

URBANWATERS

FEDERAL PARTNERSHIP

NORTHWEST INDIANA LOCATION

2023 Northwest Indiana (NWI) Urban Waters Federal Partnership Work Plan 2022 Accomplishments and 2023 Goals



Top left: The Indiana Dunes National Park's Natural Resources Team pictured around the new sign at their Headquarters. **Top Middle:** An old-growth burr oak tree at Gabis Arboretum is pictured with a staff member from the Indiana Department of Natural Resources Lake Michigan Coastal Program. **Top right:** CommuniTree Partners using shovels to plant a commemorative burr oak tree at the CommuniTree Program's "10,000 Trees and Counting" celebration at Gabis Arboretum. **Bottom Left:** Community members listen to staff from the Indiana Dunes National Park discuss invasive species management at Miller Woods on a bright sunny day surrounded by an oak savanna and wetland restoration site. **Bottom center:** Students paddling in a canoe on a lagoon surrounded by sandy dunes and trees as part of the Dunes Learning Center's environmental education programming with Wilderness Inquiry. **Bottom right:** The Student Conservation Association's Calumet Tree Conservation Corps pose behind a small conifer tree just planted as a part of a buffer to noise, pollution and traffic outside of a community farmer's market in Gary, Indiana.

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Executive Summary

Since 2011, the Northwest Indiana (NWI) Urban Waters Partnership has been working to protect, restore, and revitalize urban waterways, communities and surrounding environments in Lake, Porter, and LaPorte counties. Developed with input from NWI Urban Waters partners, the NWI Urban Waters Work Plan is updated annually to provide a summary of the work from the previous year and look ahead at work planned in the current year. Collectively, the work undertaken by partners across the region advance goals of the Urban Waters Federal Partnership. In 2022, the region began to emerge from the Covid-19 pandemic. Partners hit the ground running to make incredible progress throughout the year and layout their plans for continued success in 2023.

The 2023 NWI Urban Waters Work Plan provides a summary of updates from partners on the work undertaken during 2022 and an overview of planned work for 2023. The majority of this work is carried out by partners across the region with the NWI Urban Waters Ambassador playing a facilitating and supporting role when needed. The 2023 NWI Urban Waters Work Plan is organized into 2022 accomplishments and 2023 goals for each of the following sections:

- The CommuniTree Program
- Watershed Education Programs
- Septic System Coordination Working Group
- Water Pollution Prevention Roundtable
- NWI Urban Waters Focus Areas, including:
 - Grand Calumet River Area of Concern
 - West Branch of the Little Calumet River
 - Hobart Marsh and Deep River
 - East Branch of the Little Calumet River
 - Lake Michigan and the Indiana Dunes Ecosystems
 - Trail Creek Watershed
- Region-Wide Initiatives
- Appendices



Located along the southern shore of Lake Michigan the map shown to the left depicts the boundaries of the Lake Michigan Watershed in NWI. NWI is a diverse region with a broad range of both rural and urban land uses. The region also juxtaposes heavy industry with natural treasures and includes, for example, both the Grand Calumet River Area of Concern and the Indiana Dunes National Park. Like its diverse communities, major rivers and creeks in NWI, such as the Grand Calumet River, Deep River, the Little Calumet River and Trail Creek, each have unique characteristics, assets, and challenges.

NWI Urban Waters Partnership Background

NWI was one of the original Urban Waters Federal Partnership locations and follows the national initiative's guiding principles, which include working to promote clean urban waters and connect people to local waterways. Since 2011, the NWI Urban Waters Partnership has been working to protect, restore, and revitalize urban waterways and surrounding environments in Lake, Porter, and LaPorte counties and includes more than 80 local, state and federal partners (Appendix 2). The NWI Urban Waters Partnership is co-led by a core advisory team representing the US Environmental Protection Agency (USEPA), US Forest Service (USFS) and the National Park Service (NPS). The NWI Urban Waters Ambassador position is housed at Purdue University Northwest and supported with funding from the USEPA and USFS.

NWI Urban Waters partners work together to build organizational capacities, move projects forward, and spur new initiatives to address emerging challenges, including the following primary goals:

- Encourage and facilitate coordination among partners, including local, state, federal, and regional agencies, nonprofit organizations, foundations and regional planning bodies.
- Promote collaboration in all aspects of interaction including having an open exchange of information and partnering across organizations to seek joint funding for shared projects.
- Increase organizational capacities by assisting with project design and implementation, identifying potential funding sources, and connecting partners to federal agencies for support, including technical assistance.
- Promote efforts to engage residents of all ages and backgrounds in educational, recreational, and volunteer activities that foster connections and stewardship of local waterways and their surrounding communities and environments.
- Hold four Partnership meetings per year to highlight projects, strengthen partner connections and provide an opportunity to seek collaborators and share updates and announcements.
- Foster open and timely communications through monthly e-newsletters with project updates, funding opportunities, partnership meeting information, local events, and useful resources.

The CommuniTree Program

A direct outgrowth of discussions at Urban Waters Partnership meetings, CommuniTree is an alliance of non-profits, government agencies, universities, and businesses working to create a more diverse, healthy, and sustainable urban forest across NWI. The initiative was spurred by the impact of Emerald Ash Borer on local forests and the importance of trees for stormwater management and community revitalization. The initiative has developed into the region’s flagship community and urban forestry program that builds capacity for sustainable urban forestry and consistently increases the urban tree canopy in communities across Lake, Porter and LaPorte Counties.

Current partners regularly involved include the Northwestern Indiana Regional Planning Commission (NIRPC), the Student Conservation Association (SCA), the Wildlife Habitat Council (WHC), the Delta Institute, the Indiana Department of Natural Resources Division of Forestry Urban and Community Forestry Department, the US Forest Service (USFS), and the Northern Indiana Public Service Company (NIPSCO), in addition to municipalities and county partners across the region.

2022 Accomplishments

Student Conservation Association (SCA) Calumet Tree Conservation Corps

In the spring and fall 505 trees were successfully planted by the crew with the aid of volunteers. During the planting season, the CTCC hosted volunteer tree planting events every Saturday. At these events, members of the crew led tree planting demonstrations to educate the public on proper tree planting. After the demonstrations were complete crew members broke off into groups to work intimately with community members and anyone else who volunteered their time. This allowed the crew to ensure that each tree was planted in a way that supported its health and growth. It also gave members the chance to better connect with the surrounding communities and further educate them on the types of trees being planted at specific locations and why they were best suited for the area.



Since 2016, CommuniTree partners have:

- Planted over 10,000 Trees
- Engaged over 2,500 volunteers
- Trained 30+ youth in urban forestry
- Partnered with over 40 communities
- Held 15 trainings on forestry topics



Above: More than 40 CommuniTree Partners gathered at Purdue University Northwest’s Gabis Arboretum in October 2022 to celebrate the milestone that more than 10,000 trees have been planted across NWI since 2016. A commemorative Burr Oak tree was planted in honor of the CommuniTree program with expert assistance provided by the SCA Calumet Tree Conservation Corps.

Summary of 2022 SCA Accomplishments	
Education and Outreach to People	105 people
Native Tree Population Growth	505 trees
Water Used	170,000 gallons
Mulch Used	300 yards
Trail Improved	5480 feet
Camping Trips	2
Career Fairs	2

Outside of the planting season, maintenance was performed on roughly 3,000 trees that were planted by the SCA within the past two years. During the summer months the crew visited each planting site weekly to provide 10 gallons of water to each newly planted tree. Weekly tree maintenance also included weeding the base of the trees as needed, pruning limbs, mulching, and staking leaning trees. During maintenance days, crew members were also taking note of any signs of damage, disease, or death. Throughout the season crew members learned proper tree care techniques to ensure the health and well-being of every tree planted.

The Northwestern Indiana Regional Planning Commission (NIRPC)

NIRPC awarded 712 trees in 2022 and offered 2 basic tree planting and maintenance workshops. NIRPC will continue to provide trees and trainings to communities in 2023 through their US Forest Service Great Lakes Restoration Initiative grant.

The Delta Institute

With funding from the US Forest Service Landscape Scale Restoration Program, Delta Institute is working with municipal, business, and community partners in Lake County, Indiana to expand regional forest canopy acreage via an innovative multi-community approach to comprehensive canopy mapping; forest planning, installing 2,240+ trees, and expanding maintenance and capacity building. These efforts will be achieved via a collaborative tree planting consortium (TPC) structure with foundational inclusive community engagement throughout the entire process. These efforts will address water quality, urban forest canopy, and environmental justice issues in our partner municipalities. Our scope of work directly aligns with the Great Lakes Restoration Initiative Action Plan and 2020 Indiana State Forest Action Plan. In 2022, efforts focused on organizing initial discussions, aligning with partner timelines and executing project contracts. Delta has developed a Communications Plan for the project. Communications activities for the TPC will be focused on highlighting plantings and other events, municipal partner accomplishments, and recruiting additional TPC members and planting project volunteers.

At the partnership level, CommuniTree partners including the NWI UWFP Ambassador, presented at the Urban Waters Federal Locations call. With the support of the NWI UWFP, CommuniTree partners also held a “10,000 Trees and Counting” celebration marking CommuniTree’s incredible milestone of planting more than 10,000 trees across NWI. The celebration was on October 5th, 2022 at Gabis Arboretum of Purdue University Northwest. In addition, the CommuniTree Steering Committee held several meetings identifying goals for the program.

2023 Goals

CommuniTree Partners

Partners on the CommuniTree Steering Committee will revisit and update a strategic plan in 2023 to:

- Provide metrics
- Identify projects that need funding, funding opportunities that fit the need and partners that can apply
- Decide as a group how we want the CommuniTree program to grow, how to increase funding, identify fiscal agents/partners to manage funds

In addition, CommuniTree partners will hold community stakeholder meetings – one large virtual meeting and one workshop for entire CommuniTree contact list with value-added presentations and/or a workshop such as pruning, watering, tree-care in March or April. NIRPC will continue to offer their pass-through tree planting grants with applications open January-March and distribution beginning in April. As a whole, CommuniTree partners are exploring funding opportunities available from the Inflation Reduction Act to expand the CommuniTree program with a focus on underserved communities in NWI.

The Wildlife Habitat Council was awarded funding through the US Environmental Protection Agency Community Air Pollution Monitoring Program that will roll out in 2023. The project includes multiple NGO and corporate partners to develop and implement community air monitoring programs linked to our urban and community forestry projects in SE Michigan, NW Indiana, and NE Illinois communities. "Collaborative Air Quality Monitoring in Industrial Communities of the Great Lakes Region" promotes links between USFS UCF projects and USEPA Vegetative Barriers Teams from the USEPA Office of Research and Development and Region 5 Office of Air and Radiation. Funding is towards air monitoring sensors (handheld and stationary), connectivity and interpretation of existing private and public sensors, educational workshops/capacity building/deployment to schools (including NEO Academy/High Vistas in Portage, IN) Deployment and measurement/interpretations will be done in relation to active and future urban and community forestry/ecological projects.

The Delta Institute will organize, kickoff, and facilitate Tree Planting Consortium (TPC) meetings. This regional consortium will administer training events, oversee planting planning and data collection activities, identify vendors and administer procurement, share education materials, oversee project coordination, and support the execution of best management practices (BMP) for planting, maintenance, and stewardship.

