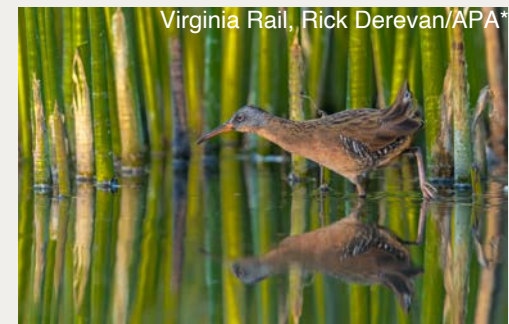
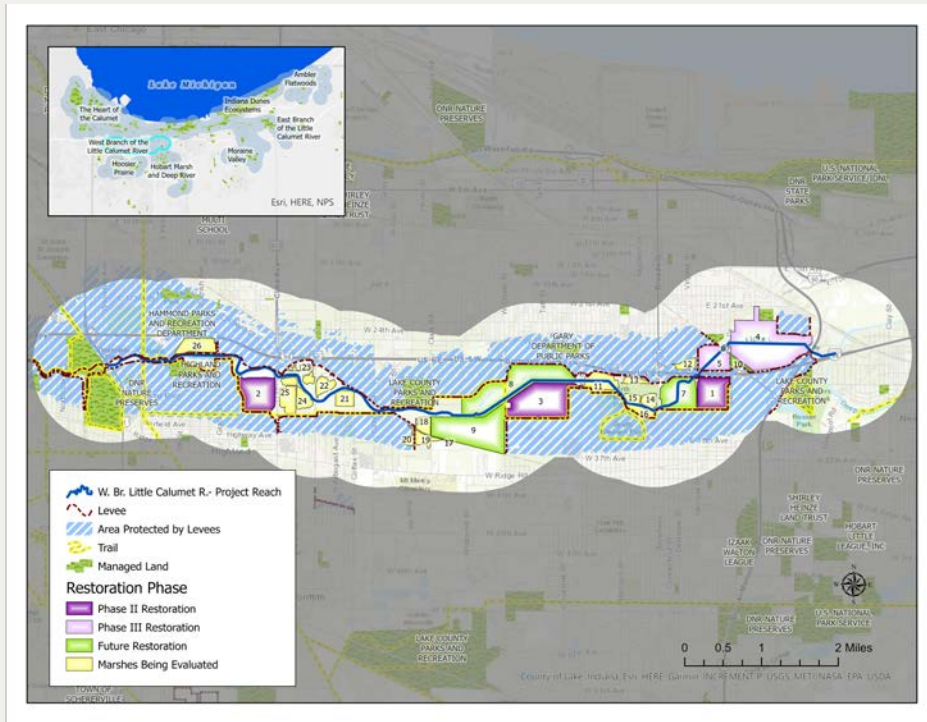


CONSERVATION ACTION PLANNING for the WEST BRANCH OF THE LITTLE CALUMET RIVER

A project of the Little Calumet River Partners with funding support from the Calumet Land Conservation Partnership (the Gaylord and Dorothy Donnelley Foundation and ArcelorMittal); the Little Calumet River Basin Development Commission, and the National Fish and Wildlife Foundation's Chi-Cal Rivers Fund.



Overview

The West Branch of the Little Calumet River corridor covers a 10-mile stretch of the river attenuated with wetlands of varying quality and connectivity, adjacent communities and high-density urban development. The river's wetlands, and their restoration potential, are inextricably connected to adjacent communities and to the complex engineering associated with levees and other flood control structures that have been put in place for their protection.

Conservation action planning provides a globally recognized framework for engaging in conservation work to benefit people and the environment.¹ Utilizing the Conservation Action Planning toolkit, a Conservation Action Plan, or "CAP," was formulated for the West Branch of the Little Calumet River in northern Lake County, Indiana, through a series of workshops throughout 2020. During these workshops, "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 this

landscape. These include: the conservation vision, geographic scope, conservation targets, human well-being targets, conservation threats and strategies to achieve targets and/or overcome threats. The results from these workshops are laid out in this public-facing Conservation Action Plan and companion Factsheet that 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 in this CAP 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 of collaborative workplans, projects, community engagement initiatives and more. In this way the CAP will become a living document that may guide restoration and community engagement along the West Branch for years to come.

A collaboration between:



*Audubon Photography Awards

Conservation Action Planning

Conservation action planning enables stakeholders engaged in conservation to assess, plan, implement, analyze and share their work, for people and for nature. The conservation action planning approach is an adaptive toolkit developed by The Nature Conservancy² (TNC) and is at the foundation of the Open Standards for the Practice of Conservation developed by the Conservation Measures Partnership³ – a global collaboration, including TNC, “committed to the vision that conservation impacts around the world are amplified as teams use evidence, measure effectiveness, and openly share lessons with the conservation community.”

This global approach is a powerful framework for communicating local conservation targets, threats and strategies with a common language to communities near and far – broadening the potential reach of conservation action planning for local stakeholders to attract new partners and funding and to engage their communities. It is also powerful as an adaptive planning process that meets the real-time needs of conservation partners working in a geographically defined focus area on the landscape. In the initial stages the conservation action planning process lays the foundations for a Conservation Action Plan, or “CAP,” by assembling conservation partners, identifying the scope, vision, targets, threats and strategies for their focus area. Over time the CAP becomes a living document that can evolve beyond initial stages into developing complex workplans, logical-framework tracking documents and sustainable funding streams to keep progress moving and conservation partners engaged.

Conservation action planning has been used to guide conservation work in several focus areas in the Calumet region of Northwest Indiana and Southeast Chicago. This process was again applied to the geographic focus area referred to as “The West Branch of the Little Calumet River” located in northern Lake County, Indiana, and abbreviated in this document as “West Branch.” The West Branch corridor exists within a highly engineered landscape bracketed by levees to the north and south that protect nearby communities from flooding. The levees also constrain seasonal fluctuations of water levels in adjacent wetlands that serve to enhance flood mitigation across the landscape and provide opportunities for communities to connect with nature. Effective conservation strategies in this landscape must keep human well-being targets in focus; in this highly urbanized landscape, human well-being is intricately connected to the success of any conservation endeavor.

This CAP presented here was developed by the “Little Calumet River Partners” of the West Branch and covers the geographic scope, conservation vision, human well-being targets, conservation targets, conservation threats and conservation strategies. It is intended to provide a public-facing document that will help to guide the work of conservation partners and provide common language to connect their work to other focus areas in the Calumet region. It will also help to engage new partners, funding opportunities and nearby communities to sustain their efforts far into the future.

