



Northwest Indiana (NWI) Location- 2021 Work Plan & 2020 Accomplishments



Top left: Student Conservation Association plants trees with youth. Top center: Deep River dam riffle construction. Top right: Volunteer beach clean-up. Middle left: Little Calumet River assessment. Middle center: Whihala Beach (Eric Allix Rogers). Middle right: Urban Waters partners meet. Bottom left: Virtual hikes (NPS) Bottom center: Students plant trees. Bottom right: The Singing Sands Trail over Trail Creek.

NORTHWEST INDIANA (NWI) 2021 WORK PLAN & 2020 ACCOMPLISHMENTS

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Executive Summary

Since 2011, the Urban Waters - Northwest Indiana (NWI) Partnership has been working to protect, restore, and revitalize urban waterways in Lake, Porter, and LaPorte counties. While the Covid-19 pandemic altered plans and capacities, NWI partners adapted to make incredible progress in 2020!

Highlights include:

- Local partners secured over \$2.7 million in grants and leveraged over \$1.5 million in match to advance on-the-ground projects that will restore urban waters and revitalize communities.
- CommuniTree partners planted nearly 1,200 trees, engaged 150+ volunteers, trained 5 local youth in urban forestry practices, and worked toward a CommuniTree community engagement strategy.
- Watershed groups implemented green infrastructure practices, such as wetland and prairie restorations, agricultural best management practices, bioswales, stream stabilization, and more to reduce the loading of sediment, nutrients, and other pollutants to Lake Michigan tributaries.
- The Little Calumet River Basin Development Commission began work on a rock riffle project at the Deep River dam, largely according to the recommendations of the NWI Regional Planning Commission (NIRPC)'s 2018 engineering feasibility study to modify the dam for improved safety, public access, and fish habitat and passage.
- Federal, state and local partners continued to implement ecosystem restoration, sediment remediation, beach best management practices, monitoring, and outreach to address beneficial use impairments at the Grand Calumet River Area of Concern.
- Local partners adapted environmental education and outdoor recreation programming to connect the public to their waterways while promoting safety and appropriate social distancing.

Developed with input from NWI Urban Waters partners, this work plan highlights key projects that advance Urban Waters goals in NWI. Some projects are directly initiated by Urban Waters and many others are driven by local partners with Urban Waters playing a supporting role. This work plan also identifies tasks for moving existing and new initiatives forward in 2021. Contact Jennifer Birchfield at jbirchfield@pnw.edu with suggestions or requests for assistance.



Urban Waters partners collaborate on a variety of projects to restore urban waterways and revitalize communities. Left: USGS monitoring. Center: Volunteer tree planting. Right: Watershed education.

Urban Waters - NWI Partnership Background

We acknowledge and honor the Potawatomi and Miami nations, upon whose traditional homelands the NWI Urban Waters location operates, and the Indigenous people who remain on this land today.

Since 2011, the NWI Urban Waters Partnership has been working to protect, restore, and revitalize urban waterways in Lake, Porter, and LaPorte counties. Co-led by the National Park Service (NPS), US Environmental Protection Agency (USEPA), and US Forest Service (USFS), the NWI Urban Waters Partnership includes more than 80 local, state, and federal partners ([Appendix A](#)). 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.



Located along the southern shore of Lake Michigan, NWI contains a range of both rural and urban land uses. The region 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, NWI's waterways each have unique characteristics, assets, and challenges.

NWI residents and visitors enjoy Lake Michigan at Whihala Beach (Eric Allix Rogers, [Flickr](#)).

NWI Urban Waters partners work together to build organizational capacities, move existing water-related projects forward, and spur new initiatives to address challenges. The Partnership pursues the following primary goals:

- Coordinate among partners, including local, state, federal, and regional agencies and organizations to promote collaboration and reduce duplicative efforts.
- Increase organizational capacities by assisting with project design and implementation, identifying potential funding sources, and seeking expert advice.
- Foster open and timely communications by sending monthly e-newsletters with project updates, funding opportunities, partnership meeting information, local events, and useful resources.
- Connect local partners to federal agencies for support, including technical assistance.
- Promote efforts to engage residents of all ages in educational, recreational, and volunteer activities that foster connections to – and stewardship of – local waterways.

CommuniTree

An outgrowth of Urban Waters, 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 our forests and the importance of trees for stormwater management and community revitalization.

Since 2017, CommuniTree partners have:

- Planted nearly 8,000 Trees
- Engaged over 2,500 volunteers
- Trained 20 youth in urban forestry
- Worked with over 40 communities
- Held 11 trainings on forestry topics



2020 Accomplishments:

Despite Covid-related challenges such as limited capacity for forestry crew operations and volunteer engagement, partners made significant accomplishments in 2020, including:

- Partners planted nearly 1,200 trees.
- 5 local young adults planted and maintained trees with the Student Conservation Association (SCA).
- Nearly 200 volunteers contributed over 500 hours.
- 15 partners planted trees through the NWI Regional Planning Commission's (NIRPC's) grant program. New in 2020, NIRPC partnered with the LaPorte and Porter County Soil and Water Conservations Districts (SWCDs) on a residential invasive education program.
- Wildlife Habitat Council planted trees on industrial land and convened a meeting of business and conservation partners.
- The Nature Conservancy (TNC) began work with the City of Gary to inventory park trees and manage emerald ash borer die-off for public safety and tree diversity.
- A USFS Resource Assistant worked with CommuniTree to produce a [CommuniTree video series](#).
- Indiana University Northwest became a certified TreeCampus.
- Led by Dr. Jess Vogt, researchers from DePaul University published two peer reviewed papers about CommuniTree's work with volunteers (available [here](#) and [here](#)). Dr. Vogt also presented this work at the October partnership meeting.
- A Purdue Northwest graduate student conducted a communication audit of CommuniTree.
- USFS worked with NIPSCO and partners to develop plans for a Lake George greenway restoration.
- The CommuniTree Steering Committee met quarterly.



The SCA plants trees with Purdue Northwest students.