Watershed Education Programs

Several partners across NWI engage in regular watershed education programs including signature programs developed and implemented by the Dunes Learning Center, IL-IN Sea Grant, the Trail Creek Watershed Partnership.

2022 Accomplishments

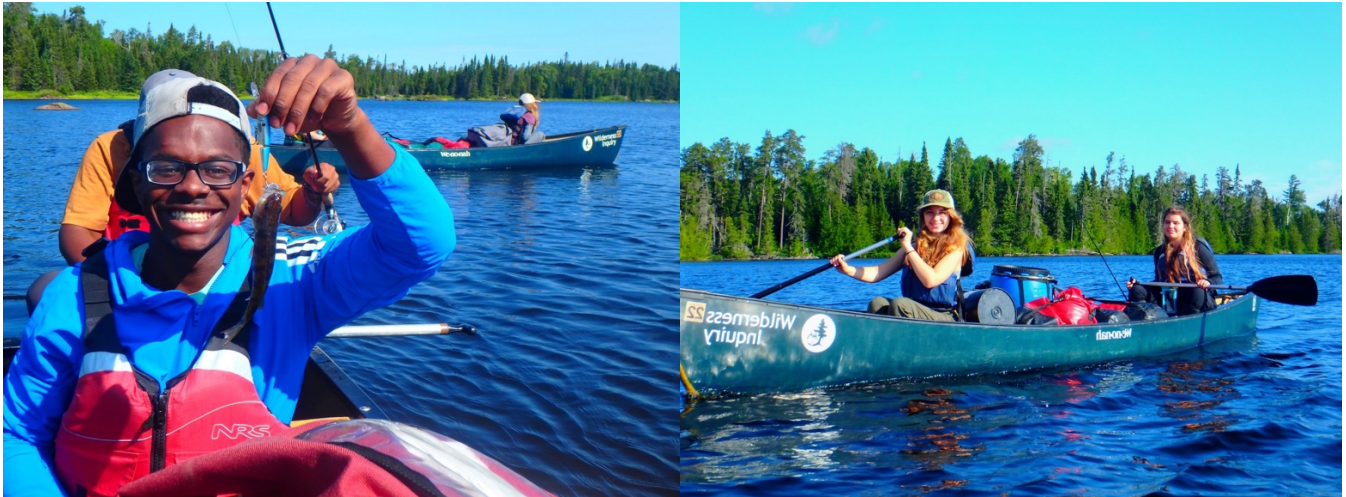
Dunes Learning Center

With funding support from the US Forest Service's Urban Connections Program, Cleveland Cliffs, the Lake Michigan Coastal Program/IDNR/NOAA, Foundations of East Chicago, and the Flora Richardson Foundation in 2022, Dunes Learning Center extended the reach of Wilderness Inquiry's Canoemobile with school-year Environmental STEM education programs for students in grades 3-8, including an all-new Wilderness Adventure summer camp experience for teens. Combined, these programs provided a total of 3,399 student and 140 teacher experiences. With capacity reduced due to scheduling and staffing issues with Wilderness Inquiry, Dunes Learning Center connected 1,885 students and 80 teacher in grades 3-12 with the Lake Michigan watershed during Watershed Ed with paddling plus land-based education stations and stewardship activities with local partners including tree plantings with the Forest Service. In addition, 1,018 students and 45 teachers in grades 3-5 participated in Nature Navigators, 476 students and 15 teachers in grades 6-8 participated in Citizen Sciences plus the year end Symposium at Indiana Dunes State Park, 15 overnight campers ages 9-17 received Summer Camp scholarships, and 5 teens traveled to the Boundary Waters for a weeklong canoe experience with Dunes Learning Center and Wilderness Inquiry. DLC recently learned that the Urban Connections Program was recognized with a USDA Forest Service 2022 National Wilderness Award.

This year, with continued funding support, DLC is once again delivering school-year Environmental STEM education programs that extend the reach of Wilderness Inquiry's Canoemobile. In addition, funding from the National Park Foundation's Open Outdoors for Kids program and the Lake Michigan Coastal Program/IDNR/NOAA is being used to update and improve delivery of the Walk Through Time portion of DLC's flagship overnight program for students in grades 4-6, Frog in the Bog. "New" historical props and costumes will make the in-person experience at Bailly Homestead and Chellberg Farm more authentic, while new pre- and post-visit lessons will extend the learning for students in the classroom.

Inspired by the National Park Service's Every Kid Outdoors program, DLC is working on a long-range plan in partnership with Indiana Dunes National Park to reach every 4th grader in Lake, Porter, and LaPorte county with an unforgettable outdoor learning experience that forges lifelong connections with the local environment as they study Indiana in the Nation and the World throughout the school year. The goal is to provide 4th grade teachers with educational programs, activities, field trip options, and resources aligned with state academic standards that focus on the unique ecology and history of the Indiana Dunes region.

The Every Kid Outdoors program is based on research that indicates children ages 9–11 are at a unique developmental stage in their learning where they begin to understand how the world around them works in more concrete ways, and they are more receptive to engaging with nature and the environment. A key element of this program is the distribution of all access park passes, and every 4th grader who participates will receive one for their family.



Left picture: Students fishing and paddling in two canoes on a calm lake with coniferous trees in the background as part of the Dunes Learning Center’s Wilderness Inquiry watershed education program. One student is smiling broadly while proudly holding up a small fish he has caught. **Right picture:** Two students paddling in a canoe loaded with gear for fishing and camping on a bright sunny day on a lake surrounded by bright green coniferous trees. Photos courtesy of the Dunes Learning Center.

IL-IN Sea Grant/Purdue University Northwest (PNW)

The watershed steward program successfully ran in the fall with 8 stewards. The fall program was the first program to run with Purdue Extension. IL-IN Sea Grant will run another program in NWI possibly in the spring or fall of 2023. We are also considering a program in southern Indiana (Lake Monroe area).

Trail Creek Watershed Partnership’s Trail Creek Week

Trail Creek Week is a hands-on, place-based exploration of trail creek, its watershed, history and ecology. Students attend sessions led by local experts on history, water quality, invasive species and microplastics. They then board a 24 foot wooden voyageur replica canoe for a paddle on the creek. Programming at each station is based on 4th grade state educational standards in science and social studies. Trail Creek Week concluded on Saturday after the fun and exciting Creekness Stakes canoe race designed to raise awareness and funds for other Trail Creek Week events.

Trail Creek Week was designed with the goals of increasing awareness of the current and historical value of our resources, nurturing future stewards and getting more people on the water. This unique event would not be possible without the generous monetary donations from our sponsors and volunteer hours from our local experts. Many partners make the event robust, interesting and educational. These partners work together to reach shared goals and create long-term stewards of the treasure in our backyards such as Trail Creek.

Great Lakes Innovative Stewardship Through Education Network (GLISTEN)

The Calumet Cluster of GLISTEN is a collaborative effort by local colleges, universities and environmental community partners to engage students in direct-action efforts to preserve and restore the environmental health of the Lake Michigan watershed.

The GLISTEN model focuses on the following primary goals:

- Provide individual undergraduate students (stewardship liaisons) with opportunities for science-based research projects developed with community partners to enhance their knowledge and skill preparation for conservation careers.
- Increase awareness of environmental efforts within the Northwest Indiana region.
- Enhance the capacity of community partners to preserve, steward, and restore natural systems within the Lake Michigan watershed.

Septic System Coordination Work Group

Indiana Department of Natural Resources (IDNR) – Lake Michigan Coastal Program (LMCP) coordinates the Septic System Coordination Work Group (SSCWG), which includes many Urban Waters partners. There are an estimated 30,000 septic systems at homes in NWI’s Lake Michigan basin.

2022 Accomplishments

LMCP convened regular meetings of the Septic System Coordination Work Group to discuss ways to support inspection tracking through county health departments and private inspectors, education and outreach through expanding the “Good Neighbor” campaign and other programs. Partners also began work with Illinois-Indiana Sea Grant and Purdue University to develop an online septic maintenance education module for the Master Watershed Steward program and to assist Lake and Porter counties with septic ordinance development to be in line with the new state-wide septic rule (HB 1245). Partners also worked with the Indiana Onsite Wastewater Professionals Association on a septic system inspection tracking database for areas not otherwise covered. Dr. Jen Fisher of Indiana University Northwest completed a project on microbial source tracking of *E. coli*. The report is available from the LMCP office.

Passed in 2016, LaPorte County’s Property Transfer Ordinance was the first in the state to require septic system inspection when properties were sold. As of 2020, the ordinance had triggered over 3,000 septic system inspections and brought to light over 150 failing systems. In 2022, a statewide law was passed that prohibits sub-units of government from imposing more regulation than is authorized at the state level. As a result, implementation and enforcement of the septic system ordinance (and many other local ordinances) were halted. As of April 2023, this situation remains in flux.

2023 Goals

LMCP will convene meetings of the Septic System Coordination Work Group. The LMCP and partners will support inspection tracking through county health departments and private inspectors. Save the Dunes, LMCP, and other partners will continue septic system education and outreach through the Good Neighbor campaign and other programs.

Purdue Extension/IL-IN Sea Grant working with IN DNR LMCP, Porter County and Lake County and other partners in the development of on-site residential sewage system ordinance action plan targeted for completion of summer 2023. They are also creating a web-based dashboard platform for septic inventories and tracking, targeted for completion by August 2023. Another aspect of this partnership is collaboratively developing and launching an online educational resource, or “short-course” for health department staff, home inspectors, homeowners, planners, realtors, real estate lenders, and government staff, targeted for completion in 2024. Partners are discussing ways to take advantage of unprecedented funding in the Bi-partisan Infrastructure Bill to try to switch communities from septic systems to sewer systems.

Water Pollution Prevention Roundtable

Convened by Save the Dunes, the Water Pollution Prevention Roundtable brings non-profit and municipal partners together to exchange information and discuss emerging opportunities and challenges that relate to water pollution prevention from heavy industry on the shores of Lake Michigan.