Conservation Vision and Geographic Scope

"From Indianapolis Blvd. on the west to the confluence with Deep River near Interstate 65 on the east, the conservation vision for the West Branch of the Little Calumet River is to restore and manage the landscape in a manner that optimizes flood alleviation and recreational opportunities for surrounding communities, while conserving habitat for breeding marsh birds and other threatened fish and wildlife."

Conservation Partners

Conservation work along the West Branch of the Little Calumet River relies on a variety of stakeholders including conservation organizations, land managers, planning commissions, communities and others.

Collectively these stakeholders are referred to as “conservation partners” that each fill distinct roles. Regular meetings convened by a core group of conservation partners focused on the West Branch, referred to as the “Little Calumet River Partners,” have provided a robust framework to bring these stakeholders together to coordinate projects, source funding and identify new opportunities.

This core group is comprised of Audubon Great Lakes, Dunes-Calumet Audubon, the City of Gary, Lake County Parks and Recreation Department, Northern Indiana Public Service Company, Northwestern Indiana Regional Planning Commission, The Nature Conservancy, The Wetlands Initiative and the U.S. Army Corps of Engineers.

In 2019, the Little Cal Partners identified a need for Conservation Action Planning on the West Branch and with funding secured from the Calumet Land Conservation Partnership and Audubon Great Lakes, they worked with Save the Dunes to facilitate the development of a CAP throughout 2020. During the CAP process, the roles of conservation partners in the West Branch were described as detailed in Table 1.



Calumet Images, Audubon Great Lakes

Human Well-Being Targets

Assessing and integrating human well-being targets into Conservation Action Planning is paramount for achieving the conservation vision set out for the West Branch of the Little Calumet River. This is particularly appropriate for a wetland landscape; wetlands provide ecosystem services including flood control, recreational opportunities, habitat for rich biodiversity, clean water and more.⁴ This is also particularly appropriate for the communities adjacent to the River where environmental justice issues and community disinvestment underscore human well-being concerns. Several human well-being targets were identified by conservation partners with the aim of keeping them in focus when planning and implementing conservation strategies. They include optimized flood alleviation; enhanced recreational opportunities and with them, improved community resilience; the cultivation of a "sense-of-place" to enhance awareness of and appreciation for nature; and improved community health through improved connections to nature for residents. Ultimately, work undertaken to restore and enhance existing and degraded wetlands will strengthen each of these targets while improving the quality of the land, air and water.

Conservation Targets

Conservation efforts along the West Branch of the Little Calumet River take a landscape-level approach and include targets that represent the key species and associated ecosystems. Conservation partners divided the targets into two tiers to assist with prioritizing limited resources and maximizing positive impact. Tier 1 conservation targets include conserving breeding marsh birds and hemi-marsh habitat on the river corridor as a whole. Tier 2 conservation targets include associated charismatic and threatened wetland species and in-stream habitats that benefit from conservation of Tier 1 targets.



Calumet Images, Audubon Great Lakes



Hemi-marsh, Gary Sullivan

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: 1. Coordinated efforts to restore Tier 1 and Tier 2 conservation targets and connect them to an active floodplain, 2. Conservation approaches that integrate water levels and flow through wetlands according to constraints from levees and flood control structures, 3. Improved human well-being targets with dedicated programming, and 4. Addressing limited funding to sustain efforts into the future.



Marsh Wren, David Greenhalgh/APA

Conservation Threats

Conservation action planning includes identifying the threats to conservation and human well-being targets; conservation partners identified threats from flooding and altered water levels, lack of awareness of and appreciation for nature and limited funding to address conservation and community engagement needs in Lake County. Similar to other focus areas across the Calumet region, threats to targets in the West Branch also include invasive species, ecosystem degradation and climate change impacts.



Marsh Wren, Elizabeth Boehm/APA

Table 1. Conservation Partners and their roles in conservation work along the West Branch of the Little Calumet River.

Conservation Partner	Role
Audubon Great Lakes	Audubon will co-lead with core partners the strategy-setting and fundraising for projects focused on the West Branch of the Little Calumet River corridor. Audubon is engaging local communities; co-developing engagement material with local stakeholders and partners; creating space in the West Branch for people of color often left out of natural areas; and co-developing a vision for the West Branch with the people that live in and visit the area. Audubon leads marsh bird and habitat monitoring as an adaptive management and engagement tool and supports the design and implements restoration at sites within the West Branch.
Calumet Land Conservation Partnership	The Calumet Land Conservation Partnership (CLCP) was convened by funders ArcelorMittal and Gaylord and Dorothy Donnelley Foundation in 2013 to bring conservation partners together to advance collective conservation goals, priority projects and sound policy in focus areas across the region.
City of Gary	The City of Gary owns several management units within the West Branch of the Little Calumet River. The Office of Environmental Affairs, among other departments, is engaged in watershed management planning, sharing resources and identifying opportunities for conservation partners to meaningfully engage with community members to advance both human well-being and conservation targets in this landscape.
Dunes-Calumet Audubon	A local branch of the Audubon Society, Dunes-Calumet Audubon branch provides citizen scientist and other engagement opportunities for local community members to assist the experts with monitoring birds and their habitats for people and for nature. Dunes-Calumet Audubon Society represents the local birding community that has had a decades-long interest in and connection with West Branch wetlands.
Indiana Dunes National Park	As an anchor for conservation across the region, the Indiana Dunes National Park works in close collaboration with conservation partners to share resources and advance conservation goals both within and beyond the boundaries of the Park.
Indiana University Northwest	Indiana University Northwest (IUN) includes faculty with expertise in conservation and environmental research who contribute to the scientific rigor of conservation work and provide students with opportunities to work with conservation partners on restoration. projects.
Lake County Parks and Recreation Department	Now and in the coming years our department is excited about opportunities around this corridor to connect Lake Etta County Park and Three Rivers County Park to surrounding communities, parks, natural habitats, and trails within the Northwest Indiana Trail Network. The West Branch collaboration will give the public more opportunities for biking, bird-watching, nature studies, hiking, picnics, and fishing. This project will provide quality-of-life benefits and improve air and water quality in Northwest Indiana.
Little Calumet River Basin Development Commission (LCRBDC)	The LCRBDC was created in 1980 by the Indiana General Assembly to serve as the required local sponsor for the Little Calumet River, Indiana Flood Control and Restoration Project. The federal project is designed to provide structural flood protection up to the 200-year level along the main channel of the Little Calumet River from the Illinois State Line to Martin Luther King Drive in Gary, Indiana. The LCRBDC

