Great Marsh unit, SHLT properties, and NIPSCO and railroad ROWs. Great Marsh conservation targets include Lake Michigan, foredunes, oak savannas, wooded dunes, mesic forests, marshes, shrub swamps, and Kintzele Ditch.

The quality of habitat in the Great Marsh varies greatly. Restored sections are home to high-quality

wetland complexes while other sections are highly degraded with large infestations of invasive species and altered hydrology. For example, roads that cut through wetlands are disruptive to successional gradient, discourage the movement of wildlife and cause flooding issues on roadways. A potential solution is installing infrastructure that accommodates both the residential and wetland communities such as raised roads that would allow water and wildlife to move freely while reducing flooding.



Katie Hobgood

Tolleston Dunes/ Inland Marsh

Tolleston Dunes and Inland Marsh are adjacent management units with similar habitat compositions. They are bisected by County Line Road and demonstrate different levels of ecological health and quality and are therefore managed separately. The total acreage of Tolleston Dunes, to the west, and Inland Marsh, to the east, is nearly 1,700 acres. Tolleston dunes includes land owned by the City of Gary that has the potential to be added to the land managed to preserve and protect conservation targets. Additional units within Tolleston Dunes include SHLT's Coulter site, and NIPSCO and railroad ROWs. Conservation targets include oak savanna, forested dune, mesic forest, mesic prairie, sedge meadow, marsh, and shrub swamp habitats. These diverse habitats support plant and wildlife diversity. Together, Tolleston Dunes and Inland Marsh are home to approximately 500 native species, a number of which are state endangered, threatened or rare. Large sections contain high-quality oak savanna and wet meadows, while high-quality remnant mesic prairies exist in smaller pockets.

Conservation Threats

The Indiana Dunes were saved from industrial development in the 1920's with the establishment of the Indiana Dunes State Park and again in the 1960's with the establishment of the Indiana Dunes National Lakeshore (now Park). Although different in form, threats persist to the present day and require vigilance and the consistent application of time, energy and resources by conservation partners working to preserve, protect and restore biodiversity in the dunes.



Fragmented Habitat

Fragmentation exists throughout the Indiana dunes landscape and is a persistent threat that conservation partners have a limited capacity to change. Roads, ROWs, communities and industrial footprints represent permanent barriers that reduce the connectivity of managed natural areas. The edges of these permanent features can exacerbate the spread of invasive species by acting as vectors for their movement. Fragmentation by ROWs and roads bisecting individual sites and residential, industrial, and other developed areas disrupts the connectivity of natural areas across the

landscape. Fragmentation is a more severe threat in instances of adjacent incompatible development such as land uses that prohibit connectivity, or that create noise, light, air, and water pollution, encourage encroachment, or allow for the establishment of large infestations of invasive species.

Fragmentation concerns are increasing as Northwest Indiana grows in population and the potential for rapid, high-intensity development adjacent to priority site increases, particularly in the Tolleston Dunes/Inland Marsh and Miller Woods units. The IDEA has

identified strategies that lessen the impacts of fragmentation including creating corridors of connectivity on adjacent ROWs, working with communities to mitigate hydrological disruptions imposed by built roads, working with transportation partners to mitigate impacts of upgraded services and increasing green infrastructure within built environments. Land acquisition and conservation easements also play a role and are strategies implemented where possible. Increased development in the area will likely increase the impact of fragmentation on the Indiana dunes.

Pollution & Contamination of Land & Water

The Indiana dunes exist within close proximity to heavy industry, residential communities, agricultural land, road ways, sites with legacy contamination and other developed land that collectively introduce chemical pollutants into the land and water of priority sites.

Pollutants can disrupt ecosystem function, encourage spread of invasive species growth and pose threats to plants and wildlife. The type and severity of pollutants varies; legacy contamination threatens Miller Woods while capping buried pollution during the decommissioning industrial sites may threaten Cowles Bog. Unregulated releases or spills of chemicals from adjacent heavy industrial facilities pose an ongoing challenge.

At the residential level, failing or poorly maintained septic systems introduce high levels of E. coli into the environment where it leaches into groundwater and eventually contaminates shoreline ecosystems. Sedimentation of waterways from agriculture is also a potential concern.

Need for Prescribed Fire

Fire is a critical component for maintaining the biodiversity of the Indiana dunes; disruption in a consistent fire regime threatens the dune and swale, savanna, woodland, and prairie ecosystems. Historically, wildfires that started naturally or as a result of human disturbance played a role in maintaining the structure of savannas. For example, Miller Woods is home to high-quality oak savanna in part due to fires sparked by adjacent railroads.

As population growth expanded, wildfires were suppressed and prescribed burns became a necessity for maintaining habitat structures. The proximity of residential areas, policies that limit burn windows, unfavorable weather conditions, and limited staff and funding resources to implement prescribed burns have resulted in the use of fire for managing natural areas being inconsistent and sometimes not possible.

Without a consistent fire regime, particularly in savannas and prairies, plant communities become overgrown with aggressive invasive species and lose the structure that supports their diverse, and often unique habitats.