2022 Accomplishments

- Led by Save the Dunes, the Water Pollution Prevention Roundtable held six partner meetings with participation from more than 20 different organizations. Meeting topics included:
 - Emerging threats in the area
 - Facility factsheet development, including various NPDES permit discharge limitations of interest. Facilities include those operating along the Lake Michigan shoreline such as Cleveland-Cliffs, US Steel, NIPSCO and BP Whiting
 - Working towards creating a “culture of pollution prevention” by exchanging information, identifying emerging threats and opportunities, and when appropriate, contributing to the analysis of and collective comments on NPDES permit renewals, violations and emergency events
 - Working towards educating stakeholders on the risks that NPDES permit violations pose and understanding what to do during rapidly unfolding emergency situations
 - Improving communications and relationships with Indiana Department of Environmental Management
 - Strengthening communications with shoreline industries to encourage transparency and cooperation with the shoreline community

2023 Goals

- Hold bimonthly partner meetings with the Water Pollution Prevention Roundtable
- Respond to emerging threats, developing action plans and working collaboratively with partners as situations unfold
- Establish communication streams and protocols to be enacted during emergency events in order to alert the public and the media
- Provide access to resources for community members, such as the facility factsheets
- Influence decision makers to take necessary steps to close impacted natural areas and protect the public from harm in the case of emergency events
- Continue to strengthen our relationship with IDEM to identify opportunities to bolster their capacity to ensure effective permitting, monitoring, compliance and accountability for nearshore facilities.
- Continue to strengthen our relationship with shoreline industries to ultimately maintain a “culture of pollution prevention” and encourage open communication in the community

NWI Urban Waters Focus Areas



Above: A map of southern Lake Michigan and the Calumet Region including eight focus areas in NWI included in a “Conservation Action Planning in the Calumet Region” report developed by partners to the NWI UWFP and available at savedunes.org/resources. This map shows how major focus areas where much of the NWI UWFP undertake their work are adjacent to Lake Michigan and/or encompass one of the main river tributaries to the Lake. NWI focus areas highlighted include the Heart of Calumet, the West Branch of the Little Calumet River, Hoosier Prairie, Hobart Marsh & Deep River, the Indiana Dunes Ecosystems, East Branch of the Little Calumet River, Moraine and Ambler Flatwoods. z

Grand Calumet River

2022 Accomplishments

Dune and Swale Ecosystem Restoration on the Grand Calumet River

The Nature Conservancy (TNC) and partners at the Indiana Department of Natural Resources Division of Nature Preserves (IDNR) and Lake County Parks completed Phase I of the dune and swale habitat restoration project on 900 acres and Phase 2 of the project was started in 2022 with 394.3 acres under additional management. Meanwhile, funding was secured from Indiana Natural Resource Trustees to continue managing acres funded in Phase I but not in Phase 2. The project is intended to restore beneficial uses to wildlife and wildlife habitat in the Grand Calumet River Area of Concern and delist those impairments.

Site weed plans for all the restoration sites included in the Phase I and Phase 2 projects were developed in 2022. In 2023, TNC will work with partners to create a Conservation Action Plan for those

sites, including a section on Humans in Nature. To help enhance sense of place and pride in place, to connect residents with natural resources in the area, and to empower residents with information, TNC published nature-based columns monthly in the NWI Times, and those will continue, with cooperation of the newspaper, into the future.

City of Gary

The City of Gary welcomes a collaborative approach to implementing a watershed plan for Grand Calumet River. In 2022, the USGS completed their scientific investigation report on the Gary City Hall Rain Garden (see below). Further, the Green Infrastructure and watershed management planning and coordination meetings will resume in February 2023

US Geological Survey Stormwater Reduction and Water Budget Report

Prepared in cooperation with the Great Lakes Restoration Initiative, the USGS recently released their report titled, "Stormwater Reduction and Water Budget for a Rain Garden on Sandy Soil, Gary, Indiana, 2016–18." The report describes the results of a monitoring project at Gary City Hall and is available [here](#).

From the abstract: "Stormwater reduction measures, or green infrastructure, were implemented in the parking area at Gary City Hall, Gary, Indiana, with the intention of reducing stormwater discharge to the sewers...Before construction of the rain garden in the parking lot of Gary City Hall in 2017, nearly all precipitation was conveyed away from the parking lot by underground drains, discharged to the sewer, and treated as sanitary waste at the Gary Sanitary District's treatment plant or discharged directly to local waterways if stormflow exceeded capabilities of the sewage treatment plant. A goal of the Great Lakes Restoration Initiative is the reduction of sewer overflows to local waterways to improve the quality of water entering the Great Lakes...The percent reduction in stormwater discharged to the storm sewer after the construction of the rain garden was 80.3 percent, equating to approximately 21,400 and 39,300 gallons of stormwater in 2017 and 2018, respectively."

Grand Calumet River Area of Concern (AOC) Remedial Action Plan (RAP)

Federal, state, and local partners continued to implement ecosystem restoration, sediment remediation, and outreach projects designed to address the 12 remaining beneficial use impairments (BUIs) applicable to the Grand Calumet River AOC during 2022. The Indiana Department of Environmental Management (IDEM) and the Citizens Advisory for the Remediation of the Environment (CARE) convened a set of seven Workgroup meetings, with meeting summaries and presentation slides posted to the [IDEM CARE webpage](#).

2023 Goals

Grand Calumet River AOC RAP

Federal, state, and local partners will continue to implement ecosystem restoration, sediment remediation, and outreach projects designed to address the 12 remaining beneficial use impairments (BUIs) applicable to the Grand Calumet River AOC during 2023. Specific goals include:

- Partners will continue to identify nonfederal cost share necessary to design and implement proposed Great Lakes Legacy Act contaminated sediment remediation projects.
- Project partners will continue the design and implementation of projects to remove and/or contain contaminated sediments within AOC waterways, including by:
 - Evaluating sampling data to determine next steps with respect to the Lake George Canal West GLLA Project;
 - Completing sediment capping and habitat restoration components of the Lake George Canal Middle GLLA Project;
 - Completing the remedial design for the Lake George Canal East GLLA Phase 2 Project;
 - Resolve remaining source control and property access issues and complete the design, permitting, and contracting steps required to implement Phase 1 of the Grand Calumet Junction Reaches GLLA Project (dredging of the WBGCR and IHSC);
 - Continuing to plan the Grant Calumet Junction Reaches Phase 2 GLLA Project;
 - Advancing the East Branch Phase 2 GLLA Project, by updating the 30 percent project design, completing the nonfederal cost share identification process, and continuing regulatory coordination on the closure of the Ralston Street Lagoon;
 - Collecting and evaluating sediment chemistry and geotechnical data from the IHSC Orphan Areas and determining whether further action is warranted; and,
 - Evaluating whether additional data collection is required in portions of the EBGCR and Grand Calumet Lagoons.
- USACE will continue the Indiana Harbor Confined Disposal Facility dike raise project.
- Project partners will continue the design and implementation of projects to restore habitats within the AOC during 2023. Actions include:
 - IDNR will continue to oversee the Dune and Swale Phase 2 habitat restoration project on AOC managed lands.
 - IDNR will continue to advance the Pine Station Ponds habitat restoration project.
 - IDNR and its project partners will conduct BUI monitoring of AOC habitat restoration areas.
 - IDEM will work to develop a replacement for the River Corridor habitat restoration project listed in the April 2015 Habitat Management Letter to U.S. EPA.
- IDEM and its partners will complete revision of the Restoration Targets for the “Restrictions on Dredging Activities,” “Eutrophication and Undesirable Algae,” “Degradation of Phytoplankton and Zooplankton Populations,” and “Beach Closings” BUIs.

- IDEM and its partners will work to develop Management Action Lists applicable to the “Eutrophication and Undesirable Algae” and “Degradation of Phytoplankton and Zooplankton Populations,” “Beach Closings,” and “Degradation of Aesthetics” BUIs.
- USDA-APHIS-WS staff will continue the ring-billed gull and double-crested cormorant population management project at the Cleveland Cliffs Indiana Harbor peninsula.
- USGS will complete its analysis of data collected to assess the underlying causes of eutrophication within the AOC.
- IDEM and its partners will continue to encourage the adoption of *E. coli*-reduction best management practices at AOC beaches through public outreach and education efforts.
- USDA will continue to operate its Northwest Indiana Gull Management Plan, in cooperation with local partners.
- IDEM will begin development of an update to the Stage 2.5 Remedial Action Plan.

Due to length, please refer to the Appendix 3 for a comprehensive summary of 2022 accomplishments and 2023 goals shared by IDEM on behalf of partners related to the Grand Calumet River AOC RAP. Please also refer Appendix 4 for a full report from IDEM on 2022 Accomplishments and 2023 Goals for the Lake Michigan Lakewide Area and Management Plan and to Appendix 5 for 2022 Accomplishments and 2023 Goals for the Grand Calumet River AOC RAP and LAMP Environmental Justice and Community Outreach Efforts.

West Branch of the Little Calumet River

The Little Calumet River Conservation Collaborative are carrying out Phase II of ecological restoration and community visioning within the nearly 2,000-acre West Branch of the Little Calumet River floodplain corridor in Northwest Indiana. Over the past year, Phase II work has been focused on additional rounds of invasive plant management on three high-priority parcels within the floodplain corridor: Highland Rookery, MLK South, and Grant Street Wetlands (formerly called Chase Street Wetlands). Partners include Audubon Great Lakes, The Wetlands Initiative, The Nature Conservancy, Lake County Parks and Recreation, NIPSCO, the City of Gary, the Little Calumet River Basin Development Commission and Indiana University Northwest, among others.

2022 Accomplishments

- In 2022 invasive vegetation management took place across roughly 225 acres across our three wetland systems. Management took place with the combined efforts of the full-time Lake County Parks restoration crew and environmental contractors.
- Roughly 2,000 wetland plugs were planted at MLK South with the help of an IU NW Restoration Ecology class led by Professor Spencer Cortwright.
- 28 native trees were planted at Bethune Early Childhood Development Center in the Marshalltown Community of Gary, IN. Trees were planted with the help of The Student Conservation Association, The U.S. Forest Service CommuniTree program, and over 150 pre-school aged students.
- Marsh bird and vegetation monitoring at nearly 20 sites in Northwest Indiana was conducted, a crucial activity in determining the relative success of our partnerships' restoration efforts.
- At Hatcher Park, partners held a virtual community meeting to discuss potential restoration scenarios in order to get community buy-in.
- An Audubon Wild Indigo Coordinator held two native plant giveaways at community-based events in Gary, in order to educate community members on the benefits of native species and to create links between local green spaces and individual backyards.
- Two proposals were submitted for funding at Hatcher Park/Marshalltown Marsh. The first, through Coastal States Organization, would focus on engineering/design feasibility for Marshalltown Marsh restoration and potential re-meandering of the Little Calumet River. The second, submitted by Audubon, through NOAA's Coastal Habitat Restoration and Resilience for Underserved Communities, would allow Audubon to hire a consultant to lead a community-driven input process on the restoration at Hatcher Park and Marshalltown Marsh, allowing for community concerns to be placed on the same level as ecological concerns.
- Presentations given to Little Calumet River Basin Development Commission, City of Gary Parks & Recreation board, and Urban Waters Partnership.
- Developed management plans for our three wetland priority sites.

2023 Goals

- Continue invasive vegetation management across all sites

- Installation of water control structures at MLK South and Highland Rookery wetlands. Permitting process nearly complete. Plan to install structures during summer 2023. Water control structures will help establish conditions in which hemimarsch habitat can develop.
- Restoration at Hatcher Park will commence, focusing on public access and invasive species management through hired contractors and local community volunteers.
- Work with Gary Parks & Recreation Department on specific public-access plans for the eastern portion of the West Branch corridor, as the city completes a fresh master plan for its park system, together aiming for a Land and Water Conservation Fund grant application in early 2024.
- Staff and volunteers will continue monitoring marsh birds and vegetation at over 20 sites in Northwest Indiana, using their presence or absence to indicate overall marsh health.
- 1-2 volunteer plug planting events will be held at MLK South.



Above: Several students from Indiana University Northwest participating in a native-plug-planting event in the Martin Luther King-South wetland adjacent to a levee along the West Branch of the Little Calumet River in the spring of 2022. Photo provided by The Wetlands Initiative.