CommuniTree

2021 Tasks:

- Partners expect to plant over 1,200 trees in 2021 through NIRPC's CommuniTree grants and SCA and Wildlife Habitat Council plantings, while maintaining previously-planted trees.
- TNC will continue to inventory park trees in Gary and will present at an Urban Waters meeting. The inventory is expected to become part of an urban forestry plan for the Gary Parks Department.
- Wildlife Habitat Council will begin work on a USFS Urban and Community Forestry Challenge Cost Share grant. The project will bring together corporate conservation programs, urban forestry groups, community members, and local industry employees to discuss local, state, and national urban forestry strategies. The ultimate goals are to address local resiliency and biodiversity challenges and provide workforce development opportunities.
- The CommuniTree steering committee will meet quarterly and work to advance the CommuniTree Work Plan. An engagement work group will meet monthly in the spring to advance a community engagement strategy.
- DePaul University researchers anticipate publishing another peer-reviewed journal article on CommuniTree stakeholder motivations. DePaul students will begin an inventory to assess CommuniTree outcomes.
- The Tree Steward program could not be held as planned in 2020 due to the pandemic. In 2021, CommuniTree partners will work with Indiana DNR to offer the program through a hybrid model, with virtual sessions and small hands-on practice events.
- CommuniTree will encourage cities and campuses to apply for TreeCity/TreeCampus certifications, and offer a workshop to provide assistance. The group will also survey municipal partner needs.
- NIPSCO will work with partners and stakeholders to advance the Lake George restoration project.



The SCA plants trees with residents in East Chicago.



Students plant trees at a Highland school with the SCA.



Richard Underkofler stands at a planting site in Highland.

Watershed Education

2020 Accomplishments:

The Covid-19 pandemic made field trips and large group events impossible, yet partners found innovative ways to connect residents to their waterways and continued planning for sustainable programming beyond 2020. Dunes Learning Center, LaPorte County Soil and Water Conservation District (SWCD), NPS, and Porter County Izaak Walton League ramped up virtual programming in response to the pandemic, offering virtual field trips and online activities.

Limited in-person educational events were held. For example, the LaPorte County SWCD held a homeschool water quality field trip and helped a Girl Scout Troop earn their Citizen Science badge by monitoring benthic macroinvertebrates. The SWCD also hosted the NWI regional Envirothon competition, with USGS as a featured lecturer on hydrology and other Urban Waters partners making presentations.



Girl Scouts explore Trail Creek macroinvertebrates.

While the Indiana Master Watershed Steward Program could not be offered in 2020 amid the pandemic, stewards from the 2019 class continued to work on volunteer projects. They led beach clean-ups, designed a bait container recycling program, and helped to suggest Master Watershed Steward program improvements for 2021.



Volunteers at a beach clean-up in Whiting, organized by a Master Watershed Steward.

Long-time annual events, such as Indiana Department of Natural Resources (DNR) Lake Michigan Coastal Program's Coastal Awareness Month, the Hobart Water Festival, the Gary Clean Water Celebration, and the Grand Calumet River Stewardship Day were cancelled amid the pandemic. 2020 marked the first year since 2013 without visits from Wilderness Inquiry's Canoemobile in NWI. Amid the uncertainty of the pandemic, partners continued to plan and seek funding for watershed education programs.

Watershed Education

2021 Tasks:

The Smithsonian Institute's traveling Water/Ways exhibition will be hosted in NWI from August 14 - September 26, 2021 thanks to a successful application by LaPorte County SWCD and LaPorte County libraries. The exhibition explores water as an essential component of life - environmentally, culturally, and historically. Urban Waters partners will help the project team develop locally-relevant content and activities.

Partners hope to return to in-person watershed education activities, including paddling with Wilderness Inquiry's

Canoemobile in the fall. LaPorte County SWCD plans to host Trail Creek Week and Kankakee River Days in September and October. In 2020, Dunes Learning Center and partners secured an Urban Waters Five Star grant for Wilderness Inquiry paddles including hands-on stewardship and restoration activities for 3,500 students. The project could not be completed in 2020 but is planned for 2021 if Covid safety precautions allow.

Urban Waters will continue to support partners in seeking sustainable funding for Canoemobile visits. If in-person programming is possible in 2021, Urban Waters partners will continue to staff land-based education stations during Canoemobile events. Wilderness Inquiry plans to continue working to establish a permanent Canoemobile hub to serve southern Lake Michigan.

Illinois-Indiana Sea Grant (IISG) and partners will offer the Master Watershed Steward program in 2021 via a virtual format. Purdue University will continue exploring options to offer the program statewide and in Illinois with partners from that state's Department of Natural Resources.



Water/Ways Installation (Photo: Smithsonian Institute)

Public Access and Accessibility

2020 Accomplishments:

Partners continued to implement NIRPC's Greenways/Blueways Plan to increase access to NWI waterways. Partners continued working to open the East Branch of the Little Calumet to paddling after decades of limited access; constant work is needed to physically remove or alter logjams after big storms. The City of LaPorte's Parks and Recreation Department began construction of an ADA-compliant launch on Stone Lake.

In a year of challenges and social distancing, access to nature was critical to human well-being. Land-managers worked to provide appropriate, safe access and accommodate increased use of parks. Responding to an increase in visitation, NPS posted materials encouraging residents to safely recreate in the parks. While on-site ranger-led programs were limited, NPS and other land managers offered online programming such as virtual hikes. NPS modified the 2020 Outdoor Adventure Festival, providing dozens of activities that individuals and families could undertake safely and independently. Unfortunately, many popular paddling events were cancelled in 2020.



Construction of ramp to an ADA-compliant launch.



National Park Rangers lead virtual hikes.

2021 Tasks:

NIRPC will distribute the updated 2020 Greenways/Blueways map as well as a new map app in early 2021. Partners will continue working to improve public access along NWI waterways. The NWI Paddling Association (NWIPA), Save the Dunes, Shirley Heinze Land Trust, and others will continue to open the East Branch of the Little Calumet River for recreation. Partners hope to install additional launches for non-motorized boats on Deep River, the Little Calumet West Branch, and Wolf Lake. Various partners hope to hold paddling events as Covid-19 safety precautions allow.