Shoreline Erosion

Current and future shoreline erosion is a threat to coastal ecosystems and although largely outside of the focus of the priority sites contained within the plan, are receiving increased attention from conservation partners. Natural fluctuation in lake levels have been altered by changes in precipitation and evaporation – likely due to climate change. Climate change has also altered the impact of winter storms on the shoreline – if there is no lake-ice, the shoreline is unprotected from severe winter storms. Built structures have altered the natural movement of sand along the shore which is historically characterized by sand deposition in the west and erosion on the east. Sustainable solutions are multifaceted and require continued attention and discussion.

Herbivore Browse

Herbivores play a key role in maintaining - or degrading - the health of an ecosystem. The presence of herbivorous mammals only becomes a threat to conservation targets when populations are unbalanced. Beaver and deer populations have been problematic for native plant life and habitat structures in the Indiana dunes. Without sufficient population control through predators, deer browse has begun to threaten plant communities. Deer can lead to invasive species encroachment in priority sites if they overgraze understory species such as grasses and flowering plants. Overabundant beavers disrupt native plants as well as hydrology. Beaver dams built in wetland complexes alter water levels that can either "drown sections of a wetland or dry out others." This has been a particularly problematic occurrence in Cowles Bog, Great Marsh, and the Indiana Dunes State Park. Because of the mosaic of wetland communities within these sites, and their sensitivity to changes in water levels, altered hydrology from beaver activity can significantly degrade wetland habitats and their diversity. This is a heightened risk for wetlands that have recently been restored and are not yet established.

Invasive Species

Invasive species are ranked as a primary threat for the entire Indiana dunes region. Invasive species were identified as the most immediate, costly, and with potentially the most severe impact to the native species and habitat structures that support the Indiana dunes' biodiversity and therefore the conservation targets. All five priority sites are affected by invasive species; the impact of invasive species is exacerbated by other threats such as fragmentation, pollution, and reduced fire regime.

Limited Funding

Management of the Indiana dunes requires significant resources sustained over time for all of the conservation partners active in the region. Limited funding to support land management activities restricts the implementation of strategies that address conservation threats and protect conservation targets. This threat underscores the need for and power of collaborative groups of conservation partners such as IDEA that by working together can pool resources to maximize their collective impact.

Human Disturbances

A large part of protecting the Indiana dunes is engendering a love for the region through increased public access and recreation. Recreating responsibly is a message used by conservation partners to discourage threats from recreating irresponsibly by littering, dumping, overuse, veering off trails, or other unpermitted activities that can damage ecosystems, plants and wildlife.

Climate Change

Climate change is a concern for the Indiana dunes with impacts that will affect all priority sites and conservation targets. Impacts could include increased spread of current invasive species and introduction of new invasive species, changes to the structure and dynamics of ecological communities, more frequent severe weather events including both drought and "flashiness" of flooding events, changes in lake ice-cover during winter and therefore less shoreline protection from erosion and many more yet to be determined. These impacts are also likely to exacerbate threats from

fragmentation and pollution and strain already-limited resources for land managers.

The Indiana Dunes Climate Change Adaptation Plan outlines potential climate scenarios for ecosystems in the Indiana dunes, identifies direct and indirect impacts and provides adaptation options and strategies for land managers. In this way, it aligns with and strengthens the IDEA strategic framework and continues to be integrated into land management planning.

Conservation Strategies

Conservation partners working in the Indiana Dunes Ecosystems have identified several to address conservation threats to priority sites and conservation targets. These include ongoing cooperative invasive species management, prioritizing actions to increase connectivity, implementing the workplan developed by the Indiana Dunes Ecosystem Alliance (IDEA) and more.



Cooperative Invasive Species Management

Land managers can continue to cooperate to tackle the severe issues with invasive species. Managers would benefit from maintaining funding for the Indiana Coastal Cooperative Weed Management Association. This group was created to develop a collaborative approach to abate the multiple threats invasive species pose to regional biodiversity, with a strong focus on bringing in managers of non-conservation lands. Additional support to the ICWMA would help expand its role as a formal structure to engage non-conservation land managers in weed management efforts through higher landscape level strategies.

Prioritize Actions to Increase Connectivity

Mapping land acquisition needs and priorities that are focused on site quality and buffering capacity will help identify opportunities to increase habitat connectivity/reduce fragmentation. When focused on the quality and buffering capacity, this process will aid conservation partners in identifying barriers to potential acquisition at adjacent properties as well as emerging opportunities on adjacent easements and Rights-of-ways. Communities adjacent also have the potential to increase connectivity of habitats in priority sites by implementing best practices for green infrastructure such as native plantings and bioswales.

Address Emerging Climate Change Threats

The Indiana Dunes Climate Change Adaptation Plan outlines risks and strategies for priority conservation targets in this landscape including an analysis of habitat and species resiliency in a changing climate that can be used guide restoration and management decisions as well as plan and implement projects in coordination with conservation partners to maximize effectiveness. Updating the Adaptation Plan with new information, for example climate change impacts on shoreline erosion, is a strategy to address an emerging threat. Integrating the Adaptation Plan into the IDEA workplan will strengthen collaborative efforts to protect conservation targets.