Hobart Marsh and Deep River

2022 Accomplishments

Shirley Heinze Land Trust

Shirley Heinze Land Trust (SHLT) conducted two prescribed burns at Cressmoor Prairie approximately 20 acres total. SHLT also continued restoration and maintenance at Cressmoor, Greiner, and Bur Oak Woods. An additional 24 acres was acquired along Deep River in New Chicago with restoration work in the planning stages. In addition, SHLT was awarded a Chi-Cal Rivers Fund grant from the National Fish and Wildlife Foundation for site improvements and community outreach on Deep River in New Chicago.

Chi-Cal Rivers Fund Project Description

SHLT will work in partnership with the Calumet Collaborative and several local partners to engage local community residents, institutions, agencies, organizations, and businesses in equitable and inclusive planning, design, development, programming, and implementation of project elements which will improve 0.55 acres of publicly accessible greenspace along Deep River in the Town of New Chicago. In addition, the project will improve 23.7 acres of riparian bird habitat, install infrastructure for boat launches along a 3-mile river trail, improve access to an additional boat launch site in Lake Station, and incorporate green infrastructure design elements into the public access site.

This project seeks to engage several institutions, agencies, organizations, businesses, and residents within the surrounding communities of New Chicago, Lake Station, and Gary. Local community partners will lead design of community managed greenspace and pilot community programming that is culturally relevant and valued by local residents. SHLT will manage the project and work with several partners to install infrastructure to create 0.55 acres of publicly accessible greenspace on Deep River in the Town of New Chicago, improve an additional public access site downstream in the City of Lake Station, remove invasive species in 5 acres of riparian habitat, enhance 23 acres of riparian bird habitat, and develop public programming. Infrastructure development at the New Chicago access site will incorporate green infrastructure elements to reduce stormwater runoff and enhance aesthetics with native plantings. The project will result in public greenspace and programming that is designed and implemented by local stakeholders, infrastructure and habitat improvements that result in improved access to Deep River, a 3.5 mile stretch of river with 3 safe access points for boating and paddling, enhanced riparian habitat, enhanced bird habitat, and increased recreational opportunities for boating, paddling, fishing, and wildlife viewing along Deep River.

To support the project, SHLT held several site activation events at Deep River sites in New Chicago including paddling events and trick or trunk event with the Calumet Collaborative and Jr. Solutions . SHLT also established [survey](#) for community inclusion in design of New Chicago Deep River site.:

City of Hobart

The Lakota Group is working on developing a comprehensive plan for the City of Hobart, IN. The Hobart Comprehensive Plan Update will comprise three phases each with key tasks and community engagement elements. Phase 1 findings and Phase 2 concept plans will be presented at multiple

community events and meetings to gain input and refine the planning vision, goals and policies. The Team will generate additional strategies and solutions for enhancing the city and its subareas, downtown, and key corridors. The summary of findings and development concepts will be further refined and create the foundation for the Comprehensive Plan. With a focus on economic development, enhancing community spaces and overall quality of life for Hobart residents and visitors, the new Comprehensive Plan will serve as the primary tool for the community and decision makers to achieve the vision. Visit Hobart2040Plan.com for more information.

The Delta Institute is working with the Sanitary & Stormwater District (HSD) of the City of Hobart (IN) and seeks to restore the Duck Creek Tributary, which connects Deep River with Duck Creek and is a segment of the Deep River-Portage Burns Waterway Watershed that flows into Lake Michigan. Proposed objectives: (1) streambank stabilization and restoration and (2) the installation of a riparian buffer along 0.4 miles. Project deliverables: addressing erosion and water quality by reducing nitrogen, phosphorus, and sediment inputs annually; improving in-stream and riparian habitat quality; and reducing flooding by improving infiltration capacity. The project will incorporate a monitoring/maintenance plan. In 2022, the City of Hobart executed land easements for restoration and maintenance with the three property owners on whose land this project transects. The engineering and permitting work completed full engineering plans and submitted permit applications for the project to the Army Corps of Engineers, Indiana Department of Natural Resources and Indiana Department of Environmental Management. Permits were approved in December 2022.

2023 Goals

Shirley Heinze Land Trust

SHLT has several goals for 2023 including:

1. Community input meeting regarding Deep River site in New Chicago on 2/8/23
2. Begin construction of parking area, boat launch, and fishing pier at New Chicago Deep River site
3. Continue site activation events at Deep River New Chicago site
4. Remove stand of Callery Pear at Cressmoor Prairie
5. Forestry mow and native seedings planned at Bur Oak Woods
6. Prescribed fire planned at 11-acre prairie

Delta Institute

The Duck Creek Tributary Project's installation work will begin in Spring 2023 and be completed by Summer 2023.

East Branch of the Little Calumet River

Since 2011, several partners have been collaborating to protect and restore the East Branch of the Little Calumet River and increase recreational access. East branch partners include Shirley Heinze Land Trust, Save the Dunes, Indiana Dunes National Park, the Northwest Indiana Paddling Association, NIPSCO, among others. Major accomplishments achieved since 2011 include:

- Creation of the Little Calumet River East Branch Watershed Management Plan
- The NPS River Use and Management Plan, allowing paddling access through the National Park
- Creation of a conservation action plan for the Little Calumet East Branch corridor
- Protection of over 500 new acres by Shirley Heinze Land Trust and Izaak Walton League, for a total of over 2,300 protected, connected acres and restoration of over 200 acres
- Opening of more than 7 river miles to paddling and installation of 3 canoe/kayak launches

2022 Accomplishments

Led by Shirley Heinze Land Trust, the following accomplishments were achieved along the East Branch of the Little Calumet River:

- Continued water quality monitoring in the Kemper ditch watershed in partnership with Porter County Soil and Water Conservation District and the National Park Service
- Invasive species treatments at Dale B. Engquist, Keith Richard Walner, Burns Harbor Marquette Greenway, and Hawthorne Park area
- Native garden planting at Hawthorne Park
- Initial planning of wetland restoration work at Dale B. Engquist nature preserve
- Spring flora survey at Heron Rookery in the Indiana Dunes National Park

2023 Goals

Led by Shirley Heinze Land Trust, the following are goals for 2023:

- Install water trail directional signs
- Re-open Brummitt kayak launch after bridge repairs complete
- Water quality monitoring volunteer program, water quality outreach, and river stewardship cleanup days as part of NFWF 5-Star Urban Waters grant project.
- Implement a NFWF 5-Star Urban Waters grant project, including to develop and establish a volunteer water quality monitoring program and volunteer watershed stewardship events in the Little Calumet River-Galien watershed. The project will engage community members, students, educators, and a diverse group of local partners across the watershed through water quality monitoring training and monthly monitoring of key sites, outreach and education around the importance of protecting water quality, and public events to cultivate community watershed stewardship. Project partners include Brown Faces Green Spaces, Northwest Indiana Paddling Association, Indiana Dunes National Park, Porter County Soil and Water Conservation District, University of Notre Dame Department of Biological Sciences, and others.

Lake Michigan and the Indiana Dunes Ecosystems

2022 Accomplishments

Indiana Dunes Ecosystem Alliance (IDEA)

The IDEA held five partnership meetings in 2022 including a workshop begin the process of updating the IDEA workplan. The IDEA group focuses on the ecosystems of the Indiana Dunes within the Indiana Dunes National and State Parks and adjacent managed lands. Partners include the Indiana Dunes National Park, the Indiana Dunes State Park, Shirley Heinze Land Trust, Save the Dunes, the US Geological Survey, the National Parks Conservation Association, NIPSCO, and The Nature Conservancy.

Indiana Dunes National Park Resource Team Update

Multiple funding sources allowed NPS staff to treat 283 Infested acres (2,049 gross acres) of invasive plants. Efforts were focused in the areas of Cowles Bog and Cowles Dunes, Great Marsh, Miller Woods, Tolleston Dunes, West Beach, Hobart Prairie Grove, Porter Beach and along the Marquette Trail. Over 110,000 native plants were installed, primarily in Cowles Bog and the Great Marsh. All plants were grown in the parks greenhouses from seeds collected by NPS staff. Several hundred pounds of seed were collected in 2022 to support restoration within the park. Approximately 906 acres received prescribed fire in 2022. Additional natural resource management efforts conducted in 2022 include: oak wilt disease monitoring and treatment, rare plant monitoring and augmentation, wildlife management, water quality monitoring and mussel augmentation.

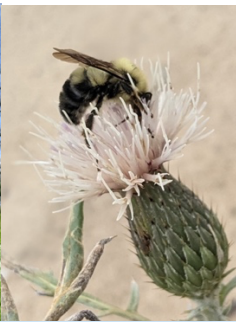
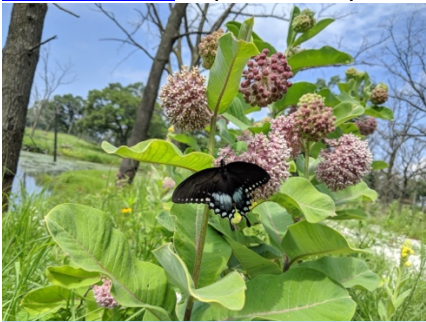
2023 Goals

The IDEA partners have outlined the following goals for 2023:

- Hold quarterly partner meetings
- Highlight the success and value of restoration work that is taking place in places like Great Marsh, Cowles Bog and Calumet Trail
- Developing strong relationships with Gary officials to troubleshoot application of controlled burns and potential restoration work around Inland Manor
- Explore opportunities to partner with US steel to conserve and manage the property adjacent to Miller Woods
- Strengthen collaboration and funding opportunities for IDNR, identify their challenges and opportunities that would be most valuable to them

In addition, the Indiana Dunes National Park Great Lakes Restoration Initiative Pollinator Habitat Project aims to continue building on the progress made in previous years to increase habitat connectivity for pollinators across the Indiana Dunes landscape. Restoration work is accomplished through partnerships with Save the Dunes, Shirley Heinze, NIPSCO, and other stakeholders. The focus is to restore pollinator habitat in oak savanna ecosystems on NPS lands as well as properties adjacent to the Hobart Marsh area and Miller Woods-West Beach corridor, as well as along the North-South NIPSCO-owned corridor between these two NPS managed areas. In FY2022, approximately 300 acres were restored, enhanced, or treated through this project, increasing connectivity for native bees and other pollinators across the Indiana Dunes regions. In 2022, funds were used to print the [Living in the](#)

[Dunes Volume 2: A Homeowner's Guide to Pollinator Garden Landscaping in Indiana's Coastal Communities](#) in partnership with Save the Dunes.



Pollinator research and habitat restoration is a goal of several partners in the region, including members of the IDEA group working to restore pollinator habitat throughout the Ecosystems of the Indiana Dunes. Pictured left is a spicebush swallowtail on milkweed blooms and a bee on a thistle flower. Pictured below is a National Park Service pollinator expert examining a bee-house as part of a bee research project. Photos provided by the Desi Robertson.



Trail Creek Watershed

The Trail Creek Watershed is located in northern Indiana's LaPorte County, and drains into Lake Michigan at Michigan City's historic lighthouse and marina. The 37,000+ acre watershed is comprised of over 90 miles of rare cold-water fishery streams and tributaries. The watershed lies almost entirely within Michigan, Center, Coolspring, and Springfield Townships, representing 10% of LaPorte County. The Trail Creek Watershed Partnership (TCWP) is a collaboration of many public and private entities working to keep Trail Creek clean & cold.