Additional accessibility priorities include:

- Supporting and expanding testing and availability of adaptive equipment for outdoor recreation.
- Installing an accessible walkway and iPaddle port plus adaptive equipment at Marquette Park.
- Continuing to assess options for web-maps that showcasing accessible features.
- Hosting trainings on paddling safety and rescue.

Northwest Indiana's Urban Waters Are for Everyone!

Since 2011 nine canoe/kayak launches have been installed on six waterways throughout Northwest Indiana, seven of which are ADA-compliant.

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.

2020 Accomplishments:

In early 2020, Save the Dunes completed work on a Good Neighbor septic system awareness outreach campaign funded by LMCP’s 319 grant program. The Indiana Department of Environmental Management (IDEM), Save the Dunes, and local communities and neighborhood groups continued amplifying the education campaign throughout the year. In September, LMCP and partners participated in SepticSmart Week, and Indiana Governor Holcomb proclaimed Septic Smart Week in Indiana. Porter County Health Department began transitioning to a new software system for tracking septic permits.

Passed in 2016, LaPorte County’s Property Transfer Ordinance was the first in the state to require septic system inspection at the point of sale. As of 2020, the ordinance has triggered over 3,000 septic system inspections and brought to light over 150 failing systems.

2021 Tasks:

The success of LMCP’s 6217 Nonpoint Source Pollution Program is critical for the entire state because it is tied to 319 grant eligibility. As part of this, LMCP worked closely with the IDEM Office of Water Quality to submit their final on-site disposal system measure to NOAA and USEPA in January 2021 and is awaiting approval. LMCP expects to fill their Special Projects Coordinator position, tasked with convening the SSCWG and coordinating septic system oversight activities, in early 2021. Indiana’s septic system nonpoint source pollution program will include management measures, enforceable mechanisms, and policies for inspecting existing septic systems. The program will use a combination of enforcement and voluntary actions backed by strong partnerships and education and outreach. Indiana University Northwest’s microbial source tracking studies of waterway bacteria and viruses funded through a LMCP grant and a 319 program sub-grant were delayed in 2020 due to the pandemic. A grant extension has been requested, and studies are expected to resume in 2021.

The LMCP and partners will support a state law and local ordinances mandating point of sale septic inspections and supporting 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. Partners plan to 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. Partners will also work with the Indiana Onsite Wastewater Professionals Association on a septic system inspection tracking database for areas not otherwise covered.

Watershed Management Planning and Implementation



Map of Northwest Indiana Watersheds covered by the Urban Waters partnership.

Federal partners support watershed initiatives throughout NWI in many ways. Examples include:

- USEPA investments and other work:
 - \$6.5M in Great Lakes Restoration Initiative (GLRI) funds on Grand Calumet River Area of Concern (AOC) non-sediment projects, such as habitat restoration since;
 - \$118M in federal funds, leveraged \$64M in nonfederal funding, to cap or dredge over 1.8 million cubic yards of contaminated sediment in the AOC;
 - Continued work with partners on emergency response planning in NWI in 2020.
- From 2016 to 2020, USFS awarded GLRI funding to 11 projects in NWI, totaling \$898,786 in federal funding. Anticipated outcomes include approximately 6,900 trees planted, 212 acres of invasive plants removed, and 40 acres of forest and wetland permanently protected as Community Forest.
- Since 2011, the US Army Corps of Engineers (USACE) has restored over 500 acres and over 8 river miles in NWI, leveraging nearly \$9 million in federal funds and over \$6 million in local match.
- USGS monitoring provides valuable data to watershed managers, such as water quality data on the Grand Calumet and temperature monitoring on Deep River, the Little Calumet, and Trail Creek.
- The NPS Rivers and Trail Conservation Assistance (RTCA) program supports community-led natural resource conservation and outdoor recreation. In 2020, RTCA:
 - Presented on program opportunities at the July NWI Urban Waters meeting;
 - Signed an agreement with Purdue for an Americorps Landscape Architecture Fellow; and
 - Identified several trail planning projects adjacent to the Indiana Dunes National Park suitable for Purdue Senior Capstone Design projects.
- The Natural Resources Conservation Service (NRCS) works with landowners to manage natural resource concerns through programs such as the Environmental Quality Incentives Program (EQIP) and the Wetland Reserve Program.

Deep River Watershed Partnership

2020 Accomplishments:

Partners continued to implement the Deep River-Portage Burns Waterway Watershed Management Plan, developed by the Northwestern Indiana Regional Planning Commission (NIRPC) and partners. USGS and Little Calumet River Basin Development Commission (LCRBDC) signed an agreement to continue temperature monitoring on Deep River.

The LCRBDC began work on a rock riffle project at the Deep River dam in Lake Station. The project will address the unsafe dam, largely according to recommendations of NIRPC's 2018 engineering feasibility study to modify rather than remove the dam. The project will consist of a rock riffle, parking lots, a boat launch, embankments, a pedestrian bridge and paths, and other improvements along the River.



Construction of the Deep River rock riffle project

Lake County Parks worked with NRCS, NIRPC, and others to convert a 40-acre agricultural field to grassland with USEPA funding. It is expected to reduce pollutant loads by 50 tons/year of sediment and 73 pounds/year of phosphorus, as well as restoring fragmented riparian habitat. The Nature Conservancy and partners completed a comprehensive landscape scale invasive species management plan for the watershed with USFS funding.

2021 Tasks:

NIRPC and partners will complete a five-year update of the Deep River-Portage Burns Waterway Watershed Management Plan. LCRBDC will continue to work on the Deep River rock riffle project and associated public access improvements. Lake County Parks' conversion of a 40-acre agricultural field to grassland is scheduled to be completed by spring 2021. NRCS will develop and implement a maintenance and inspection plan. Partners will continue seeking funding for a priority canoe/kayak launch on Deep River in New Chicago. The City of Hobart will continue seeking funding for several projects including an outdoor learning center, a green infrastructure master plan, the annual Water Festival, an urban forestry inventory, wetland restoration, and other green infrastructure projects. Delta Institute and the City of Hobart will continue their Chi-Cal Rivers-funded work to restore a tributary of Duck Creek and seek additional funds for future phases of the project. Partners will continue work to implement the Hobart Marsh conservation action plan.