Implement Indiana Dunes Ecosystem Alliance Workplan

Pursuing restoration projects based on their impact for conservation targets in priority areas will maximize limited resources. IDEA has developed a comprehensive workplan that is updated during regular meetings. The workplan has identified twenty projects at priority sites that line up with the conservation targets laid out in the strategic framework. The workplan contains comprehensive details regarding the context of each project, barriers and challenges for implementation, site-specific strategies, funding bodies, timelines and next steps. This workplan also serves as an invaluable tool to evaluate and track progress, identify "shovel-ready" projects when funding opportunities arise and address emerging challenges. Sustaining IDEA to implement this workplan will keep

partners moving toward their collective goals including maintaining a prescribed fire regime, controlling invasive species, sharing equipment and manpower, reducing fragmentation and more.



Increase Public Awareness of Priority Sites

Public awareness and access to the rich ecosystems of the Indiana dunes is largely concentrated to beach locations. Limited awareness of the "hidden" gems within Tolleston Dunes, Cowles Bog and The Great Marsh can be overcome through dedicated outreach and programming by conservation partners. Visits to the Indiana Dunes State Park and popular National Park destinations such as West Beach and Miller Woods are at a record high and present opportunities to connect visitors to additional opportunities to explore lesser-known sites that are priorities for conservation targets. Volunteer stewardship days for invasive species removal also present opportunities to increase the awareness of and appreciation for nature, including the challenges managers must overcome to sustain it.

Engage with Non-traditional Partners & Landowners to Address Pollution

Conservation partners have the opportunity to engage with advocacy campaigns, local municipalities, community members and other stakeholders to address pollution events and concerns and in effect help to build a culture of pollution prevention in the region. This in turn ensures that regulatory bodies and industrial entities are held accountable in their charge to protect to land, air and water resources of the Indiana Dunes' ecosystems. Engaging with municipalities to develop policies and ordinances that limit pollution, fragmentation, implement best management practices during development will also help to protect conservation targets.

Address Limited Funding

Conservation partners working in this landscape rely on sustained funding opportunities to implement restoration projects at multiple scales. Significant funding from the Sustain Our Great Lakes and Chi-Cal Rivers Fund administered by the National Fish and Wildlife Foundation and the Great Lakes Restoration Initiative are essential for long-term goals to be achieved. The same holds true for private funders whose support is often realized in general operating funds that enable partners to be nimble to emerging threats and opportunities.



Aligning Conservation Action Plans in the Calumet Region

*A project supported by the Calumet Land Conservation Partnership
Report prepared by Victoria Wittig, Ph.D. (vwittig@pnw.edu)*

Susan Kirt Photography



Heart
of the
Calumet



J. Janiga



IDNP Flickr

Ecosystems of the
Indiana Dunes

West Branch
of the
Little Calumet
River



G. Sullivan

Hobart Marsh
& Deep River



Shirley Heinze Land Trust

East Branch
of the
Little Calumet
River

Prioritizing Biodiversity NiSource's Strategy Development

Together we will do great things



What Drives NiSource Biodiversity Decisions?

- Primary influences on NiSource land management and biodiversity decisions include:
 - Safety and reliability
 - Partnerships
 - Company interests

Safety and Reliability Requirements

- Electric overhead and pipeline safety standards
- Managing remaining compatible vegetation
- Ensuring customer value

Partnership Influences

- Rights-of-Way as Habitat Working Group
- Indiana Dunes Ecosystem Alliance
- Conservation Action Plans
- Great Lakes Restoration Initiative – Pollinator habitat restoration / enhancement

Company Interests

- NiSource leadership
- NiSource employees
- Individual project alignment / grant funding
- NiSource's biodiversity commitment
- Environmental, Social and Governance (ESG) disclosures