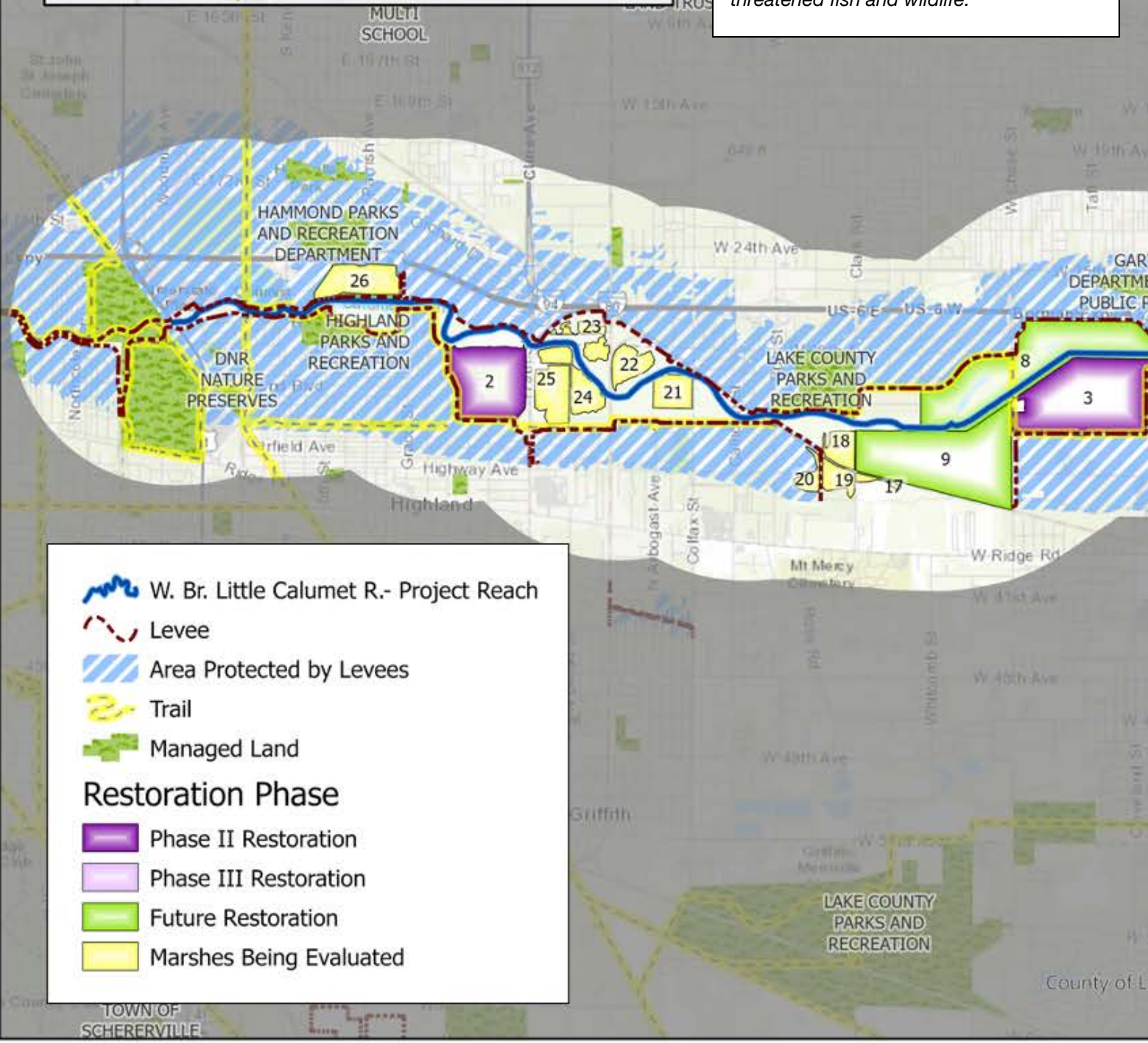
Table 1, Continued

Conservation Partner	Role
LCRBDC, Continued	provides conservation partners guidance, approval and funding opportunities to alleviate flooding for communities that line the river.
Northern Indiana Public Service Company (NIPSCO)	NIPSCO is a landowner and manager of right-of-ways, a substation and pipeline adjacent to the West Branch of the Little Calumet River. NIPSCO's parent company NiSource is committed to their Sustainability Policy and recently defined Biodiversity Commitment. As stewards of the environment, we commit to conserving and enhancing biodiversity on lands under our responsibility.
Northwestern Indiana Regional Planning Commission	Northwestern Indiana Regional Planning Commission (NIRPC) is a regional council of local governments serving the citizens of Lake, Porter and LaPorte counties in Northwest Indiana. NIRPC provides conservation partners with technical support for conservation planning including the creation and development of mapping tools that guide conservation work in this and other conservation areas across the region.
Save the Dunes	Established in 1952, Save the Dunes is an environmental organization with a long history of protecting the ecosystems of the Indiana Dunes and adjacent natural areas within the Lake Michigan watershed. Save the Dunes carries out key aspects of its mission in partnership with regional conservation organizations including through the facilitation of workshops and planning documents that advance collective conservation goals.
The Nature Conservancy	The Nature Conservancy (TNC) is a global leader in conservation; TNC's contribution to conservation action planning efforts in northwest Indiana provides foundational experience and expertise for the benefit of all conservation partners. TNC is a core conservation partner that identifies practical strategies for developing and implementing conservation plans that ultimately contribute to long-term sustainability of conservation work. TNC is also a significant landowner and is committed to assisting with long-term stewardship of West Branch wetlands.
The Wetlands Initiative	The Wetlands Initiative (TWI) co-leads with core partners the strategy-setting and fundraising for projects along the West Branch of the Little Calumet River corridor. TWI is bringing its deep practical knowledge of wetlands restoration to bear in designing and helping to implement exciting habitat and scenic improvements that can mesh with or enhance the corridor's primary flood-control function. TWI supports and participates in the critical task of engaging local partners with this project as a strong opportunity to connect this work with historically-underrepresented communities. TWI has led evaluation of all sites in the corridor for their restoration potential and has developed concept plans for all sites under consideration, including water control structures and habitat restoration parameters. TWI works closely with the U.S. Army Corps of Engineers in bringing their designs into alignment with the goals of conservation partners.
U.S. Army Corps of Engineers	The U.S. Army Corps of Engineers provides conservation partners with technical assistance and regulatory facilitation for permitting, project planning and implementation of the Little Calumet River, Indiana Flood Control and Recreation Project that includes levees and other flood control structures targeted for completion in 2024.
Other partners	Municipalities in northwestern Lake County, IN; Purdue University, Ivy Tech, Federation of Block Clubs/Urban League of Northwest Indiana, and many others.