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. Major accomplishments 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

2020 Accomplishments:

Partners, including Save the Dunes, the NWI paddling Association (NWIPA), and NPS continued work to open and maintain the water trail, leveraging funding from Chi-Cal Rivers, NIPSCO, and REI. Porter County Izaak Walton League continued to restore parcels along the River and its tributaries. USGS and NPS continued a GLRI-funded mussel restoration project involving habitat restoration and development of eDNA technology.

Shirley Heinze Land Trust and partners completed climate-resiliency strategic planning for the corridor with guidance from the Northern Institute of Applied Climate Science, an USFS-led collaborative, and presented on the project at an Urban Waters [webinar](#). Shirley Heinze worked with The Wetlands Initiative and other partners to assess parcels with flood storage and wetland creation potential. The project resulted in a wetland restoration feasibility study at a site adjacent to NPS's Heron Rookery. Water quality monitoring was initiated in Kemper Ditch by Porter County SWCD.



Orbis Consulting conducts a habitat assessment as part of climate-resiliency strategic planning.

2021 Tasks:

Partners will continue work to protect and restore the corridor and to expand and maintain the public access. Save the Dunes and several partners are seeking funding to extend the water trail from the NPS Heron Rookery to Lake Michigan (17 miles). NPS will explore the feasibility for re-meandering through the Heron Rookery and the neighboring properties. NPS and USGS will continue their mussel restoration and monitoring work and hope to add species and pursue GLRI funding to continue the project. They are exploring development of a mussel-rearing facility.

Porter County Izaak Walton League and Shirley Heinze will continue to restore land along the corridor and tributaries to improve habitat, water quality, and climate resiliency. Shirley Heinze will continue to:

- Explore a potential 60-70 acre restoration with USACE
- Conduct consistent water quality monitoring with Porter County SWCD, NPS, and DNR
- Partner with Porter County SWCD and the NRCS to protect agricultural lands and promote agricultural best management practices
- Continue to engage landowners and pursue acquisition opportunities

Trail Creek Watershed Partnership

2020 Accomplishments:

The Trail Creek Watershed Partnership met monthly in 2020 and continued working to implement the Trail Creek Watershed Management Plan. The Michigan City Sanitary District substantially completed the Cheney Run Wetland project, restoring and enhancing nearly 10 acres of wetlands for stormwater treatment with assistance from the Delta Institute. Michigan City and partners completed a Recreation Amenities Study for the sites.

LaPorte County Parks completed a bioswale and grade stabilization project at Creek Ridge Park. The bioswale accepts runoff from a parking lot and is expected to reduce pollutant loads by 6.9 tons/year of sediment, 5.9 lbs/year of phosphorus, and 11.7 lbs/year of nitrogen. Invasive species were removed from 28 acres of the park, and a consultant began a natural features inventory and natural resource management plan for the entire park.

Michigan City Parks and Recreation continued a demonstration project at Winding Creek cove, including streambank stabilization. Phases 1 and 2 of the Singing Sands Trail are substantially complete, and nearly 70 trees were planted along the trail adjacent to the Creek.



TCWP partners worked to improve a bridge over Trail Creek, connecting the Karwick Nature Park and the Cheney wetland project.



LaPorte County Parks installed a bioswale to intercept parking lot runoff at Creek Ridge Park.

USEPA worked with Michigan City on a Building Blocks technical assistance grant to implement a Green and Complete Streets tool. Due to Covid, the community meetings and technical workshops were convened virtually. USEPA drafted a Next Steps Memorandum for Green and Complete Streets Program Development. USACE worked to rebuild one of the breakwaters at Michigan City Harbor.

Right: A Trail Creek resident (Northern Water Snake) greets Amy Story, USGS, during a water temperature calibration visit to the USGS site on Trail Creek at Michigan City. USGS streamflow, water level, and temperature data from this site is used to evaluate streamflow and for recreation by boaters and fishing enthusiasts. The site was funded through the Michigan City Sanitary District, in cooperation with the USGS Urban Waters Federal Partnership.



2021 Tasks:

- Partners will continue to support implementation of the Trail Creek Watershed Management Plan and participate in regular watershed partnership and Michigan City stormwater advisory group meetings.
- USEPA will assist with water quality data analysis.
- Partners will investigate opportunities to maintain the USGS water temperature monitoring gage on the Creek.
- Planting will be completed at Karwick Nature Park and the Cheney Run wetland project. Michigan City will continue monitoring water quality impacts of the projects. Partners will seek funding to implement recommendations from the Cheney Run Recreation Amenities Study.
- Michigan City Parks Department anticipates full completion and ribbon cuttings for Sands Phase I and II and the Winding Creek Cove stream stabilization in the Spring of 2021. Phase III of the Singing Sands Trail is scheduled to begin construction in the fall.
- Orbis Environmental and LaPorte County Parks will finalize the natural features inventory and natural resource management plan for Creek Ridge Park.
- USEPA will review feedback and finalize the draft Next Steps Memorandum for Green and Complete Streets Program Development in Michigan City, Indiana.
- As Covid precautions allow, Urban Waters partners will continue to support Trail Creek Week and existing and expanded efforts of the Michigan City High School Wolves Environmental Restoration Team as described under [Watershed Education](#) above.

West Branch of the Little Calumet River and Grand Calumet River

The cities of Gary, East Chicago, Hammond and Whiting span the Grand Calumet and Little Calumet West Branch watershed boundaries. Many initiatives undertaken in these communities impact both watersheds.

2020 Accomplishments:

Several partners participated in the City of Gary's watershed management and green infrastructure committee. Partners worked on urban forestry projects in Gary and surrounding areas, as detailed under [CommuniTree](#) above.