NiSource Biodiversity Commitment

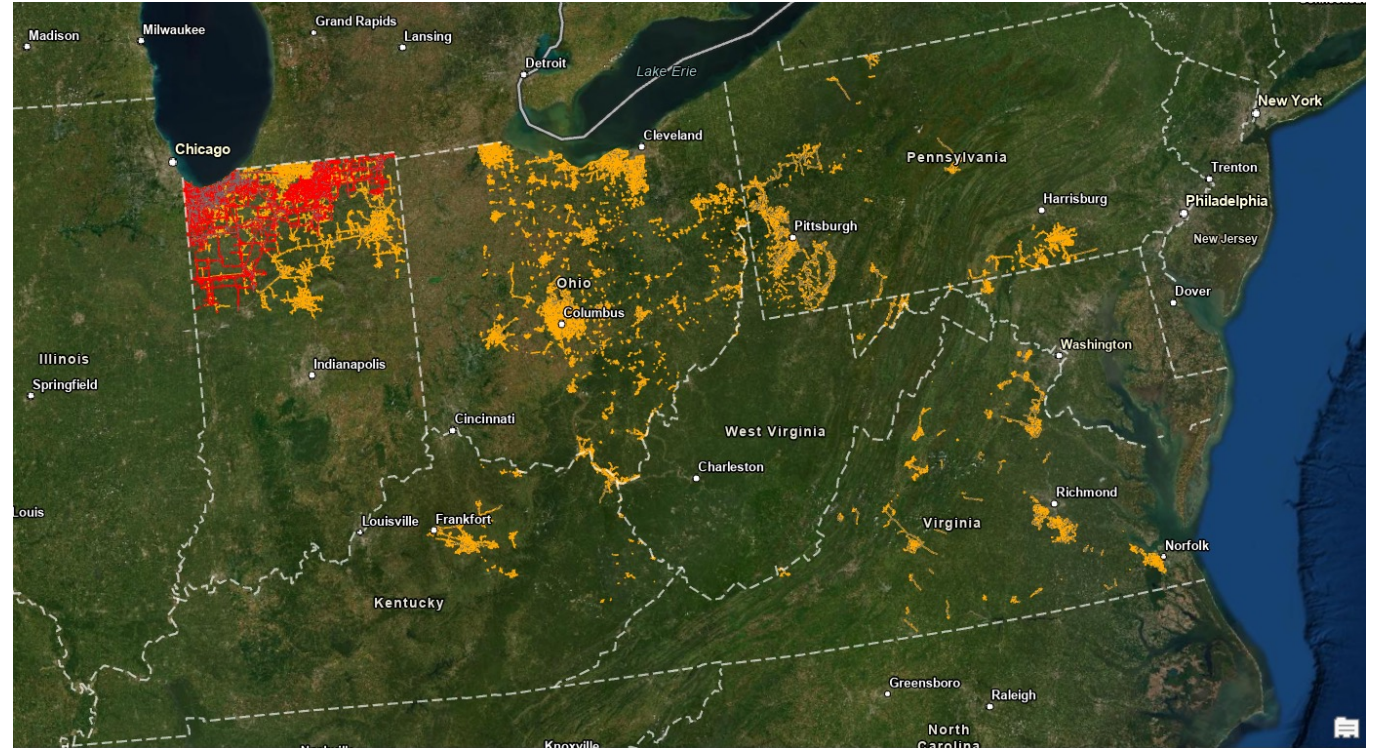
“Environmental stewardship is one of four pillars that supports NiSource’s Sustainability Policy. As stewards of the environment, we commit to conserving and enhancing biodiversity on lands under our responsibility”

<https://www.nisource.com/company/sustainability/reports-and-policies>



NiSource's Current Biodiversity Reporting

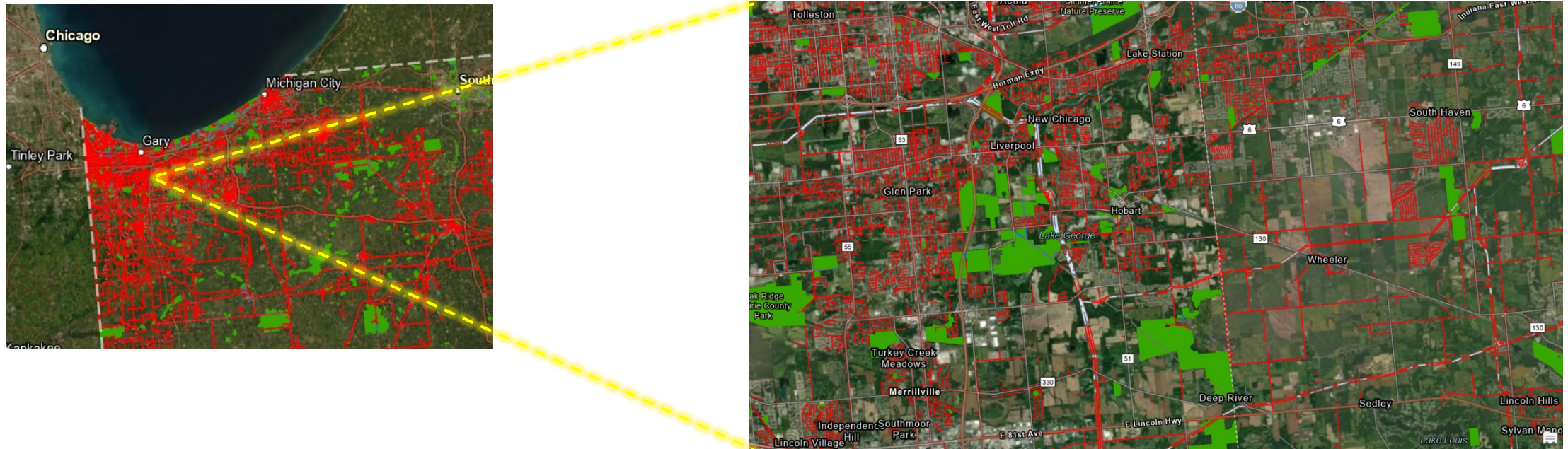
- First biodiversity-focused disclosures included in the Down Jones Sustainability Index Reporting in 2018.
- Invitation-only; reported annually
- Focuses on NiSource operations in relation to *important biodiversity areas*



Mapping created for DJSI mapped important biodiversity areas across the 6 states in NiSource's operations. NiSource's 26 important biodiversity areas are defined by IUCN protected areas and Key Biodiversity Areas.