Conservation Vision and Geographic Scope

"From Indianapolis Blvd. on the west to the confluence with Deep River near Interstate 65 on the east, the conservation vision for the West Branch of the Little Calumet River is to restore and manage the landscape in a manner that optimizes flood alleviation and recreational opportunities for surrounding communities, while conserving habitat for breeding marsh birds and other threatened fish and wildlife."



-  W. Br. Little Calumet R.- Project Reach
-  Levee
-  Area Protected by Levees
-  Trail
-  Managed Land

Restoration Phase

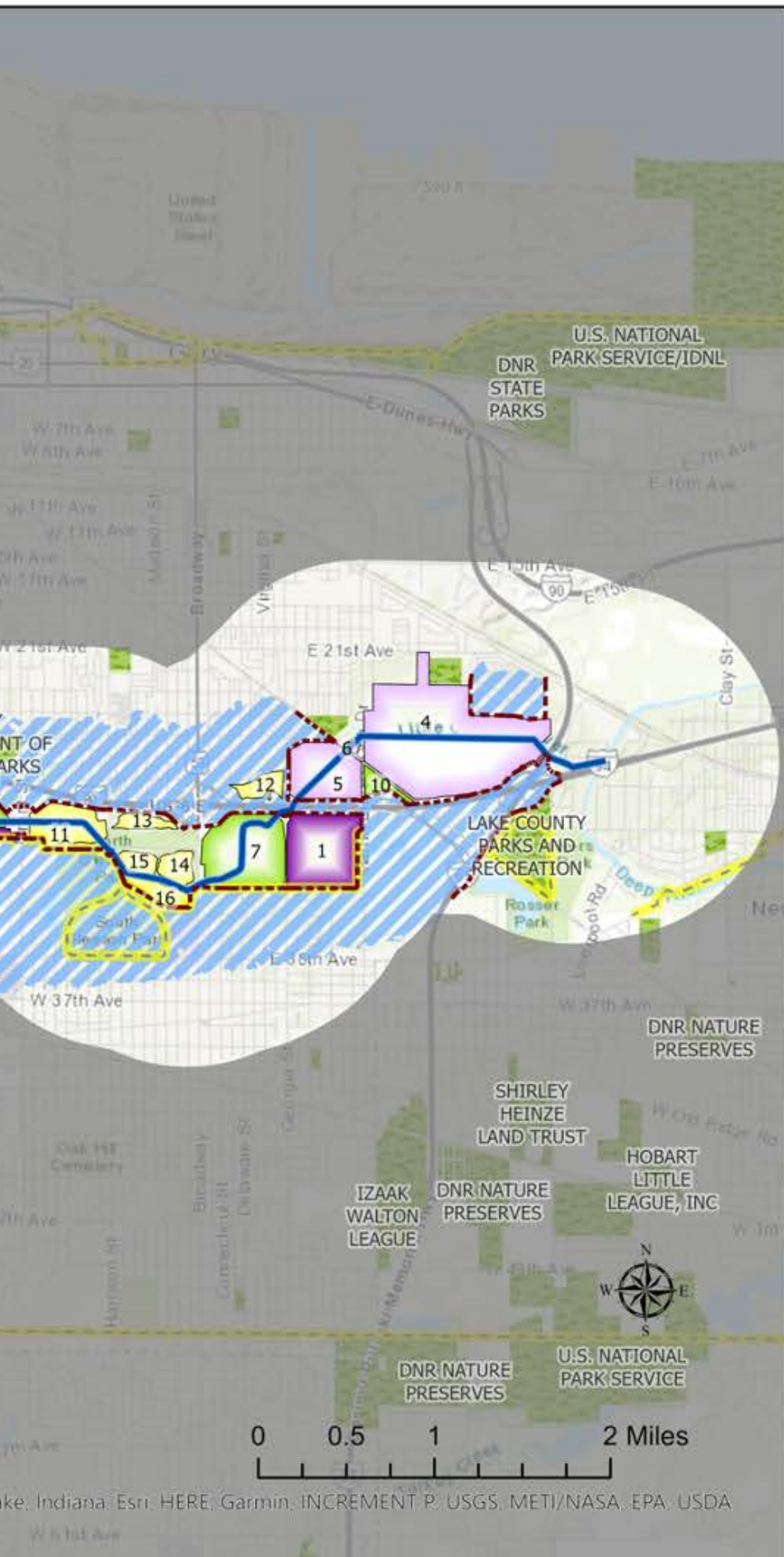
-  Phase II Restoration
-  Phase III Restoration
-  Future Restoration
-  Marshes Being Evaluated

WEST BRANCH OF THE LITTLE CALUMET RIVER

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.



Human Well-Being Targets

Assessing and integrating human well-being targets into Conservation Action Planning is paramount for achieving the conservation vision set out for the West Branch of the Little Calumet River.

This is particularly appropriate for a wetland landscape; wetlands provide ecosystem services including flood control, recreational opportunities, habitat for rich biodiversity, clean water and more. This is also particularly appropriate for the communities adjacent to the West Branch where environmental justice issues and community disinvestment underscore human well-being concerns. The human well-being targets described below were identified by conservation partners with the aim of keeping them in focus when planning and implementing conservation strategies.



Beebalm, Steelworkers Park, Teri Valenzuela

Improved Awareness of and Appreciation for Nature

The West Branch, like all other rivers, has a history of flooding. Due to the dense urban development along its banks, a system of levees was installed as a necessary means of protecting people from the River. Along the way, awareness of and appreciation for the natural beauty, recreational opportunities and ecological function, including flood protection offered by riverine wetlands, was significantly diminished. Through enhanced recreational opportunities and educational programming that may be offered by conservation partners, community residents' awareness of and appreciation for the West Branch can be reinvigorated. Improving awareness of and appreciation for nature includes cultivating a "sense of place" that instills pride in and a connection to the natural areas found within the West Branch landscape. New and existing stewards will have opportunities to support conservation efforts that will sustain the West Branch wetlands for future generations of plants, wildlife and people. As more residents become connected to the West Branch wetlands and the benefits they provide, awareness will grow concerning the negative impacts of litter and dumping. With this target in

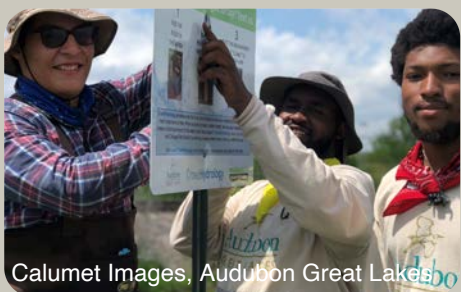
focus, conservation partners can incorporate and develop messaging, signage and/or programming that explains negative impacts, identifies strategies and facilitates their implementation. Improved awareness of and appreciation for the West Branch will improve the well-being of all residents that inhabit the River corridor.