2022 Accomplishments

Trail Creek Watershed Partnership

The TCWP met monthly throughout the year to focus on navigating changing leadership and explore opportunities to strengthen the partnership. This included exploring the possibility of applying for a 319 Non-Point Source Pollution Grant from IDEM to update the TCWP Watershed Management Plan and potentially bringing in a coordinator to manage that project. The TCWP held its annual Trail Creek Week in September as described in the Watershed Education Section above. Sustaining the success of Trail Creek Week depends on the continued engagement of key partners to the TCWP including the Michigan City Parks and Recreation Department and the LaPorte County Soil and Water Conservation District.



Above: Several students participating in Trail Creek Week had the opportunity to learn from organizations such as the Northwest Indiana Steelheaders as pictured here.

Michigan City Sanitary District and the Delta Institute

The Delta Institute (Delta) partnered with the Michigan City Sanitary District (MCSD) and the Alliance for the Great Lakes to make stormwater, ecological restoration, and recreation improvements at Michigan City's Cheney Run. A 40-acre site surrounded by wetlands, Cheney Run is a primary source of stormwater-related pollution that ends up in the Trail Creek, a major tributary that feeds into Lake Michigan. The partnership focused on implementing improvements that reduce the amount of pollution transferred from Cheney Run to Trail Creek, restoring the wetlands, and creating trails on site for residents. The goals of the project included:

- Reducing urban runoff impairments through the design and installation of approximately five acres of constructed wetlands
- Capturing and treating 37.5 million gallons of stormwater annually
- Convening stakeholders in an authentic and inclusive dialog, to maximize community development project impact, achieve meaningful stewardship, seek opportunities for connectivity of wetlands to surrounding areas, attract community amenities, and align with regional plans.

- Expanding the scope and impact of the project, through procurement of additional resources and partnerships.
- Building local municipal and contractor capacity, through project implementation, coordination, and ongoing stewardship.

In addition, Delta Institute is partnering with the MCS D to engage and facilitate their Storm Water Advisory Group that provides an array of municipal-focused services, including community engagement and outreach, medium- and longer-term municipal agency planning, submitting funding requests for water quality/stormwater management-focused projects, and project coordination and implementation management for stormwater management / Green Infrastructure projects. In 2022, the project team scheduled and facilitated bi-monthly virtual Storm Water Advisory Group meetings to share stormwater project updates, MS4 project updates, grant project updates, special policy and project presentations and community events and engagement opportunities. Grant proposals were submitted for green infrastructure project concepts.

2023 Goals

TCWP

- Identify organization with capacity to lead the TCWP and fill committee chair positions including Executive Committee, Educational Committee, Grants Committee, Technical Committee
- Continue regular meetings
- Explore funding to support the partnership and/or hire a coordinator. Grant possibilities include:
 - NIPSCO Environmental Action Grant
 - Unity Foundation
 - LMCP Small Grants – could be match for a NIPSCO Environmental Action Grant
 - EPA 5-Star and Urban Waters Grant
 - Michigan City Parks has \$5000 for Trail Creek Week – could potentially be used as in-kind match
 - LaPorte County SWCD has money that could be used as match
 - Unity Foundation has a Lily Endowment to hire an intern which could be match to support a potential contractor

Michigan City Sanitary District and the Delta Institute

The Delta Institute and MCS D project team will schedule and facilitate bi-monthly virtual Storm Water Advisory Group meetings to share stormwater project updates, MS4 project updates, grant project updates, special policy and project presentations and community events and engagement opportunities. A Storm Water Quality Management Plan (SWQMP) Minimum Control Measure Support will be supported by developing communications materials informing about the impacts of storm water runoff on water quality and GI practices that help minimize that impact. Four in-person public meetings to educate stakeholders and a public survey will be organized to obtain feedback on the SWQMP or specific projects identified within the plan. The Storm Water Quality Management Plan will be updated.

Region-Wide Initiatives

Climate Action Northwest Indiana

In 2022, NIRPC and Earth Charter Indiana completed a regional inventory of greenhouse gas emissions for Northwest Indiana. The partners then worked with Local Governments for Sustainability (ICLEI) and an Indiana University McKinney Climate Fellow to develop a climate action framework for the region. The framework is intended to set regional goals for climate action and greenhouse gas reduction and serve as a tool to help local governments in Northwest Indiana to develop climate action plans to meet local and regional goals. The framework will be finalized in early 2023 and NIRPC and Earth Charter Indiana will work to assist communities in developing local climate action plans.

Coastal Hazards Indiana LMCP Section 309 Program Enhancement

The purpose of the programmatic enhancement project is to develop technical resources for the State of Indiana and Lake Michigan coastal communities to prevent or reduce coastal hazard risks. The 2021-2025 Indiana LMCP Section 309 Assessment and Multi-Year Strategy identified the following priority coastal hazards:

- Coastal and riverine flooding
- Coastal and fluvial erosion
- Lake Michigan water level changes

The following strategies were also identified:

- Develop and implement a community coastal hazards resiliency needs assessment to gather baseline information and guide program enhancement actions (2022-2023)
- Conduct shoreline structural inventory modeled after NOAA US Great Lakes Hardened Shoreline Classification (2025)
- Shoreline imagery acquisition (ortho and lidar) and historic imagery inclusion on Coastal Atlas (annually)
- Develop Indiana Living on the Shoreline modeled after USACE publication for inclusion on Coastal Atlas (2025)

A Coastal Hazards Resiliency Work Group has been formed to help further guide program enhancement efforts. The work group generally will meet on a quarterly basis or more frequently as needed.

Note: LMCPs intent is to expand beyond just shoreline imagery acquisition and to fully develop and implement a coastal monitoring program as recommended in the 1988 and 1998 State of Indiana Coastal Situation Reports. This includes conducting cross-shore beach profiles. We are currently exploring the acquisition of a semi-autonomous surface vessel to collect bathymetric data and a drone to collect pre- and post- storm damage imagery with a potential roll out between 2023-2024.

Indiana Coastal Atlas

The Indiana Coastal Atlas provides Indiana’s Lake Michigan coastal communities with a one-stop shop for information about coastal resources. The online tool uses interactive maps, pictures, and informational text to tell the story of the Lake Michigan coastal area. The Indiana Coastal Atlas was developed by the Indiana DNR’s Lake Michigan Coastal Program (LMCP), in partnership with the Indiana Geographic Information Office (IGIO). The Coastal Atlas is a living resource that will continue to be built out over time.

Great Lakes Coastal Resiliency Study (GLCRS)

A regional initiative of the eight Great Lakes States, working in collaboration with the US Army Corps of Engineers, NOAA, USGS, FEMA and USEPA. The GLCRS will investigate opportunities to improve resilience within both the built and natural coastal environments. It will result in a plan that identifies vulnerable areas and recommends measures to increase resilience. Coastal resiliency is the ability of coastal areas to withstand, recover from and adapt to disturbances and underlying stress while maintaining economic, environmental, social, and cultural values. Activities include Agency coordination, formation of a shared vision, selection of representative focus areas in each state, creation of a risk-informed decision framework and focused evaluations, basin wide analysis and watershed assessment, final report. Stakeholder engagement is key to the success of this study, the LMCP will lead Indiana’s process of stakeholder engagement. Study timeframe: 2023 – 2028.

Calumet Land Conservation Partnership (CLCP)

A Conservation Action Plan Alignment report has been completed by partners of the Calumet Land Conservation Partnership. The report includes Conservation Action Plans or “CAPs” for four focus areas in Northwest Indiana including the Heart of Calumet, Ecosystems of the Indiana Dunes, Hobart Marsh and Deep River and the East Branch of the Little Calumet River. These four CAPs add to previously completed CAPs for the West Branch of the Little Calumet River, Hoosier Prairie, Moraine and Ambler Flatwoods. Led by Save the Dunes and The Field Museum, strategic guidance was provided by the CLCP partners including Audubon Great Lakes, the National Parks Conservation Association, the Northwestern Indiana Regional Planning Commission, Shirley Heinze Land Trust and Openlands. The report has been released by the CLCP partners and made available for download on Save the Dunes website at savedunes.org/resources.

30x30 Initiative for Indiana

Partners are engaged on developing a plan that aligns with the Indiana Department of Natural Resources Wildlife Action Plan to meet the national goal of preserving 30% of land and water by 2030. While in the beginning stages, partners are engaged in strategic discussions on how to achieve the 30x30 goals in NWI.

Calumet Summit

Partners in NWI are engaged in exploratory discussions on holding a Calumet Summit in late 2023 or early 2024. While in the beginning stages, there is a lot of energy around building on previous Summits to bring the Calumet region together.

Appendices

Appendix 1: 2022 NWI Urban Waters Partnership Meetings and Communications

2022 Accomplishments

A new Urban Waters Ambassador was hired in April of 2022 and compiled and distributed a regular e-newsletter plus special alerts as needed for a total of 16 mailings to a subscriber list of over 470. Electronic copies of monthly newsletters are available here: [NWI UW Partnership Newsletters](#)

NWI Urban Waters Partnership meetings are held four times a year in January, April, July and October. In 2022, Partnership meetings remained virtual and attendance averaged 45 participants.

The regular agenda for quarterly NWI Urban Waters Partnership meetings includes:

- Welcoming partners to the meeting and providing a brief overview of the NWI Urban Waters Partnership
- Round of introductions for each partner to share their name and affiliation
- Partner updates and announcements
- Partner presentations. In 2022, the following partner presentations were featured:

Wednesday, April 27, 2022 via Zoom

- "Lake George Canal - Middle Section Remediation Overview," Ben O'Neil, Environmental Engineer, US Army Corps of Engineers - Chicago District
- "CommuniTree Updates," Drew Hart, US Forest Service and Jennifer Birchfield, Northwestern Indiana Regional Planning Commission

Wednesday, July 13, 2022 via Zoom

- "Collaborative Marsh Restoration and Community Engagement Along the West Branch of the Little Calumet River." Daniel Suarez, Audubon Great Lakes & Harry Kuttner, The Wetlands Initiative
- "Chicago Wilderness Mapping Hub: A New Tool for Tracking Conservation Goals." Mark Bouman, The Field Museum

Thursday, October 20, 2022 via Zoom

- "Native Mussel Restoration in the East Branch of the Little Calumet River and the Indiana Dunes National Park." Dr. Charles Morris and Joshua Dickey of the Indiana Dunes National Park Resource Team
- "Overview of Indiana University Northwest's GLISTEN Program." Dr. Erin Argyilan, Indiana University Northwest

The January NWI Urban Waters Partnership meeting is reserved for partners to share their 2022 updates and 2023 goals for the purpose of annually updating the NWI Urban Waters Work Plan.

An annual “Fed-to-Fed” meeting was held in June for federal partners to provide updates on emerging funding opportunities, agency information, new opportunities for partner collaboration, emerging challenges and other relevant information.