Changes in Biodiversity Reporting

- Increasing recognition that rights-of-ways connect protected lands and create corridors for species.



Mapping of NiSource rights-of-way (red) in relation to protected areas (green) highlights connections and value of lands not identified by previous key biodiversity area or IUCN.

Changes in Biodiversity Reporting

- Of the 20 global biodiversity goals that were supposed to be met by 2020, none of them were met according to the U.N.
- Post-2020 goals are being finalized by Convention on Biological Diversity.
- Disclosure requirements are evolving.
 - Increasing quantification
 - Increased recognition of business impacts and dependencies on biodiversity
 - Updates expected to address renewed goals and disclosures for global action

2019 Biodiversity Evaluation Results

Classification	Number of Management Units	Managed Acres	Number of Biodiversity Management Plans	Acres Managed for Biodiversity
IUCN I-IV	24	860	17	657
KBAs	2	22	2	22



Top: Summary of important biodiversity areas identified in 2019.

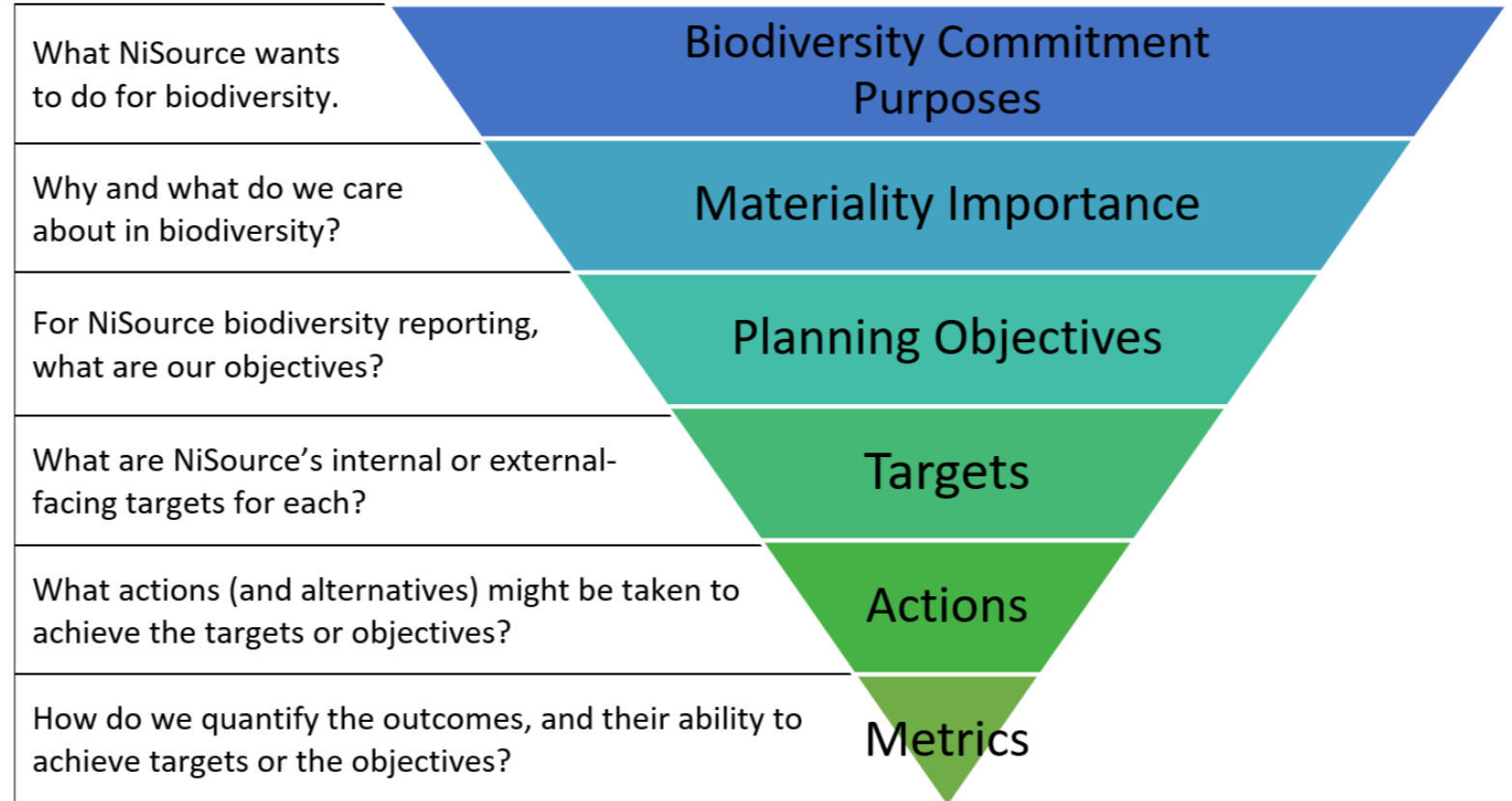
Bottom: View of Calumet Trail and NIPSCO ROW at Indiana Dunes State Park.