Improved Land, Air and Water Quality

Improving human well-being on the West Branch is directly connected to the quality of the land, air and water. Wetlands purify water, their plants filter air and together they enable the land to function as a natural flood control where biodiversity thrives. Work by conservation partners to improve conservation targets will result in improvements to environmental quality and, taken together with a focus on the other human well-being targets, will enrich the West Branch corridor as a whole.

Improved Health through Connections to Nature

There is increasing evidence that human health is improved by time spent in nature, even as little as two hours a week.⁷ An integral benefit of enhanced recreational opportunities and improved awareness of and appreciation for nature is that this will encourage getting outside as a means of adopting healthy lifestyles and will improve general well-being for community residents. The West Branch exists in a highly engineered landscape that features a dense concentration of industrial operations, busy interstates and urban development all of which underscore the value and necessity of nearby, high-quality natural areas that may be accessed and enjoyed. Keeping this in focus as a target will enable conservation partners to ensure the benefits of nature benefit the health of West Branch communities.



Calumet Images, Audubon Great Lakes

Flood Alleviation Optimized

To address flooding issues along the West Branch corridor, in 1980 the Indiana General Assembly created The Little Calumet River Basin Development Commission⁵ which continues to serve as the required local sponsor for a Little Calumet River, Indiana Flood Control and Recreation Project managed by the U.S. Army Corps of Engineers.⁶

This project was authorized in the 1986 Water Resources Development Act and construction began in 1990. Flood protection features were completed in 2017; the remainder of the project is planned for completion by 2024. The project includes replacing and expanding existing levees and floodwalls, rehabilitation of pump stations, a flow control structure, nonstructural floodproofing, and a flood warning system for flood damage reduction and recreation features.

In its entirety, the project is designed to provide structural flood protection up to the 200-year level along the main channel of the West Branch, from the Illinois State Line to Martin Luther King Drive in Gary, IN. Construction has included more than 9.7 miles of set-back levees in Gary and Griffith and 12.3 miles of levees and floodwalls in Hammond, Highland and Munster that can help to prevent nearly \$11 million in average annual flood damage. The construction of levees and flood control systems have a number of direct benefits to local communities including flood protection for 3,500

acres of mixed-use development and protection of 9,500 structures from flooding including 8,755 residential structures.

In addition to the flood control protections, the project also prioritized the creation of 16.8 miles of hiking/biking trails that connect 2,000 acres of a river/recreation corridor system. This opened up a suite of real possibilities for restoring wetlands in the landscape within the constraints of the engineered levees and flood controls that determine the water levels in the wetlands at any given time during the year. For example, Lake County Parks and Recreation Department recently began controlling invasive species at the Highland Heron Rookery and other priority sites to enhance marsh bird habitat. In addition to the recreational opportunities, Highland Heron Rookery and other wetlands along the River have the capacity to enhance the engineered flood controls by helping to slow down and absorb excess water during storms and high-water periods. Restoring wetlands throughout the river corridor therefore has the capacity to not just enhance, but optimize the effectiveness of the engineered flood control systems. Conservation strategies centered on this target assess the status, restoration potential and community benefits of the wetlands to prioritize limited resources and improve wetland functioning for both people and nature.



Calumet Images, Audubon Great Lakes

Community Resilience Improved

The economic and educational resilience of West Branch communities will be improved as opportunities become more



available through the dedicated efforts of conservation partners working to restore the land and enhance public access to the rich wetland wildlife it supports. Collaboration with Audubon Great Lakes - Wild Indigo, the City of Gary, other municipalities and community groups have the potential to make this stretch of the River an asset to its neighborhoods. Resilience will also be improved as more degraded land is restored and flood alleviation is optimized, as dumping and litter are cleaned up and as communities better connect to the land by spending more time outdoors, thus improving their collective health and well-being.

Enhanced Recreational Opportunities

A key target for improving human well-being is to create new and enhance existing recreational opportunities to enable nearby communities to access and interact with the natural features of the West Branch. This includes installing and maintaining a connected system of trails that enable access to restored wetlands for respite, exercise and opportunities to observe marsh birds and migratory birds in their habitat. The installation and maintenance of river access points would also create

new and enhance existing fishing, canoeing and kayaking opportunities aligned with efforts across the region. Building up and expanding on these opportunities is built into grant-funded projects and partnership opportunities in the near- and long-term. With this in focus, conservation partners can establish outreach and engagement programming to ensure the availability of these opportunities is known throughout West Branch communities.



Calumet Images, Audubon Great Lakes

Conservation Targets

Conservation efforts along the West Branch of the Little Calumet River take a landscape-level approach and include targets that represent the key species and associated ecosystems. Conservation partners divided the targets into two tiers to assist with prioritizing limited resources and maximizing positive impact. Tier 1 conservation targets include conserving breeding marsh birds and hemi-marsh habitat on the river corridor as a whole. Tier 2 conservation targets include associated charismatic and threatened wetland species and in-stream habitats that benefit from conservation of Tier 1 targets.



Great Blue Heron, Coco Venturin

Tier 1: Marsh Birds

The West Branch of the Little Calumet River corridor exists within the larger Calumet region of Illinois and Indiana that once featured 45,000 acres of continuous wetlands and a tremendous abundance of wildlife found living within them. Land conversion for industry, transportation infrastructure and community growth replaced the once-widespread wetlands, leaving a mosaic of habitat fragments scattered across the landscape today.

In the past few decades, significant losses in the region's biodiversity above and beyond that lost from land conversion are connected to degraded wetland habitat required for elusive breeding marsh birds. Marsh birds are an important indicator of environmental



Least Bittern, Gil Eckrich/APA

such as King Rail, Least Bittern, Pied-billed Grebe and Common Gallinule are on a similar trajectory. The loss of quality breeding habitat has been identified as a major driver of these species' population declines and where habitat is restored, breeding marsh birds return. Any conservation efforts to improve the West Branch River Corridor will benefit from dedicated focus on improving habitat for breeding marsh bird populations to enhance the number and abundance of the species that remain, and with effort, bring species back to the region that have disappeared. These birds depend on a dynamic ecosystem called hemi-marsh that provides the structure and food sources they need to successfully reproduce.⁸ For these reasons and more, the Calumet region and the West Branch of the Little Calumet River are a priority for conservation partners at large and marsh birds a key conservation target.