2023 Goals

The NWI Urban Waters Partnership will continue to facilitate communication of partnership meetings, partner announcements, funding opportunities and resources among partners through monthly e-newsletters. Four quarterly Partnership meetings will be held in addition to one annual Fed-to-Fed meeting. A continuing goal is to sustain and increase participation in quarterly meetings and to improve coordination, federal agency technical assistance and timely communication of funding opportunities, recent news and resources.

Appendix 2: 2022 NWI Urban Waters Partners as of Fall 2023

Northwest Indiana Urban Waters Partners	Updated 2023
<i>Federal Partners</i>	<i>State, Regional and Local Government Partners</i>
U.S. Department of Agriculture - U. S. Forest Service - Natural Resource Conservation Service U.S. Department of Commerce - Economic Development Administration - National Oceanic & Atmospheric Administration U.S. Department of Defense - Army Corps of Engineers U.S. Environmental Protection Agency U.S. Department of Homeland Security - Federal Emergency Management Agency U.S. Department of Housing and Urban Development U.S. Department of Interior - Bureau of Reclamation - Fish and Wildlife Service - National Park Service - U.S. Geological Survey - National Weather Service	Indiana Department of Environmental Management Indiana Department of Health Indiana Department of Natural Resources - Community and Urban Forestry Department - Division of Nature Preserves - Division of Fish and Wildlife - Lake Michigan Coastal Program Northwestern Indiana Regional Planning Commission Cities of East Chicago, Gary, Hammond, Hobart, Michigan City, Valparaiso Towns of Dune Acres, Beverly Shores, Chesterton, Highland, Lake Station, Munster, Merrillville, Ogden Dunes, Schererville Lake County Health Department Lake County Parks and Recreation Department Lake County Soil & Water Conservation District LaPorte County Health Department LaPorte County Parks and Recreation Department LaPorte County Soil & Water Conservation District Porter County Health Department Porter County Parks and Recreation Department Porter County Soil & Water Conservation District
<i>Non-profit, Private and Other Partners</i>	
Alliance for the Great Lakes Audubon Great Lakes American Rivers Brown Faces Green Spaces Calumet Collaborative Causes for Change International Cardno Resource Group Chicago Wilderness Alliance Cleveland-Cliffs Coffee Creek Watershed Conservancy Davey Resource Group Delta Institute Dunes Learning Center Earth Charter Indiana Gabis Arboretum of Purdue University Northwest Gary Advocates for Responsible Development Highland Neighbors for Sustainability Hoosier Environmental Council Indiana Dunes Tourism Illinois-Indiana Sea Grant Indiana Geological Information Council Indiana University Northwest Izaak Walton League of America	Legacy Foundation National Parks Conservation Association Northwest Indiana Forum Northwest Indiana Paddling Association Northwest Indiana Public Service Company (NIPSCO) Northwest Indiana Steelheaders Orbis Environmental Openlands Porter County Community Foundation Purdue University Purdue University Northwest Save the Dunes Shedd Aquarium Shirley Heinze Land Trust Stantec Student Conservation Association The Field Museum The Nature Conservancy The Wetlands Initiative Unity Foundation Wilderness Inquiry Wildlife Habitat Council Wild Ones Gibson Woods Chapter Wild Ones South Bend Chapter

Appendix 3: Grand Calumet River Area of Concern (AOC) Remedial Action Plan (RAP)

2022 Accomplishments

Federal, state, and local partners continued to implement ecosystem restoration, sediment remediation, and outreach projects designed to address the 12 remaining beneficial use impairments (BUIs) applicable to the Grand Calumet River AOC during 2022. The Indiana Department of Environmental Management (IDEM) and the Citizens Advisory for the Remediation of the Environment (CARE) convened a set of seven Workgroup meetings, with meeting summaries and presentation slides posted to the [IDEM CARE webpage](#).

Bipartisan Infrastructure Law Funding

On February 17, 2022, the Biden Administration announced that \$1 billion from the Bipartisan Infrastructure Law (BIL) would be used to restore the Great Lakes. Specifically, the funding will be used to augment the Great Lakes Restoration Initiative (GLRI), with the goal of completing cleanups at 22 of the remaining U.S. AOCs – including the Grand Calumet River – by the end of 2030. The BIL funding will help ensure that there are sufficient federal funds available to conduct the remaining contaminated sediment remediation, habitat restoration, and other projects at the Grand Cal and the other 21 AOCs over the next several years, allowing an incredible amount of restoration work to occur in parallel in the Great Lakes Region.

Sediment Management Actions

In 2022, IDEM and other partners continued design and implementation of sediment management projects anticipated to result in restoration of six BUIs currently impacting the AOC. All project work occurred under the Great Lakes Legacy Act (GLLA) cost share framework, in which one or more nonfederal sponsors partner with the United States Environmental Protection Agency (U.S. EPA), providing a minimum of 35 percent of the nonfederal match required to implement a contaminated sediment remediation project within an AOC. Projects were under development or implementation in 2022 to address portions of the Lake George Branch of the Indiana Harbor Ship Canal (IHSC), the East Branch of the Grand Calumet River (EBGCR), and a small portion of the West Branch of the Grand Calumet River (WBGCR). GLLA projects also typically include aquatic habitat restoration elements. Project-by-project highlights are as follows:

- **Lake George Canal West.** This project is located on the Lake George Branch of the IHSC in Hammond and extends from a filled land bridge on BP property west to Calumet Avenue. BP Products North America, Inc. is the sole nonfederal sponsor for the project. During 2022, BP treated invasive species at wetland areas adjacent to the IHSC and analyzed geotechnical and

chemical data obtained from samples taken at 21 locations within the project area in October 2021. The data will be used to determine the project's next steps. BP's contractor also completed a Clean-up Goals Technical Memo and provided it to the project partners for review.

- **Lake George Canal Middle.** This project is located on the Lake George Branch of the IHSC in Hammond and East Chicago and extends from a CSX railroad bridge west to a filled land bridge on BP property. The East Chicago Waterway Management District (ECWMD), BP Products North America, Inc., and Atlantic Richfield Co. (a BP subsidiary) are the project nonfederal sponsors. The project consists of the following major elements: (1) placement of an engineered sediment cap within the canal; (2) pipeline decommissioning and placement of adsorbent mats along the banks of the former Energy Cooperative, Inc. (ECI) West Tank Farm property; (3) habitat restoration along the northern and southern banks and within the canal itself; and (4) repair of a tide gate structure at the BP land bridge. BP completed the pipeline decommissioning and tide gate work in 2021; the U.S. Army Corps of Engineers (USACE) is overseeing construction on the other project elements. In 2022, USACE's contractor completed the West Tank Farm bank stabilization work – which consisted of placement of active mats to adsorb contaminants, bank regrading, and revegetation with native plants – and placement of the sand stabilization layer in the canal, which is required to support the sediment cap. Construction, including capping and habitat restoration, will continue through 2023.
- **Lake George Canal East.** This project is located on the Lake George Branch of the IHSC in East Chicago and extends from Indianapolis Boulevard west to a CSX railroad bridge. The East Chicago Waterway Management District (ECWMD), BP Products North America, Inc., and Atlantic Richfield Co. (a BP subsidiary) are the project nonfederal sponsors. The project consists of: (1) removal of an estimated 75,000 cubic yards of contaminated sediments; (2) placement of a sediment cap on portions of the IHSC near the railroad bridge; and (3) accompanying source control work (i.e., pipeline removal, barrier wall, and water management system) conducted by Atlantic Richfield Co./BP at the ECI South Tank Farm property. Pipeline removal work at the South Tank Farm was completed in 2019; Phase 1 dredging conducted in December 2020 removed 23,804 cubic yards of contaminated sediments. A 90 percent design for the South Tank Farm source control project was presented to the public in May 2022 and construction is anticipated to begin in 2023. USACE developed a draft sampling plan for the Phase 2 project work in the summer and expects to complete the design work in 2023, with implementation in 2024.
- **Junction Reaches.** This project takes place at the confluence of the Grand Calumet River and the Indiana Harbor Ship Canal in East Chicago. The East Chicago Waterway Management District is the nonfederal sponsor for the project, which will be divided into two phases. Phase 1 will

consist of the following elements: (1) dredging and capping of the WBGCR between Indianapolis Boulevard and the IHSC junction; (2) dredging select portions of the IHSC south of Columbus Drive; (3) dredging of a wastewater canal just east of Indianapolis Boulevard; and (4) habitat restoration of certain wetland areas along the Grand Calumet River. The scope of the wetland restoration was in discussion with property owners as of December 2022. The Phase 2 work will consist of capping of the IHSC south of Columbus Drive, capping of the EBGCR from the IHSC junction to Kennedy Avenue, and habitat restoration. The ECWMD completed a Great Lakes Legacy Act Project Application for the Phase 1 work in March 2022; the 90 percent design for the project and draft permit applications were subsequently completed in the summer and a technical project review was conducted by U.S. EPA and partner agencies. Construction is currently projected to begin in 2024, pending final resolution of remaining source control and property access considerations.

- **IHSC Orphan Areas.** USACE is conducting a site characterization of areas which lie outside, but adjacent to, Reaches 8 and 9 of the Congressionally authorized channel of the Indiana Harbor Ship Canal (between Canal Steet and Dickey Road) in East Chicago. These areas have not been extensively studied, nor have sediment remediation activities occurred or been planned in the areas. In 2022, USACE developed a draft sampling plan to gather chemical and geotechnical data needed to evaluate the risk of recontamination these so-called “Orphan Areas” might pose to the federal channel and currently plans to conduct data collection activities in 2023.

Indiana Harbor CDF Dike Raise

While not a contaminated sediment management action for purposes of BUI removal, USACE continued its construction on the Indiana Harbor Confined Disposal Facility (CDF). This effort consists of raising the dikes surrounding the facility by 11 feet and making other facility safety improvements. Once completed in April 2024, this will increase the capacity of the facility from 2.7 million to 4.8 million cubic yards. No additional dredging of the Indiana Harbor Ship Canal in or near the Congressionally authorized navigation channel will occur until the facility upgrade is completed; however, the navigational dredging backlog was fully addressed in 2020, prior to the initiation of construction at the CDF.

Great Lakes Legacy Act SEPs

Partners continued to identify the additional nonfederal cost share required to design and implement Legacy Act projects. This included evaluation by U.S. EPA of numerous cost share proposals put forth by the Gary Sanitary District, the nonfederal sponsor for the East Branch Phase 2 GLLA Project. Sufficient cost share must be identified before the project design can be completed and implemented.

In addition, five state Supplemental Environmental Projects (SEPs) were implemented, resulting in a total of \$68,920 in nonfederal cash match being contributed toward the East Branch Phase 2 project. All SEPs were voluntarily proposed by entities in enforcement and accepted by IDEM.

Habitat Restoration Projects

IDEM, the Indiana Department of Natural Resources (IDNR), and their project partners continued to develop and implement the habitat management actions anticipated to lead to removal of two BUIs impacting the AOC during 2022. In spite of operational impacts due to staffing challenges, invasive species treatment continued on several hundred acres of dune and swale and wetlands areas within the AOC.