Source: [NiSource biodiversity commitment](#)

Our Approach

- Initiated efforts in January 2022.
- Priorities (Targets) are driven by “the why”:
 - NiSource’s commitment
 - Material importance
 - Planning objectives

Figure 1. Broad hierarchy of biodiversity planning decisions



Excerpt from NiSource’s biodiversity planning team framework.

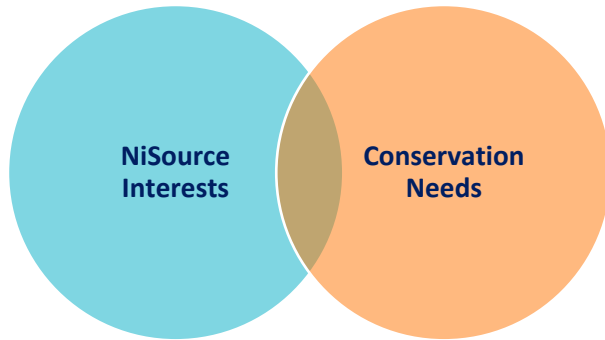
Defining Interests: Where does biodiversity pose risks/add value?

Biodiversity Risks posed by:	Type
New species listings, regulatory changes	Regulatory
Missed partnerships and ESG reporting opportunities	Market
Lack of diverse vegetation increased risks of pests, disease, erosion, and hazard trees	Physical
Invasive species can inhibit access and potential fire hazards	Physical
Decreased climate resilience caused by lack of biodiversity.	Aggregated

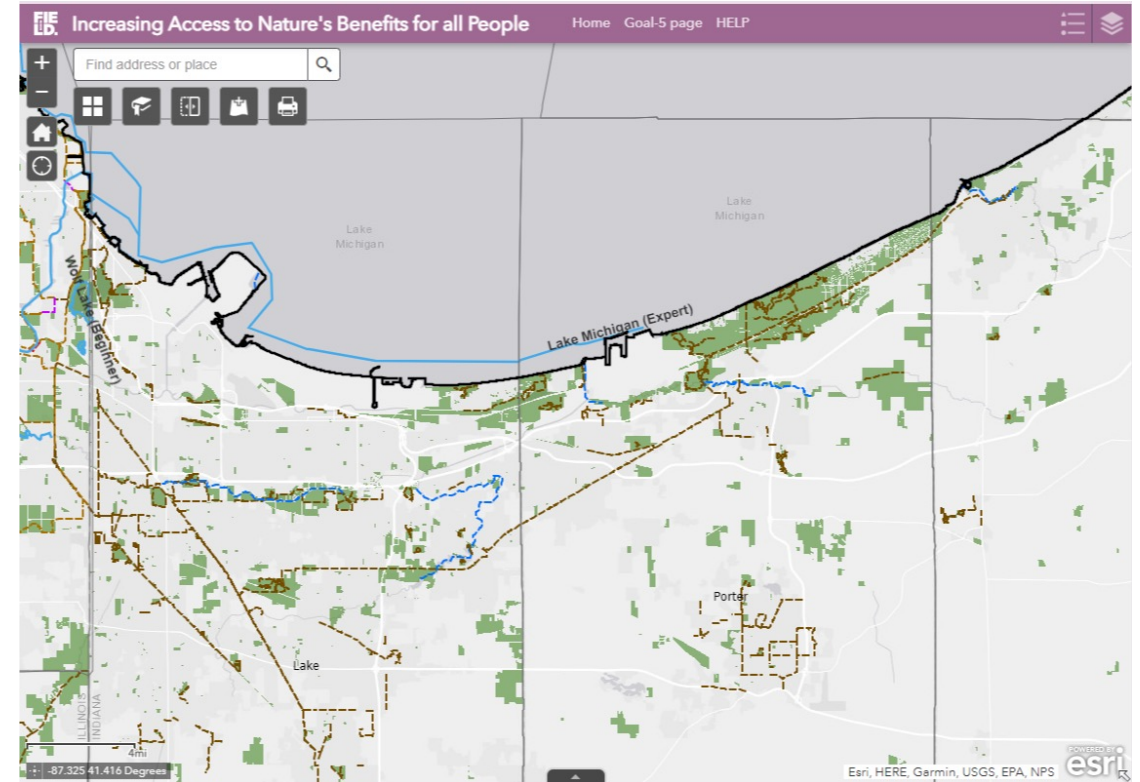
Biodiversity Value offered by:	Type
Aiding listed species recovery; preventing new species listings	Underpinning
Direct value of investment brought from attracting ESG investors	Direct
Increased resiliency against climate change risks	Insurance
Ensuring safe and reliable energy delivery by reducing risk of pests, disease, erosion, and hazards	Underpinning
Sustaining/enhancing remnant; valued ecological communities	Intrinsic
Increasing community engagement and stewardship via partnerships	Underpinning

Aligning *Operational* and *Conservation* Focus

- Priorities emerge from:



- Example of existing priority actions include:
 - Focus on key biodiversity areas
 - Initiatives that have both *operational* and *conservation* benefits (NPS partnership, Hobart marsh restoration, Monarch CCAA)
 - NiSource capital projects that impact and/or enhance biodiversity



Mapping like CWHub help identify priority locations and intersections between operations, conservation, and communities.