USGS expanded monitoring efforts on the West Branch of the Little Calumet and Grand Calumet:

- Continued to study stormwater volume and chloride at a rain garden at Gary City Hall.
- Continued water quality monitoring at Pine Station and the Grand Calumet at Columbia Ave and on the Indiana Harbor Canal at Canal Street in partnership with Indiana DNR.
- Signed an agreement with the Little Calumet River Basin Development Commission to continue temperature monitoring at the Little Calumet River at Burr Street and Hart Ditch in Munster.
- Began monitoring for eutrophic conditions (detailed under [Grand Calumet Area of Concern](#))



Kayla Christian, USGS, observes water-quality characteristics of the Indiana Harbor Canal.

The Indiana Geologic Information Council worked with stakeholders and contractors to draft corrections to the watershed boundary dataset in NWI. This could significantly impact the boundary between the Great Lakes and Mississippi River watersheds in this area and affect eligibility for many grant programs.

A coalition that including the NWI Regional Planning Commission, the NWI Forum Foundation, and the NWI Regional Development Authority began work on a \$600,000 USEPA grant to conduct environmental site assessments, prepare cleanup plans, and implement community outreach activities in Gary, Hammond, and East Chicago. In 2020, contractor SME was chosen to perform all environmental assessments. Four Phase 1 projects and two Phase 2 projects were completed.

Save the Dunes and partners began developing a conservation action plan for the West Branch of the Little Calumet. Audubon Great Lakes continued work on a marsh restoration project. An Audubon Wild Indigo Coordinator continued work to build lasting relationships between urban communities of color

and their local natural areas in NWI. The Wetlands Initiative received a 2020 Chi-Cal Rivers grant to restore a floodplain corridor along the West Branch.

Unity Foundation and Legacy Foundation participated in the Lower Lake Michigan Team of the Great Lakes One Water Initiative, resulting in a pilot project with OAI to share services for green infrastructure maintenance. In 2020, five green infrastructure sites in the City of Gary were maintained. Because resident volunteers who typically maintained these sites were unable to volunteer due to the Covid-19 pandemic, the work was particularly important in 2020.

2021 Tasks:

The City of Gary's Green Infrastructure/Watershed Management Team will continue to implement and update the Little Calumet River West Branch Watershed Management Plan and will explore developing a watershed management plan for the Grand Calumet River. Partners will support the implementation of the conservation action plan for the Little Calumet West Branch. Audubon Great Lakes, the Wetlands Initiative, and partners will continue to restore wetlands and engage communities along the Little Calumet West Branch. Partners will explore funding options for a resource inventory to update the Gary Green Link Plan.

NIRPC and partners will continue work on their EPA Brownfields grant. By September of 2023, the grant targets are to complete 20 Phase I projects, 8 Phase II projects, 10 Hazardous Material Assessments (asbestos), and 10 Clean-up and Reuse Planning projects.

The Indiana Geologic Information Council will finalize the correction of the watershed boundary dataset. USGS will continue the water quality monitoring projects listed above under 2020 accomplishments. USGS submitted preproposals in late 2020 for two new monitoring projects. Proposed projects include water quality and age dating of flowing wells in the Little Calumet River watershed in partnership with the Little Calumet River Basin Development Commission, and amended nutrient sampling and monitoring data for the Grand Calumet River at Columbia Avenue. If the preproposals are approved, USGS will develop full proposals and develop agreements with the cooperating groups in 2021.

The Lower Lake Michigan Team of the Great Lakes One Water Initiative secured a Partners for Places grant in 2020 with a matching grant from the Legacy Foundation to continue offering a green infrastructure maintenance shared services pilot. In 2021, in addition to green infrastructure maintenance, the team will provide training to the City of Gary's Urban Conservation Team and resident volunteers to support ongoing maintenance of its green infrastructure sites.

Should safety considerations allow the long-standing Grand Calumet River Stewardship Day to be held in 2021, Urban Waters partners will provide support by hosting educational stations.

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

2020 Accomplishments:

Please note that this section was shortened from the full report provided by the Indiana Department of Environmental Management (IDEM, see [Appendix B](#)). Federal, state, and local partners continued to implement projects to address the 12 remaining beneficial use impairments (BUIs) on the Grand Calumet River. IDEM and the Citizens Advisory for the Remediation of the Environment (CARE) convened nine public workgroup meetings.

IDEM and partners continued implementing sediment management projects that are anticipated to result in removal of six BUIs. The USACE contractor conducted dredging on portions of the Indiana Harbor Canal (IHC). The first phase of the Lake George East Great Lakes Legacy Act (GLLA) dredging project was completed and sediment disposed of in the Confined Disposal Facility (CDF) in East Chicago. Partners continued source control work on the abandoned ECI refinery site in East Chicago and design work as part of the GLLA project to cap portions of the Lake George Branch of the IHC.



Lake George East Project dredging. (Credit: Kokosing Industrial, Durocher Marine Division).

Partners continued to implement habitat management actions that are anticipated to lead to eventual removal of two BUIs. Indiana DNR completed invasive species treatment and native seeding at protected wetland habitat around George Lake, the Lake George Branch of the IHC, and Lake Mary. Invasive species treatment continued on approximately 900 acres of dune, swale, and wetland shelf. Prescribed burns took place at Pine Station Nature Preserve, Seidner Dune and Swale Nature Preserve, and Roxana Marsh. Due to high water levels, partners did not proceed with previously-planned river corridor work.



Restored habitat at Clark and Pine Nature Preserve (Credit: Emily Stork, DNR, Division of Nature Preserves)

IDEM and partners continued to address high bacteria levels at AOC beaches. USDA's Animal and Plant Health Inspection Service worked with ArcelorMittal and its contractors to conduct a ring-billed gull depredation pilot project on the Indiana Harbor peninsula. IDEM continued working with municipal partners to implement additional best management practices (BMPs) to reduce *E. coli* levels at beaches

in East Chicago, Gary, Hammond, and Whiting. IDEM and its contractor developed a two-part video discussing the problem of, and solutions to, elevated *E. coli* levels. IDEM also developed no-handfeeding signage and a public service announcement video to encourage BMPs at beaches.