Project-by-project highlights are as follows:

- **Dune and Swale Habitat Restoration.** The GLRI-funded Dune and Swale and GLLA Wetlands Habitat Restoration Project was completed December 31, 2021, with 532.5 acres on 11 properties transitioned to long-term maintenance status. IDEM and the project partners completed the final closeout of the grant in 2022, with actual restoration efforts shifting to management units included in the Dune and Swale Phase 2 grant. Lake County Parks and Recreation Department (LCPRD) has assumed possession of two pieces of equipment that will be utilized to help maintain the restoration work at AOC and other project areas. A new Compact Track Loader (CTL) was purchased in October 2021, with it entering operational use in February 2022. In addition, LCPRD assumed possession of an Argo Avenger ST Avenger 8x8 Tundra amphibious all-terrain vehicle, purchased by The Nature Conservancy with grant funds, to assist in transporting staff and supplies in submerged wetland areas.
- **Dune and Swale Phase 2.** During 2022, IDNR and the project partners continued treatment of invasive species at 12 protected sites within the Grand Calumet River AOC, with a particular focus on addressing a purple loosestrife infestation sparked by lower water levels. Dune and Swale Phase 2 is a GLRI-funded project, managed by IDNR, which began in September 2021 to continue establishment efforts on approximately 394 acres within the AOC at which additional native species establishment work was needed to meet the “Loss of Fish and Wildlife Habitat” BUI restoration target. The project is due to continue through the end of 2024.
- **AOC Prescribed Burn Plans.** IDNR and other land managers executed five prescribed burns, covering 190.3 acres, in four days during early November. This included the second ever burn at Cline Avenue Nature Preserve, the first ever burn at Martin Oil Natural Area, and the first ever burn of the entirety of the East Unit of Gibson Woods Nature Preserves. The AOC Prescribed Burns project was a GLRI-funded effort, led by the U.S. Fish and Wildlife Service, to develop

burn plans and implement prescribed burns on AOC managed lands. The project, which ended in December 2022, resulted in the development of 24 burn plans covering roughly 725 acres.

- **Pine Station Ponds.** During 2022, IDNR continued work on the Pine Station Ponds Project, including beginning initial invasives control and executing access agreements with surrounding property owners. The agency also completed a project application for subsequent project phases and submitted it to U.S. EPA for review. The project – which is designed to improve ecological function on injured portions of Pine Station Nature Preserve near two borrow ponds located on the eastern portion of the property – will consist of a combination of invasive species control, bank stabilization, sand capping, and plantings.

Efforts to Reduce *E. coli* at AOC Beaches

Staff from the U.S. Department of Agriculture’s Animal and Plant Health Inspection Service – Wildlife Services (USDA-APHIS-WS) continued to operate a GLRI-funded Gull Population Management Program during 2022. Previous microbial source tracking (MST) efforts conducted by the U.S. Geological Survey (USGS) indicated that droppings from these birds are the leading contributors to *E. coli* at the AOC beaches; as a result, IDEM and USDA worked together to develop the Gull Population Management Program, based on a similar program carried out in coordination with the Chicago Parks District. USDA surveys have indicated that the overwhelming majority of gull nesting colonies can be found at the ArcelorMittal (now Cleveland Cliffs) peninsula at Indiana Harbor, which has led USDA staff to address the overpopulation of ring-billed gulls and double-crested cormorants in that area. This is expected to have considerable water quality benefits over time. USDA provided a presentation to the CARE Committee in June 2022 (see: https://www.in.gov/idem/lakemichigan/files/care_presentation_20220623_usda_gulls.pdf).

AOC Eutrophication Monitoring Efforts

The USGS Ohio Kentucky Indiana Water Science Center, utilizing a combination of GLRI and Urban Waters Federal Partnership funding, continued to conduct monitoring in 2022 to assist in developing a path forward for addressing the “Eutrophication and Undesirable Algae” BUI. Specifically, this consisted of the collection of continuous water-quality data at six sites, regular visual inspections of site conditions, collection and analysis of monthly and storm event water quality samples for various nutrient-related parameters, and analysis work. USGS plans to complete a report of its findings in 2023.

BUI Removal Target Revisions and Management Action List Development

A Beneficial Use Impairment, or BUI, is defined by the U.S. – Canada Great Lakes Water Quality Agreement as a “change to the chemical, physical, or biological integrity” of an AOC that is sufficient to cause 14 specific categories of effects. Each BUI has associated targets, benchmarks or conditions that must be met prior to restoration. The Grand Calumet River AOC was listed with all 14 BUIs in 1987. Two of these, “Added Costs to Agriculture and Industry” and “Drinking Water Consumption or Taste and Order Problems,” were removed in 2011 and 2012, respectively. Management Actions are typically projects funded through the Great Lakes Restoration Initiative (GLRI) which are anticipated to result in an environmental improvement allowing for one or more BUIs to be restored.

IDEM, working with its partners, revised the “Loss of Fish and Wildlife Habitat” BUI restoration target in January 2022, following a multi-year evaluation process undertaken with the advice of the CARE Committee. The new target improves upon the previous target by: (1) allowing for site-specific variability while focusing on elements supportive of local fauna; (2) directly aligning with an effective monitoring protocol; (3) explicitly recognizing the contributions of contaminated sediment remediation to fish and wildlife habitat; and (4) accounting for the need for long-term management of restored areas. In addition, IDEM continued work to revise the “Eutrophication and Undesirable Algae”, “Degradation of Phytoplankton and Zooplankton Populations”, and “Beach Closings” BUI restoration targets. The revised targets are anticipated to be completed in 2023.

IDEM and its partners also continued work to draft Management Action Lists for the “Beach Closings”, “Degradation of Aesthetics”, “Eutrophication and Undesirable Algae”, and “Degradation of Phytoplankton and Zooplankton Populations” BUIs in 2022. This included: (1) efforts to finalize a draft “Beach Closings” Management Action letter originally provided to U.S. EPA and the CARE Committee for input in summer 2021; (2) efforts to explore a combined Management Action List concept for the “Eutrophication and Undesirable Algae” and “Degradation of Phytoplankton and Zooplankton Populations” that would involve native mussel augmentation; and (3) continuing efforts to determine a viable mechanism to address the accumulation of trash and oily debris at the Old Cline Avenue Bridge. IDEM plans to finalize the three Management Action letters in 2023.

2023 Goals

Federal, state, and local partners will continue to implement ecosystem restoration, sediment remediation, and outreach projects designed to address the 12 remaining beneficial use impairments (BUIs) applicable to the Grand Calumet River AOC during 2023. Specific goals include:

- Partners will continue to identify nonfederal cost share necessary to design and implement proposed Great Lakes Legacy Act contaminated sediment remediation projects.
- Project partners will continue the design and implementation of projects to remove and/or contain contaminated sediments within AOC waterways, including by:

- Evaluating sampling data to determine next steps with respect to the Lake George Canal West GLLA Project;
 - Completing sediment capping and habitat restoration components of the Lake George Canal Middle GLLA Project;
 - Completing the remedial design for the Lake George Canal East GLLA Phase 2 Project;
 - Resolve remaining source control and property access issues and complete the design, permitting, and contracting steps required to implement Phase 1 of the Grand Calumet Junction Reaches GLLA Project (dredging of the WBGCR and IHSC);
 - Continuing to plan the Grant Calumet Junction Reaches Phase 2 GLLA Project;
 - Advancing the East Branch Phase 2 GLLA Project, by updating the 30 percent project design, completing the nonfederal cost share identification process, and continuing regulatory coordination on the closure of the Ralston Street Lagoon;
 - Collecting and evaluating sediment chemistry and geotechnical data from the IHSC Orphan Areas and determining whether further action is warranted; and,
 - Evaluating whether additional data collection is required in portions of the EBGCR and Grand Calumet Lagoons.
- USACE will continue the Indiana Harbor Confined Disposal Facility dike raise project.
 - Project partners will continue the design and implementation of projects to restore habitats within the AOC during 2023. Actions include:
 - IDNR will continue to oversee the Dune and Swale Phase 2 habitat restoration project on AOC managed lands.
 - IDNR will continue to advance the Pine Station Ponds habitat restoration project.
 - IDNR and its project partners will conduct BUI monitoring of AOC habitat restoration areas.
 - IDEM will work to develop a replacement for the River Corridor habitat restoration project listed in the April 2015 Habitat Management Letter to U.S. EPA.
 - IDEM and its partners will complete revision of the Restoration Targets for the “Restrictions on Dredging Activities”, “Eutrophication and Undesirable Algae”, “Degradation of Phytoplankton and Zooplankton Populations”, and “Beach Closings” BUIs.
 - IDEM and its partners will work to develop Management Action Lists applicable to the “Eutrophication and Undesirable Algae” and “Degradation of Phytoplankton and Zooplankton Populations”, “Beach Closings”, and “Degradation of Aesthetics” BUIs.
 - USDA-APHIS-WS staff will continue the ring-billed gull and double-crested cormorant population management project at the Cleveland Cliffs Indiana Harbor peninsula.
 - USGS will complete its analysis of data collected to assess the underlying causes of eutrophication within the AOC.
 - IDEM and its partners will continue to encourage the adoption of *E. coli*-reduction best management practices at AOC beaches through public outreach and education efforts.

- USDA will continue to operate its Northwest Indiana Gull Management Plan, in cooperation with local partners.
- IDEM will begin development of an update to the Stage 2.5 Remedial Action Plan.

Appendix 4: Lake Michigan Lakewide Area and Management Plan (LAMP)

2022 Accomplishments

IDEM, IDNR, and other members of the Lake Michigan Partnership, housed under Annex 2 of the Great Lakes Water Quality Agreement (GLWQA), continued efforts to advance the goals of the Lake Michigan Lakewide Action and Management Plan (LAMP) during the period. In addition, a number of other key GLWQA outputs occurred during the year.

Implementation of the Great Lakes Water Quality Agreement

A number of outputs are required under the GLWQA and were released to the public in 2022. Although many of these were not directly undertaken by Indiana members of the Lake Michigan Partnership, they are provided for interested parties. High-level GLWQA outputs during the year were as follows:

- **Release of the 2022 State of the Great Lakes Report.** The United States and Canada released the 2022 State of the Great Lakes (SOGL) report, a key output under Annex 10 of the GLWQA, on July 29. It provides a snapshot of the status of the Great Lakes, and associated trends, using high-level ecosystem health indicators based on the nine General Objectives of the GLWQA. Over 110 Great Lakes scientists and other experts were involved in preparing assessments for the report, which is available on binational.net.
- **Release of the 2022 Progress Report of the Parties.** The United States and Canada released the 2020-2022 Progress Report of the Parties (PRP) on July 29. The report details significant activities and accomplishments related to the GLWQA conducted between 2020 and 2022. IDEM developed a short article on its new *BeachAlert* monitoring and notification application for the PRP, which is available for review on binational.net.
- **Release of the draft 2023-2025 Great Lakes Binational Priorities for Science and Action.** On September 15, U.S. EPA and Environment and Climate Change Canada released a draft of the 2023-2025 Great Lakes Binational Priorities for Science and Action for public comment. The Parties (U.S. and Canada) will report on accomplishments related to the priorities established for each of the 10 issue-specific Annexes of the GLWQA in the Progress Report of the Parties and at the Great Lakes Public Forum in 2025. The draft priorities are available for review on binational.net.
- **2022 Great Lakes Public Forum.** Canada and the U.S. held the 2022 Great Lakes Public Forum in Niagara Falls, Ontario on September 27-29. In-person and virtual attendees had the opportunity to hear reports on the state of the Great Lakes, progress made under the Agreement, and priorities for science and action and provide input to the governments on issues related to the GLWQA. The International Joint Commission, which has a designated advisory role under the Agreement, also solicited input from attendees.