Landscape-scale Connectivity and Prioritization

- Geospatial priorities scale from global and national priorities down to site-specific planning.



Our Biodiversity Objectives Defined



Achieve Net Zero Loss

Avoid, minimize, mitigate and offset negative impacts to species and habitats where NiSource has management control.



Achieve Net Positive Gains

Have a net positive contribution to species and habitats where NiSource has management control.



Strengthen Communities by Nature

Demonstrate how NiSource's biodiversity commitment strengthens communities.

Example: Calumet Trail Conservation Area Management Plan

- >260-acres fee-owned ROW with 10 miles of publicly accessible trail
- >500 native plant species
- 28 state listed plants
- 5 state listed fauna
- 1 federally listed species
- Management Plan
 - IDs conservation targets and threats



Thank you

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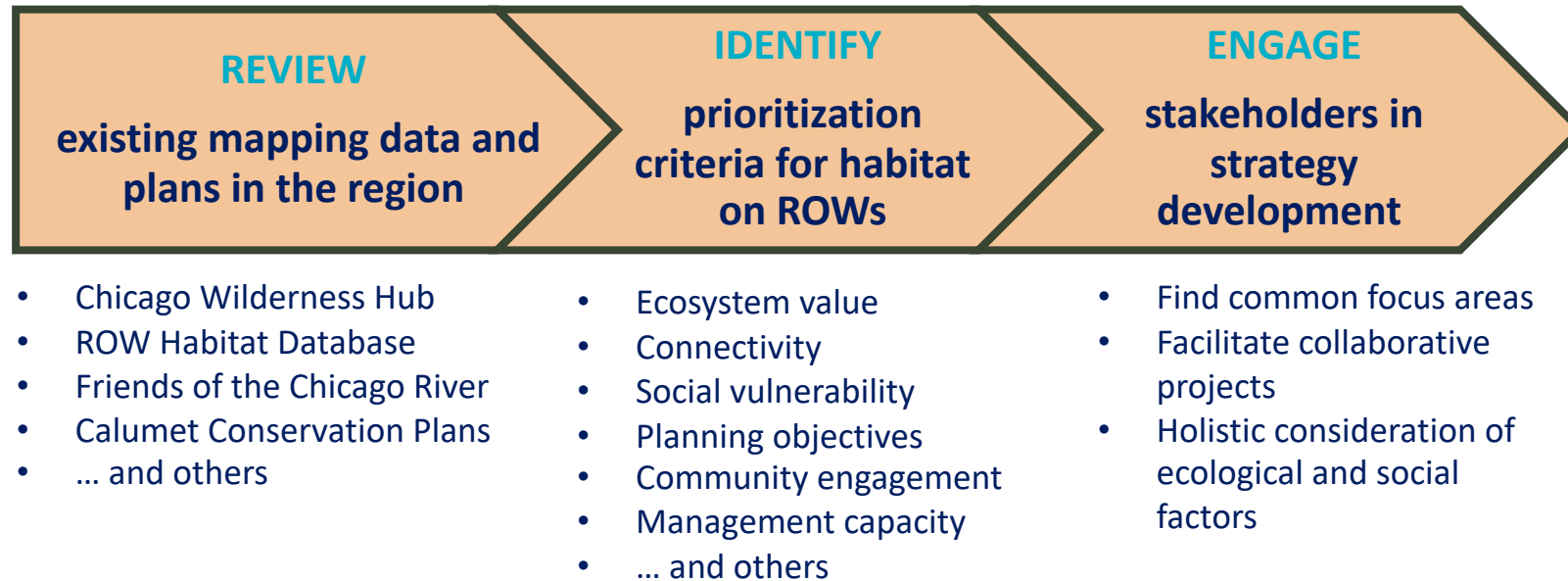
Dan Salas, Senior Ecologist, ESA, Stantec
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**Together we
will do great
things**

PRIORITIZATION STRATEGY - WHAT, WHY, HOW?

GOAL: create a decision-support tool for ROW managers and partners to guide habitat conservation on energy and transportation lands in the Chicago region