With Urban Waters funding, USGS installed instrumentation to measure parameters related to eutrophication at two streamflow gauges at the IHC and the West Branch of the Grand Calumet.

2021 Tasks:

IDEM and USEPA will convene an AOC sediment work group focused on developing non-federal cost share agreement to design and implement GLLA projects. USACE plans to raise the dikes surrounding the Indiana Harbor CDF between 2021 and 2023. While that is occurring, no additional dredging of the Indiana Harbor Ship Canal in or near the Congressionally-authorized navigation channel is anticipated.

Working with federal, state, and local officials, IDEM and IDNR will continue to implement ecosystem restoration, sediment remediation, and outreach projects designed to address the 12 remaining BUIs on the Grand Calumet River AOC. The GLRI grant funding much AOC habitat restoration will end in 2021, and additional funding will be needed to continue the projects through 2024.

Specific goals include:

- Complete revision of and identify management measures required to remove the Restrictions on Dredging Activities, Degradation of Plankton Populations, Degradation of Aesthetics, Beach Closings, and Eutrophication and Undesirable Algae BUIs.
- Continue the ring-billed gull depredation project at Indiana Harbor.
- Continue and expand enhanced monitoring efforts for markers of eutrophication.
- Design a project to address hydrologic and contamination impacts at Pine Station Nature Preserve.
- Continue to encourage the adoption of *E. coli*-reduction BMPs at AOC beaches through public outreach and education efforts.

Lake Michigan Lakewide Action and Management Plan (LAMP)

2020 Accomplishments:

This section was shortened from the full report provided by IDEM (see [Appendix B](#)). Members of the Lake Michigan Partnership, under Annex 2 of the Great Lakes Water Quality Agreement, continued efforts to complete the 2020-2024 Lake Michigan LAMP. IDEM and IDNR reported on success stories at the December 2020 meeting of the Great Lakes Executive Committee.



The new logo for the Lake Michigan Lakewide Area Management Plan.

IDEM continued to work with local beach managers to implement the Lake Michigan Beach Monitoring and Notification Program at 23 beaches in 2020. In 2020, IDEM undertook several new efforts to educate residents and protect Lake Michigan, including:

- A series of webinars on watershed protection efforts, with six webinars completed in 2020, including one on the NWI Urban Waters Federal Partnership.
- A new partnership with the Indiana Bureau of Motor Vehicles (BMV) to promote the Indiana Clean Boater Program statewide, resulting in over 100 boaters taking the Clean Boater Pledge
- Worked with IDNR to develop LAMP-related signage to be deployed at the Indiana Dunes State Park on preventing social trails and other topics.
- Developed social media kits about protecting Indiana's beaches and waterways.
- Began work to upgrade the 12 year-old BeachGuard system.

2020 was scheduled to be the Lake Michigan field year under the five-year Cooperative Science and Monitoring Initiative (CSMI) as well as the five-year National Coastal Condition Assessment (NCCA). Due to COVID-19 impacts, several portions of the CSMI and NCCA field work were postponed until 2021. The pandemic also caused cancellation of the planned W.G. Jackson educational boat tour and annual Clean Marina Roundtable.

2021 Tasks:

The Lake Michigan Partnership expects to complete the 2020-2024 Lake Michigan LAMP and begin implementing the listed actions in 2021. Other LAMP-related actions anticipated for 2021 include:

- Hosting at least four additional webinars in the Lake Michigan Webinar Series.
- Completing signage to educate boaters and anglers on best management practices to reduce chemical pollution and invasive species impacts.
- Complete and implement the new Beach Monitoring and Notification System.
- Expand the number of pledged Clean Boaters in the Lake Michigan basin.
- Host the W.G. Jackson educational boat tour (subject to the lifting of COVID-19 restrictions).
- Procure and deploy two Seabin in-water trash collection devices in the Lake Michigan basin.

Funding

2020 Accomplishments:

Local NWI partners secured grants totaling over \$2.7 million and leveraged over \$1.5 million in cash and in-kind match for projects that address Urban Waters priorities. Urban Waters was directly involved in proposals that secured over \$500,000. These conservative estimates do not capture all work of the NWI partners, generally reflecting grants from USEPA GLRI, Sustain Our Great Lakes, Five Star and Urban Waters, and the Chi-Cal Rivers fund. Awarded funds will benefit more than 10 NWI communities. Partners also provided input on the Calumet Collaborative's beta grant database.

2021 Tasks:

Urban Waters will continue to share information about funding opportunities and help partners develop competitive proposals. Urban Waters will convene work groups for funding opportunities that require collaboration and showcase successful projects. Partners will support the Calumet Collaborative in finalizing and launching their grant database.

Communication

2020 Accomplishments:

The ambassador compiled and distributed a regular e-newsletter plus special alerts as needed for a total of 28 mailings to a subscriber list of over 470. In January, the full partnership and the federal partners held their annual meetings in person. The remaining quarterly meetings were convened virtually due to the pandemic, and attendance increased to well over 50 participants in each meeting. Urban Waters shared information on safety practices for volunteer and field crew operations amid Covid 19 via e-newsletters and a presentation from Indiana State Department of Health at the July Urban Waters meeting. Urban Waters made their professional Zoom license available to partners for meetings on Urban Waters-related projects.



The NWI Urban Waters partnership met in person in January 2020 before switching to remote quarterly meetings.

Urban Waters partners presented on NWI Urban Waters at events, such as IDEM's watershed webinar series and the Rio Reimagined onboarding workshop. The ambassador presented on engagement opportunities to Purdue Northwest (PNW) Colleges of Technology and Engineering and Science.

2021 Tasks:

Urban Waters will continue to facilitate communication among partners through monthly e-newsletters and quarterly partnership meetings and other meetings and events.