American Coot

KT Allen, Great Backyard Bird Count

quality, and their rapidly declining populations indicates that improvements are urgently needed. For example, three signature species are functionally extirpated (i.e., locally extinct) from the region: Black Tern, Yellow-headed Blackbird and Black-crowned Night-Heron. Historical and recent survey data show that others



Great Egret, Coco Venturin

Tier 1: Hemi-marsh Habitat⁹

The Calumet region is an inland coastal region defined on the largest scale by Lake Michigan on the north and an impressive multitude of wetlands south of the shores. The West Branch of the Little Calumet is one of Lake Michigan’s many tributaries.

Marshes, hemi-marshes, bogs, fens, pannes, dune-and-swale, sedge meadows and wet prairies are all wetland types in the Lake Michigan coastal region and are differentiated by the plant species that characterize them, the animal species they support and the biological, physical and chemical characteristics of the water and soils present at their location. Another key defining feature of wetlands is the amount of water they hold – some are permanently flooded while others are flooded on a seasonal basis. Even in wetlands that rarely flood, soils are sufficiently saturated for wetland-adapted plants to take root and thrive. Breeding marsh birds are completely dependent on wetlands for critical stages in their life cycles, while many other species make use of wetlands for feeding, resting, or other life activities.

Hemi-marsh is a specific type of wetland characteristic of the West Branch of the Little Calumet River. It is characterized by a mix of open water and emergent and/or floating-leaved plants in deeper water interspersed with a diverse sub-aquatic plant community. Regional experts at The Wetlands Initiative offer this insight: “The combination of emergent and floating-leaved species with open water creates ideal food and cover conditions for many aquatic-dependent birds and amphibians. American Bitterns and Great Egrets comb these areas for prey, while Common Gallinules and Pied-billed Grebes use them as areas to nest and rear their young. The rich vegetation also provides an exceptional nursery for young fish and is a great production area for the zooplankton and insects that are a critical part of the food web.”¹⁰ Hemi-marsh has all but disappeared from the Calumet region, including along the West Branch, as a result of land conversions/development, altered hydrology, invasive species

and increasing pressures from climate change. Conservation partners are thus leading efforts for a landscape approach to overcoming these threats with strategies that will prioritize restoring the conditions under which hemi-marsh habitat can develop. These strategies include a combination of improved hydrological conditions, invasive species management and reestablishing essential interactions between hemi-marsh plants and animals (e.g., muskrats). Hemi-marsh habitat is dynamic and in a perpetual state of change dependent on water level fluctuations driving cycles of plant establishment and animal-driven plant loss.



Virginia Rail, Rick Derevan/APA

All of these elements must come together for this critical hemi-marsh dynamic to develop. The West Branch conservation efforts in Indiana represent an expansion of large-scale hemi-marsh restoration efforts that have been planned and are being implemented in Illinois where Audubon, The Nature Conservancy and The Wetlands Initiative are also involved in essential planning efforts.¹¹ As a Tier 1 conservation target in the West Branch landscape, conservation partners recognize that hemi-marsh wetland habitat provides far-reaching benefits to marsh birds, other wildlife and people, and that conservation strategies are required to restore the dynamic conditions under which it can develop and be sustained.



West Branch Chase St. Hemi-marsh, Gary Sullivan

Tier 1: River Corridor

Successful restoration and its sustained maintenance on the West Branch require a landscape-level approach that brings conservation partners together to work toward a common goal along the river corridor as a whole. This goal is a WBLCR corridor teeming with activity from wildlife as well as people recreating within or along its 10-mile stretch. While work is undertaken to restore hemi-marsh habitat, adjacent wetlands may become re-connected and open up possibilities for low-cost, high-impact restoration. Ongoing modifications and/or enhancements to the levees and flood control systems may change the flow of water into the wetlands, thereby changing the restoration potential and/or the water available to sustain them. Community engagement may increase at different points along the river at different times opening up new locations for public access improvements. Using a landscape-level approach that looks at the river corridor as a whole, rather than as discrete management units, will enable the best outcomes to be achieved in the short- and long-term.



Great Egret, Barbara Blaisdell/APA

Conservation Targets, continued.

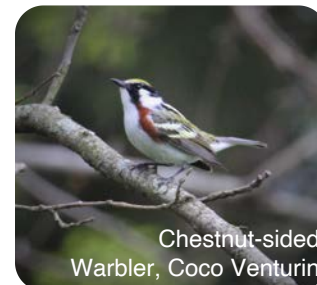
Tier 2: Associated Charismatic and Threatened Species

The wetland habitats of the West Branch River Corridor are an important breeding ground and migratory stopover site for an astonishing diversity of birds. The Great Blue Heron, Black-crowned Night-Heron, Great Egret, Least Bittern, Osprey, Blue-winged Teal and Bald Eagle all consume fish from local waterways and are therefore dependent on water quality as well as available habitat. Also of note are waterfowl and wading birds such as Mallard, Wood Duck, Common Gallinule, Virginia Rail, and American Coot that eat small fish and aquatic invertebrates and/or aquatic vegetation.

During the late-summer shorebird migration season, the West Branch provides stopover sites for birds such as Greater Yellowlegs, Solitary Sandpiper, Stilt Sandpiper and Short-billed Dowitcher that rely on shallow water, shorelines and mudflats to forage for invertebrates.¹²

Conservation targets focused on breeding marsh birds, hemi-marsh habitat and the river corridor as a whole has ancillary benefits to the diverse assemblage of these

associated charismatic birds within the landscape. Other species of interest include fishes such as steelhead, largemouth bass, trout and many others; turtles such as the endangered Blanding's turtle; and mammals such as muskrats, mink and beavers that are essential to maintaining the dynamic conditions for hemi-marsh habitat to thrive.



Chestnut-sided Warbler, Coco Venturin



Yellow Warbler, Coco Venturin



Yellow-headed Blackbird, Gene Putney/APA

Tier 2: In-stream Habitat

In-stream habitat has structural complexity such as ripples and pools that provides essential breeding habitat for fish and places for aquatic plants to take root. Some in-stream habitat is characterized by the presence of woody debris, cobbles, and other features that, in addition to creating structural complexity, support the River's food web, including a diversity of invertebrates that are important for keeping mosquito populations in check.

River re-meandering is a conservation approach that would improve the restoration potential of in-stream habitat in the West Branch corridor.

The key is to reestablish conditions that allow the water to flow more slowly down the River and through the wetlands connected to it in the floodplain. This approach would effectively reclaim the dynamic nature of floodplain wetlands. For example, this would recreate marshes in off-channel wetlands and would bolster the ecological integrity of the species within them. It would also reestablish the dynamic conditions required to sustain hemi-marsh habitat.