Development of the 2020-2024 LAMP

U.S. EPA continued to lead development of the 2020-2024 Lake Michigan LAMP in 2022. The main focus of LAMP development during the period was on condensing the document and making it more public-friendly. IDEM and IDNR reviewed revised draft sections of the document as available. As of December 2022, the document had been sent to an EPA contractor for formatting and layout. A draft is expected to be available for public comment by mid-2023.

Lake Michigan LAMP Annual Reporting

The U.S. and Canada released the five 2021 LAMP Annual Reports, including the Lake Michigan one, on August 22. The LAMP Annual Reports highlight accomplishments and progress made during 2021 for each Great Lake, including protection and restoration actions, science and monitoring, and outreach activities. Four articles on Indiana activities appeared in the Lake Michigan report, including activities related to implementation of sediment remediation actions along the Lake George Branch of the Indiana Harbor Ship Canal, Indiana's Coastal Nonpoint Source Pollution Prevention Plan (NPSPPP), the *BeachAlert* monitoring and notification system, and the Lake Michigan Webinar Series. The 2021 Lake Michigan LAMP Annual Report may be found at binational.net. The Lake Michigan Partnership also began the 2022 LAMP Annual Report development cycle in late 2022 and will be working to draft the associated articles in early 2023.

Cooperative Science and Monitoring Initiative Monitoring

Researchers analyzed data collected during the Lake Michigan field year under the five-year Cooperative Science and Monitoring Initiative (CSMI). The CSMI is a binational effort to provide lake and fishery managers with science and monitoring information to assist with management decisions on each Great Lake. For the 2020 field year, the Lake Michigan Partnership identified the following research priorities:

- lower food web changes/declining open water nutrients impacts on prey fish (e.g., alewife), lake whitefish and salmon
- groundwater contributions to nutrient and chemical loads
- distributions of emerging contaminants in Lake Michigan waters/sediments
- Impacts of land use changes on cycling of nutrients, carbon, and mercury and impacts to habitats for rare species/critical life stages
- identification of values of diverse Lake Michigan stakeholder groups to better understand how people use and value the lake and its resources.

These priorities were then utilized by U.S. EPA and others under Annex 10 of the Great Lakes Water Quality Agreement to plan the field year efforts. Due to the COVID-19 pandemic, some analyses were postponed until 2021. Researchers plan to report initial results in early 2023 to help inform the development of priorities for the 2025 Lake Michigan field year. Illinois – Indiana Sea Grant staff will continue to work with the CSMI researchers and U.S. EPA on the report out of the 2020 field year findings.

National Coastal Condition Assessment

The five-year National Coastal Condition Assessment (NCCA), a statistical survey of the condition of the nation’s marine and Great Lakes coasts, was expected to be conducted in 2020. However, due to the COVID-19 pandemic, several sampling events were postponed until 2021. In 2022, scientists overseeing the NCCA effort began analyzing the data. Provisional (i.e., draft) data from the 2020-21 field season are publicly available at EPA’s [National Aquatic Resource Surveys website](#).

Selected IDNR-led LAMP-related Activities

The Indiana Department of Natural Resources continued to serve as a key partner with IDEM on LAMP-related issues. It is not possible to catalog all such efforts undertaken by the agency; however, IDNR led efforts to implement the Coastal Nonpoint Pollution Control Program, develop the initial phase of the Indiana Coastal Atlas, and design interpretive signs on Lake Michigan and interdunal wetlands for display at the Indiana Dunes State Park Nature Center. Please refer to the Lake Michigan Coastal Program section of this workplan for additional details.

In addition, IDNR fisheries staff continued to attend meetings and engage in activities within the Great Lakes Fisheries Commission framework on a variety of issues in 2022. Many of these topics are critical to activities undertaken by the Lake Michigan Partnership under the LAMP. For instance, fishery management needs are taken into account when developing the Lake Michigan Cooperative Science and Monitoring Initiative (CSMI) research priorities and the [Lake Michigan Environmental Priorities](#) have factored into the development of the 2020-2024 Lake Michigan LAMP.

Clean Marina and Clean Boater Program Implementation

IDEM continued to work with its partners to develop and expand the Clean Marina and Clean Boater Programs. Both efforts are designed to reduce the risk of adverse environmental impacts from recreational boating. Some of the key initiatives undertaken in 2022 were:

- **Indiana Boater’s Guide Story Map.** IDEM, with assistance from a one of its Governor’s Summer Interns, completed an ArcGIS Story Map version of the [Boater’s Guide to Indiana Marinas](#). The

new Story Map includes a map of Indiana marinas, information on the Clean Marina and Clean Boater programs, and tips for recreational boaters to reduce their environmental impact.

- **Marina Stormwater Regulations Guidance.** IDEM developed a [brochure](#) on Stormwater Regulations for Marinas to help provide guidance as to when an Industrial Stormwater Permit may be required at recreational boating facilities.
- **Clean Marina/Clean Boater Application Forms.** The agency worked to improve both the Clean Marina Application and the Clean Boater Pledge form, to make it easier for recreational boating facilities and boaters to join. For instance, the new Clean Marina Application Form, once finalized, will include an auto-calculation feature to save applicants the effort of verifying their point totals manually.
- **2022 Annual Clean Marina Roundtable.** IDEM organized the 2022 Annual Clean Marina Roundtable, which was held April 26 at the Hammond Marina. 17 people attended in person and 10 virtually, with eight boating facilities or organizations represented. Attendees discussed solid waste, hazardous waste, and stormwater regulations applicable to marinas; potential funding opportunities; aquatic invasive species; wildlife management; program promotion; and other topics.
- **New or Pending Clean Marinas.** Two Herons Marina became the second designated Clean Marina outside the Lake Michigan basin in 2022. In addition, the Miller Chapter of the Izaak Walton League submitted an application for Clean Marina designation in the fall of 2022, which was under review by IDEM.

2023 Goals

LAMP-related actions anticipated for 2023 include:

- The Lake Michigan Partnership will release a draft of the 2020-2024 Lake Michigan LAMP for public comment by mid-summer 2023, with the U.S. EPA releasing a final LAMP by the end of the year.
- IDEM and IDNR will draft any required articles for the 2022 Lake Michigan LAMP Annual Report.
- Illinois – Indiana Sea Grant will facilitate efforts to report out on the results from the 2020-2021 CSMI Lake Michigan field year.
- The Lake Michigan Partnership will determine the research priorities for the 2025 CSMI Lake Michigan field year.
- U.S. EPA will continue to process the data from the 2020 NCCA.
- Among other LAMP-related tasks, IDNR will continue to develop the Lake Michigan Coastal Atlas, participate in Lake Michigan fishery activities, and advance efforts to reduce nonpoint source pollution from failing septic systems.
- IDEM will work with its partners to expand the number of Clean Marinas and pledged Clean Boaters in the Lake Michigan basin.

- IDEM will host the W.G. Jackson educational boat tour at a Lake Michigan marina in 2023.
- IDEM will work with area marinas to deploy two Seabin in-water trash collection devices within the Lake Michigan basin.

Appendix 5: Grand Calumet River AOC RAP and LAMP Environmental Justice and Community Outreach Efforts

2022 Accomplishments

IDEM and other partners worked to implement a number of outreach and education efforts associated with the LAMP and RAP Programs. These were closely related to several initiatives to advance Environment Justice (EJ) activities.

Environmental Stakeholder Inclusion Program

In 2022, IDEM initiated a statewide Environmental Stakeholder Inclusion (ESI) Program to support its EJ efforts. The agency's Nondiscrimination Policy states that the agency and agency staff are to "provide fair treatment and meaningful involvement to all people, regardless of race, color, gender, national origin, geographic location, income, or any other federally protected class designation." The goal of the ESI Program, which has been in development for several years, is to provide enhanced services – such as Americans with Disabilities Act (ADA) accommodations, translation and interpretation services, notification assistance services, plain English guide services, and special assistance requests – to IDEM stakeholders. The agency hired two ESI program specialists in July 2022 to develop and manage the program, one of whom operates out of IDEM's Central Office in Indianapolis and the other, IDEM's Northwest Regional Office in Valparaiso. Initial ESI efforts in 2022 were directed toward finalizing the program framework and building stakeholder relationships.

Northern Indiana Community Outreach Coordinator

The Northwest Regional Office ESI program specialist also functions as the Northern Indiana Community Outreach Coordinator (COC). In this role, the COC assists with improving community outreach and engagement with respect to IDEM's four Lake Michigan Programs. Initial efforts in 2022 were directed toward building stakeholder relationships and developing a strategy for improving program outreach and engagement.

Lake Michigan Programs Community Outreach Efforts

IDEM participated in a number of community outreach events, at which LAMP and RAP topics were discussed with the public. These included the annual Portage Fish-ON event, held at Woodland Park in February, Earth Day events at the Michigan City library and the Porter County Expo Center (i.e., Northwest Indiana Earth Day) events in April, the Lake Hills STEM Academy's Family Outdoor Festival outreach event on May 16, 2022, the 2022 LaPorte County Fair, and the Hammond Marina Venetian Night event held on August 6, 2022.

Other Outreach Activities

IDEM MACS staff, the Beach/Clean Marina Program Coordinator, and other IDEM and USFWS staff to design a set of BUI icons to graphically communicate BUI status to members of the public. The icons were provided to the CARE Committee for feedback at IDEM's February 24 meeting and subsequently approved. The icons still need to be utilized as part of RAP Program outreach and incorporated into the website. IDEM expanded its use of social media to promote the Lake Michigan Programs and environmental stewardship activities, with several posts related to environmentally sound recreational boating practices developed and deployed in 2022. Finally, IDEM began a process of reviewing its [Lake Michigan Programs Web Portal](#) and implementing improvements to content and navigability, with significant revisions made to several pages.

2023 Goals

Lake Michigan Programs Environmental Justice and community outreach related actions anticipated for 2023 include:

- IDEM will plan and conduct the annual W.G. Jackson educational public boat tours in spring/summer 2023.
- IDEM will continue efforts to improve the accessibility and content of the IDEM Lake Michigan Programs Web Portal.
- IDEM will complete a Lake Michigan Programs Community Outreach Plan/Framework, with an initial focus on RAP Program outreach to the four Grand Calumet River AOC Communities.
- IDEM will develop and utilize strategic partnerships to engage with community members on LAMP and RAP related issues.
- IDEM will convene an Environmental Justice Retreat in the winter of 2023 to begin cataloging EJ efforts, resources, and needs within the Grand Calumet River AOC.
- IDEM will conduct LAMP and RAP outreach at community events and implement separate informational events to inform area communities on LAMP and RAP topics.
- IDEM will expand its use of social media to provide additional information on Lake Michigan Programs and ESI topics.

- Partners will resume the Grand Calumet Stewardship Day event in May, partnering with local schools, to bring students to natural areas along the river.