Appendix A. Northwest Indiana Urban Waters Partners as of Spring 2021

Federal Partners	State, Local, and Regional Government
Corporation for National and Community Service U.S. Department of Agriculture -U. S. Forest Service -Natural Resource Conservation Service U.S. Department of Housing and Urban Development U.S. Department of Interior - Bureau of Reclamation - Fish and Wildlife Service - U.S. Geological Survey - National Park Service U.S. Department of Transportation U.S. Department of Commerce - Economic Development Administration - National Oceanic & Atmospheric Administration - National Weather Service U.S. Department of Defense - Army Corps of Engineers U.S. Department of Homeland Security - Federal Emergency Management Agency U.S. Environmental Protection Agency	Indiana Department of Environmental Management Indiana Department of Health Indiana Department of Natural Resources - Community and Urban Forestry - Lake Michigan Coastal Program The cities of East Chicago, Gary, Hammond, Hobart, Michigan City, and Valparaiso Indiana Dunes Tourism Lake County Health Department LaPorte County Parks and Recreation LaPorte County Soil & Water Conservation District Porter County Soil & Water Conservation District Northwestern Indiana Regional Planning Commission Porter County Health Department Porter County Parks and Recreation Town of Chesterton Town of Highland Town of Lake Station Town of Munster Town of Merrillville
Non-profit, Private, and Other Partners	
Access Miller Alliance for the Great Lakes ArcelorMittal Audubon Society American Rivers Calumet Collaborative Causes for Change International Cardno Chicago Wilderness Coffee Creek Watershed Conservancy Davey Resource Group Delta Institute Dunes Learning Center Graf Tree Care Haas and Associates Engineering Hodge Tree Care Illinois-Indiana Sea Grant Indiana Geological Information Council Indiana University Northwest Izaak Walton League of America	Legacy Foundation Linde Miller Spotlight National Parks Conservation Association Northwest Indiana Forum Northwest Indiana Paddling Association Northwest Indiana Public Service Company Northwest Indiana Steelheaders Openlands Purdue University/ Purdue University Northwest Save the Dunes Shedd Aquarium Shirley Heinze Land Trust Student Conservation Association Gabis Arboretum The Field Museum The Nature Conservancy Unity Foundation Wilderness Inquiry Wildlife Habitat Council

Appendix B. Lake Michigan Lakewide Action and Management Plan and Area of Concern Full IDEM Report

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

2020 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 2020. The Indiana Department of Environmental Management (IDEM) and the Citizens Advisory for the Remediation of the Environment (CARE) convened nine Workgroup meetings, of which two were in-person and seven used a remote format. All meetings were open to the public to observe.

IDEM and other partners continued implementing the list of sediment management projects anticipated to result in removal of six BUIs impacting the AOC. The contractor for the US Army Corps of Engineers (USACE) conducted dredging within Reach 1 and the LTV portions of the Indiana Harbor, as well as Reach 13 of the Indiana Harbor Canal. In December, the first phase of the Lake George East Great Lakes Legacy Act dredging project was completed. All dredged sediment was disposed of in the Confined Disposal Facility (CDF) in East Chicago. As of this report, USACE is still generating final dredged material totals. It should be noted that USACE is planning to raise the dikes surrounding the Indiana Harbor CDF from 2021 through approximately 2023. While that is occurring, no additional dredging of the Indiana Harbor Ship Canal in or near the Congressionally authorized navigation channel is anticipated.

Project partners continued source control work on the abandoned ECI refinery site in East Chicago and design work as part of the Great Lakes Legacy Act project to cap portions of the Lake George Branch of the Indiana Harbor Ship Canal between the CSX railroad bridge and the BP Products, North America land bridge.

Partners intensified efforts to identify the additional nonfederal cost share required to design and implement Legacy Act projects. As part of that effort, IDEM and U.S. EPA began planning a kick-off meeting for an AOC sediment working group focused on identifying and developing cost share. The first meeting is scheduled to take place in January 2021.

Project partners also continued to implement the habitat management actions anticipated to lead to removal of two BUIs impacting the AOC during 2020. IDNR completed invasive species treatment and

limited seeding of native species at protected wetland habitat surrounding George Lake, the Lake George Branch of the IHSC, and Lake Mary. In addition, in spite of operational impacts due to COVID-19, invasive species treatment continued on approximately 900 acres of dune, swale, and wetland shelf within the AOC. The Great Lakes Restoration Initiative (GLRI) grant funding this work will end following the 2021 growing season and additional funding will be needed to continue the project through 2024. Three prescribed burns took place during the period – at Pine Station Nature Preserve, Seidner Dune and Swale Nature Preserve, and Roxana Marsh. Due to persistently high water levels throughout the AOC, IDEM and partners elected not to proceed with the previously-planned river corridor project and anticipate planning a separate habitat support project in 2021.

IDEM and its partners continued work during 2020 to address high bacteria levels at the AOC beaches. USACE contractors are currently in the warranty period for a restoration that is aimed at improving habitat and reducing nonpoint source pollution at Jeorse Park Beach in East Chicago. In the spring, staff from the USDA’s Animal and Plant Health Inspection Service worked with ArcelorMittal and its contractors to conduct a ring-billed gull depredation pilot project on the Indiana Harbor peninsula. Finally, IDEM continued working with municipal partners to implement additional best management practices designed to further reduce levels of *E. coli* at beaches in Hammond, Whiting, East Chicago, and Gary. In order to facilitate these efforts, IDEM and its contractor developed a two-part video discussing the [problem of](#), and [solutions to](#), elevated *E. coli* levels at AOC beaches. IDEM also developed no-handfeeding signage for deployment at the beaches in 2021 and a short [public service announcement format video](#) to encourage adoption of best management practices at AOC and other beaches.

USGS, utilizing Urban Waters funding, installed instrumentation in the summer of 2020 to measure seven parameters indicative of eutrophication at 15-minute intervals in near real-time at two streamflow gauges within the AOC. The instrumentation, located at the Indiana Harbor Canal near Canal Street and the West Branch of the Grand Calumet River at Columbia Avenue, will be operated during the summers of 2020 through 2022 and the resulting data will be used to help ascertain the eutrophic status of the AOC waterbodies.