From a hydrological perspective slowing the river down and improving in-stream and wetland habitat also improves the capacity of these natural

features to mitigate high-water events and/or optimize the effectiveness of the engineered levees. Functioning floodplain wetlands naturally store water; engineered flood controls are often designed to move water through and out of the system as fast as possible. The challenge is finding a balance to ensure flood protection while also creating an opportunity to optimize the flood protection by restoring the natural water storage capacity of the river and wetlands. In-stream habitat is a conservation target because its presence would be a strong indication that this balance is being restored.



Great Egret, Lorraine Minns/APA



Yellow-headed Blackbird, Claudio-Contreras-Koob



Great Egret, Catherine McEntee/APA



American Coot, Ed MacKerrow/APA



Virginia Rail, Tim Kuhn/APA



Virginia Rail, Debra Herst/APA

Great Egrets, Virginia Rails, American Coots, Yellow-headed Blackbirds, among many other birds, bring life, character and purpose to ongoing wetland restoration work along the West Branch of the Little Calumet River.

Conservation Threats

Conservation Action Planning includes identifying the threats to conservation and human well-being targets; conservation partners identified threats from flooding and altered water levels, lack of awareness of and appreciation for nature and limited funding to address conservation and community engagement needs in Lake County. Similar to other focus areas across the Calumet region, threats to targets in the West Branch also include invasive species, ecosystem degradation and climate change impacts.



Belted Kingfisher, Coco Venturin



Brad Kasberg, Audubon Great Lakes

Limited Funding

Conservation work is never finished – and in this capacity a persistent threat to sustaining conservation outcomes is the limited funding available to carry out the work. Limited funding impacts conservation efforts across northern Lake County including the West Branch River Corridor. Without sustained funding streams, conservation partners are significantly limited in their ability to implement, manage and maintain wetland restoration and monitoring, invasive species control, public access improvements, community outreach and engagement programming and ongoing planning.

Flooding and Altered Water Levels

Flooding is an overriding concern for communities and land managers throughout the West Branch River Corridor. Levees and flood control structures alleviate the worst impacts from flood events, and restored wetlands have the potential to optimize their capacity. Restoring the wetlands requires an evaluation of how water levels within wetlands are altered by the levees and flood control structures and provide context for prioritizing restoration projects. Climate change impacts are

compounding these threats by increasing the intensity and frequency of storms that lead to



Calumet Images, Audubon Great Lakes

Invasive Species

Invasive plant species establishment and spread is a persistent threat to the wetlands of the West Branch and the wildlife they support.

Invasive species in degraded wetlands can reverse years of wetland restoration efforts in adjacent high-quality sites if left unchecked. Wetlands that have been overrun and/or degraded by invasive species require many years of intensive,

pose a risk to sites undergoing restoration. Phragmites is a species of high concern across the region; along the West Branch it can quickly invade and take over wetlands that have been restored for breeding marsh birds. Although phragmites is

easy to identify it is incredibly difficult to eradicate. Because it is a common feature of degraded wetland sites, its eradication consumes limited resources from conservation partners who must use all tools at their disposal to keep it at bay on a consistent, sustained basis.

Hybrid cattail presents another difficult problem for land managers. On the one hand, the hybrid is very aggressive and can form dense monocultures that smother native wetland communities. Despite this threat, however, it is often the only remaining cattail species in these wetlands, and can provide valuable structure for marsh birds when populations are kept in check.



Heron Rookery, Gary Sullivan

coordinated efforts by conservation partners. These efforts are in turn expensive and time-consuming and complicated by the fragmented nature of the River Corridor. Land managers must work together to keep track of spread and cultivate relationships with neighboring properties that have unmanaged populations of invasive species that



Little Calumet River Prairie and Wetlands Nature Preserve, Jennifer Johnson

Lack of Awareness and Appreciation for Nature

Illegal dumping and pollution are a threat to the West Branch because of how they foster a prevailing lack of appreciation for nature. When surrounding community residents see open spaces degraded by dumping despite their complaints, it simultaneously normalizes ideas that undeveloped lands have little to no value and can discourage local initiatives for land stewardship. This exacerbates the difficulty conservation partners face when working to cultivate community pride, a “sense of place” and other efforts to increase awareness of how natural habitats along the West Branch benefit their well-being.

Ecosystem Degradation, Dumping and Pollution

Degraded wetlands cannot perform beneficial ecosystem services such as flood control, water purification, maintenance of biodiversity and enhanced human well-being that high-quality wetlands provide. By taking a landscape level approach, wetlands that are delineated into management units are assessed for their current status, restoration potential and contribution to the River system as a whole. A catalogue of the wetlands of the West Branch that

determines these attributes can be used by conservation partners to maximize the impact of limited resources. Illegal dumping in natural areas and pollution from roads and industries impact wetlands on the West Branch directly while also reducing human well-being targets by degrading the perceived quality of the land for nearby communities.



Great Horned Owl, Coco Venturin

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: 1. Coordinated efforts to restore Tier 1 and Tier 2 conservation targets and connect them to an active floodplain, 2. Conservation approaches that integrate water levels and flow through wetlands according to constraints from levees and flood control structures, 3. Improve human well-being targets with dedicated programming, and 4. Addressing limited funding to sustain efforts into the future.



Great Egret, Nick Palmieri/APA

Coordinated efforts to restore Tier 1 and Tier 2 conservation targets and connect them to an active floodplain

In 2019 Audubon Great Lakes, along with Lake County Parks & Recreation, The Nature Conservancy, The Wetlands Initiative, Dunes-Calumet Audubon Society, and the U.S. Army Corps of Engineers began wetland planning and restoration along 10-miles of the Little Calumet River at four priority sites, each chosen for their potential to provide a healthy habitat for threatened and endangered marsh birds and a positive impact for local communities. This first phase of restoration is addressing rampant invasive plant species, and consequently, the loss of native plant diversity, which have been a major culprits behind the loss of healthy wetland habitat.¹³ Marsh Bird Monitoring of threatened and endangered marsh birds is also underway to provide metrics

that will indicate the response of these target species to restoration efforts. Continued coordination with the Little Calumet River Basin Commission and the implementation of their charge by the U.S. Army Corps of Engineers has provided an additional level of detail and planning structure to advance conservation goals within the context of the levees and other flood control structures. This ambitious plan to restore wetlands at the landscape level for breeding marsh birds and enhanced human well-being initiatives is being undertaken by conservation partners that represent the best knowledge, skills, capacity and potential that the landscape has to offer.¹³