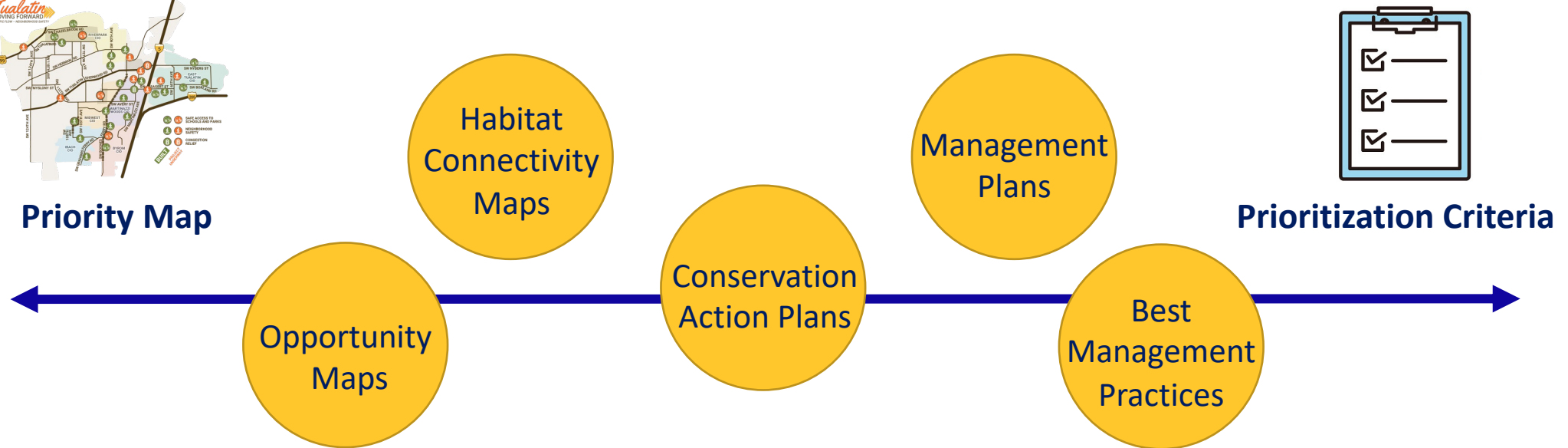


PRIORITIZATION STRATEGY - WHAT, WHY, HOW?

GOAL: create a decision-support tool for ROW managers and partners to guide habitat conservation on energy and transportation lands in the Chicago region



Priority Map



QUESTIONS

1. What would an ideal ROW prioritization strategy look like?
What does it do?
2. What resources or data do you have to share or contribute to the development of a ROW prioritization strategy?

REPORT OUT



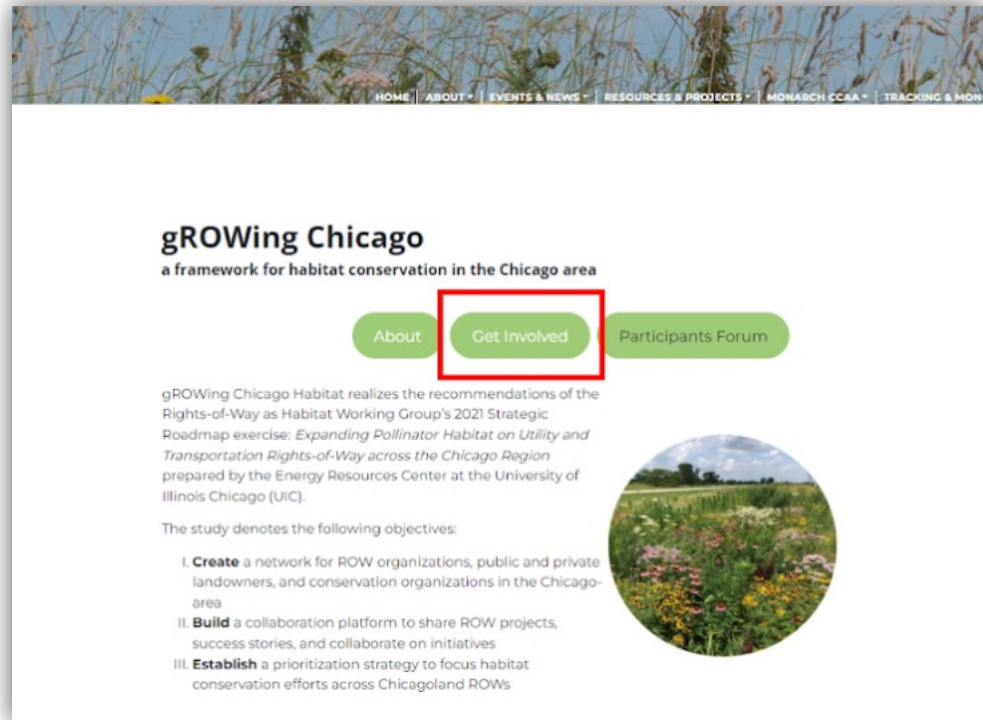
**1 MINUTE SUMMARY FEEDBACK FROM
EACH BREAKOUT GROUP**

NEXT STEPS

- Post-meeting questionnaire
- Review the recording
- 1 – 2 additional mapping cafes late summer/fall to refine scope for prioritization strategy
- Sign up to receive updates on the gROWing Chicago Habitat initiative



gROWing Chicago Habitat Get Involved!



<https://rightofway.erc.uic.edu/projects/growing-chicago/>

The screenshot shows a survey form titled "gROWing Chicago-area Habitat". The text below the title says: "This survey is designed to indicate your interest in participating in the Chicago-area working group. This information will be compiled in a contact list for participating working group stake holders." Below this text are three input fields: "Name", "Email", and "Organization Name". Each field has a corresponding text input box. The background of the form is a close-up image of a bee on a white flower.



Thank you!

Questions?

Email us at cah272@uic.edu
and eobire2@uic.edu

Photo credit: NiSource