IDEM, working with its partners, continued work to revise several BUI removal targets during 2020. These included the “Restrictions on Dredging Activities” and the “Loss of Fish and Wildlife Habitat” BUIs. The new targets are expected to be revised early in 2021. Work to revise the “Eutrophication and Undesirable Algae” and “Degradation of Phytoplankton and Zooplankton Populations” removal targets also occurred in 2020 and is expected to be completed in 2021.

2021 Workplan:

IDEM and IDNR, working with federal, state, and local officials, 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 2021. Specific goals include:

- Identify additional nonfederal cost share necessary to design and implement proposed Great Lakes Legacy Act contaminated sediment remediation projects
- Continue the design and implementation of projects to remove and/or contain contaminated sediments within AOC waterways
- Continue habitat restoration on AOC managed lands
- Begin the dike raise of the Indiana Harbor CDF
- Complete revision of the Restrictions on Dredging Activities, Degradation of Plankton Populations, Degradation of Aesthetics, Beach Closings, and Eutrophication and Undesirable Algae BUIs
- Identify management actions required to remove the Degradation of Plankton Populations, Degradation of Aesthetics, Beach Closings, and Eutrophication and Undesirable Algae BUIs
- Continue the ring-billed gull depredation project at Indiana Harbor
- Continue and expand enhanced monitoring efforts for markers of eutrophication within the AOC.
- Design a project to address hydrologic and contamination impacts at the Pine Station Nature Preserve
- Continue to encourage the adoption of *E. coli*-reduction best management practices at AOC beaches through public outreach and education efforts.

Lake Michigan Lakewide Action and Management Plan (LAMP)

2020 Accomplishments:

IDEM, IDNR, and other members of the Lake Michigan Partnership, housed under Annex 2 of the Great Lakes Water Quality Agreement, continued efforts to complete the 2020-2024 Lake Michigan LAMP during the period. The goal is to release the draft for public comment in the first half of 2021. As part of the LAMP development process, the Partnership adopted a new logo for the LAMP, which is anticipated to bring greater clarity to the purpose of the program. IDEM was instrumental in designing the revised logo.



Under the new LAMP framework, IDEM and IDNR began reporting out on LAMP-related success stories in 2020. The initial stories provided by IDNR were selected for presentation at the December 9, 2020 meeting of the Great Lakes Executive Committee (GLEC). IDNR's Assistant Director of Nature Preserves, Tom Swinford, gave a presentation highlighting hydrologic research within Indiana's Clark and Pine Complex and savanna restoration at the Dunes Nature Preserve at the Indiana Dunes State Park that served to showcase the great partnerships on LAMP-related topics across the Great Lakes basin.

2020 was scheduled to be the Lake Michigan field year under the five-year Cooperative Science and Monitoring Initiative (CSMI) as well as for the five-year National Coastal Condition Assessment (NCCA). 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.

The NCCA is a statistical survey of the condition of the nation's marine and Great Lakes coasts. Several enhancements were planned for the Lake Michigan portion of the NCCA in 2020, allowing researchers, managers, and the public to better understand the condition of Green Bay, the National Park Service coastlines (Indiana Dunes and Sleeping Bear Dunes), and the island coastal areas relative to the nearshore as a whole and providing underwater video, fish tissue, and algal assessments. Unfortunately, due to COVID-19 impacts, several portions of both the CSMI and NCCA field work were postponed until 2021.

IDEM and IDNR also experienced several COVID-19 related impacts during 2020, including a cancelation of the planned W.G. Jackson educational boat tour and the annual Clean Marina Roundtable. However, IDEM was able to initiate a [series of webinars](#) on watershed protection and restoration efforts within the basin and across Indiana during the period, with six webinars completed in 2020. The webinars were open to the general public and timed to coincide with the development of the new Lake Michigan LAMP.

Staff from IDNR's Lake Michigan Coastal Program and IDEM's Office of Water Quality completed the Onsite Disposal System (OSDS) management measure submission. The OSDS measure is the last of 56 measures required by the National Ocean and Atmospheric Administration (NOAA) and the U.S. EPA as part of the Coastal Nonpoint Pollution Control Program established under Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990. Adoption of this measure will address nutrient and *E. coli* inputs into the Lake Michigan basin.

IDEM initiated a new partnership with the Indiana Bureau of Motor Vehicles (BMV) to promote the Indiana Clean Boater Program to all boaters statewide. This is occurring via the [BMV website](#) and information included with the registration renewal reminders sent to recreational boaters. By the end of the year, over 100 boaters statewide had taken the Clean Boater Pledge to protect Indiana's waterways. IDEM and IDNR continued their partnership, working to develop LAMP-related signage to be deployed at the Indiana Dunes State Park and Nature Center. The initial design for a sign on preventing habitat-destroying social trails was completed and is expected to be deployed in early 2021, with several others following thereafter.

Despite the impacts from COVID-19, IDEM, working with local beach managers, was also able to continue implementation of the Lake Michigan Beach Monitoring and Notification Program at 23 program beaches in 2020. During the year, IDEM developed [social media kits](#) aimed at providing information to protect Indiana's beaches and waterways. The kits are free and available for anyone to use on their websites. IDEM began work during the period to upgrade the 12-year-old BeachGuard system. Development and implementation of the new system is expected to occur during the first half of 2021.

2021 Workplan:

The Lake Michigan Partnership expects to complete the 2020-2024 Lake Michigan LAMP and begin implementing the listed actions in 2021. Other LAMP-related actions anticipated for 2021 include:

- Hosting at least four additional webinars in the Lake Michigan Webinar Series
- Completing additional outreach items, such as signage, to educate boaters and anglers on best management practices to reduce chemical pollution and invasive species impacts
- Complete and implement the new Beach Monitoring and Notification System
- Expand the number of pledged Clean Boaters in the Lake Michigan basin
- Host the W.G. Jackson educational boat tour (subject to the lifting of COVID-19 restrictions)
- Procure and deploy two Seabin in-water trash collection devices within the Lake Michigan basin