Improve human well-being targets with dedicated programming

In 2019, Audubon Great Lakes launched a Wild Indigo Nature Exploration program to engage community residents in Gary, with a focus on people of color. Wild Indigo engages residents in a variety of opportunities to connect with the West Branch wetlands through nature hikes, and birding events and educational programming both in-person and virtually. This innovative program focuses on building upon existing residential desires to improve their “sense of place.” It also recognizes that habitat restoration work is a means to that end. Wild Indigo provides a community-informed approach to building appreciation for nature and enhancing health through experiential nature explorations. The

Wild Indigo program is strengthened by the close collaboration with the City of Gary, Green Gary programming, and connections to Highland, Hammond, Griffith and other nearby communities. Opportunities are also available through coursework at IUN – a campus that sits on the banks of the West Branch and whose professors provide enriching opportunities to learn about the West Branch and engage with conservation partners through community science and stewardship programs. Collectively, these efforts make progress toward improving human well-being targets and through them, ensure the conservation of the West Branch far into the future.



Great Blue Heron, Ann Chamberlin/APA

Conservation approaches that integrate water levels and flow through wetlands according to constraints from levees and flood control structures

Optimizing flood alleviation for nearby communities with wetland restoration efforts will be made possible by identifying approaches that integrate how much water is available to flow through wetlands and/or how the water level fluctuates over the course of the year within the constraints of the levees and flood control structures. This strategy will ensure restoration sites have water available to sustain the desired wetland habitat. This is also true for emerging opportunities to connect wetlands and establish fish passage throughout the River Corridor - one example of how strategies to improve conservation targets may also improve human well-being targets, as would be the case for increasing recreational fishing opportunities.

Address Limited Funding

Overcoming limited funding streams to support conservation work and improve human well-being targets is an ongoing concern across Lake County including in the West Branch of the Little Calumet River corridor. Strategies to address this include securing funding to enable conservation partners to sustain their alliance as the “Little Cal Partners” who are building a library of funding opportunities, procuring grants and providing staff for grant administration and project management. Over time an opportunistic approach to grant funding can be transformed into a sustained funding procurement strategy, complete with a slate of shovel-ready projects with prioritized timelines. Strengthening existing and cultivating new funding opportunities may be facilitated by sharing this CAP and continuing to implement strategies through workplan development, metric tracking and more. The continued engagement with Lake County Parks and Recreation, the lead conservation partner charged with long-term

stewardship, restoration and management of numerous sites on the West Branch is also essential. The same holds true for municipalities, such as the City of Gary, who can implement city-wide environmental programming within the West Branch River Corridor. All of these efforts will increase the collective capacity of conservation partners to fund conservation work and achieve their ultimate vision for the landscape. Furthermore, conservation partners have an opportunity to utilize this CAP to develop communication and outreach materials to bolster advocacy for policies at the local, state, regional and federal level that ensure funding for conservation work is not only sustained, but enhanced to adequately address conservation and community engagement needs. Through this process, new champions for the West Branch and other conservation areas of the Calumet region will be inspired to follow in the footsteps of those who have charted the way.



Great Blue Heron Mural, Hammond, IN Calumet Images, Audubon Great Lakes

Conservation Action Plan Alignment in the Calumet Region

Across the Calumet Region of Northwest Indiana and Southeast Chicagoland, 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, or 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. This CAP for the West Branch of the Little Calumet River and the Little Calumet River Partners that implement its strategies are an exciting reminder that more opportunities are in store for the Calumet Region's natural areas, communities and wildlife.

CONSERVATION ACTION PLANNING for the WEST BRANCH OF THE LITTLE CALUMET RIVER

A project of the Little Calumet River Partners with funding support from the Calumet Land Conservation Partnership (the Gaylord and Dorothy Donnelley Foundation and ArcelorMittal); the Little Calumet River Basin Development Commission, and the National Fish and Wildlife Foundation's Chi-Cal Rivers Fund.



Great Blue Heron, Philip Yabut/APA

"This type of work is essential to attracting new people and businesses to our regional economy and improves our quality of place by connecting people to the unique ecosystem and wildlife of Northwest Indiana."
– Congressman Pete Visclosky, 2019

Notes to the Reader

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Electronic copies available at: www.savedunes.org/resources

Resources

¹ *Tools of Engagement: A Toolkit for Engaging People in Conservation*. Developed by the National Audubon Society in partnership with EETAAP, U.S. Fish and Wildlife Service and TogetherGreen. January 2011. <https://www.conservationgateway.org/ExternalLinks/Pages/tools-engagement-toolkit.aspx116.aspx>

² *Conservation Gateway*. A resource page developed and maintained by The Nature Conservancy. <https://www.conservationgateway.org>

³ *Open Standards for the Practice of Conservation*. A global collaboration of conservation organizations dedicated to making conservation efforts more efficient and effective. <https://cmp-openstandards.org>

⁴ *Value of Wetlands*. The Wetlands Initiative <http://www.wetlands-initiative.org/value-of-wetlands>

⁵ Little Calumet River Basin Commission <http://littlecacalriverbasin.org>

⁶ Little Calumet River, Indiana Flood Control and Recreation Project <https://www.lrc.usace.army.mil/Missions/Civil-Works-Projects/Little-Calumet-River/>

⁷ *Spending at least 120 minutes a week in nature is associated with good health and wellbeing*. White, et al., (2019). Nature: Scientific Reports: Articles: Open Access <https://www.nature.com/articles/s41598-019-44097-3>

⁸ *Calumet Wetlands: Using marsh birds to restore coastal wetlands of Illinois and Indiana*. Audubon Great Lakes: Coastal Wetlands <https://gl.audubon.org/coastal-wetlands/calumet-wetlands>

⁹ *What is a Wetland*. The Wetlands Initiative <http://www.wetlands-initiative.org/what-is-a-wetland>

¹⁰ *What is a Wetland*. The Wetlands Initiative <http://www.wetlands-initiative.org/what-is-a-wetland>

¹¹ *Calumet Wetlands*. Audubon Great Lakes <https://gl.audubon.org/coastal-wetlands/calumet-wetlands>

¹² *Audubon monitors contamination at Little Calumet River as shorebird migration begins*. Audubon Great Lakes: August 20, 2019 <https://gl.audubon.org/news/audubon-monitors-contamination-little-calumet-river-shorebird-migration-begins>

¹³ *Audubon launches new restoration and community engagement initiatives in Northwest Indiana*. AGL: News, March 21, 2019 <https://gl.audubon.org/news/audubon-launches-new-restoration-and-community-engagement-initiatives-northwest-indiana>

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