

URBANWATERS

FEDERAL PARTNERSHIP



Grand River/Grand Rapids Urban Waters Federal Partnership 2024 - 2025 Work Plan



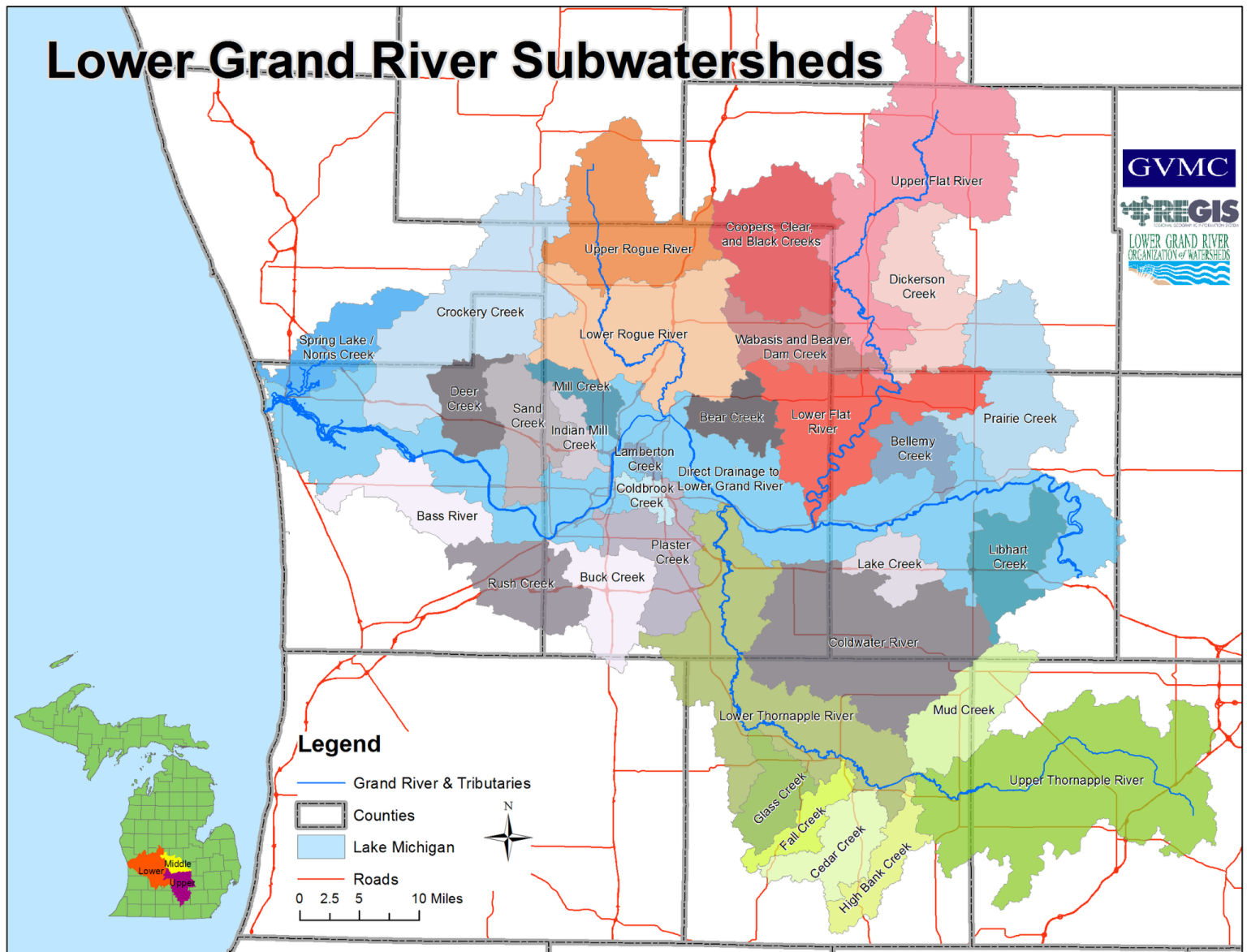
Above: Pictures shared by GR/GR UWFP Partners

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Workplan Geographic Boundary

The projects included in this workplan are located within the Lower Grand River Watershed, as shown below. The boundary can expand to include the areas along the Lake Michigan coast, or into neighboring Counties. The watershed delineation is just a place from which to start.



Above: Map of Lower Grand River Watershed and its 32 subwatersheds.

Overview

The Urban Waters Federal Partnership (UWFP) is an effort seeking to “revitalize urban waters and the communities that surround them, transforming overlooked assets into treasured centerpieces and drivers of urban revival.” This collaboration will:

- Align federal government programs and investments in these communities.
- Expand partnerships.
- Build local capacity.
- Find innovative ways to communicate the environmental and economic potential of safe and clean urban water.

This Work Plan has been developed by partners working for the Grand River/Grand Rapids as part of the UWFP. The Work Plan is intended to define goals, detail key partners, summarize priority projects supplemental to the Grand River Revitalization Project and specify milestones. The Grand River/Grand Rapids Urban Waters Federal Partnership will work to protect, restore, and revitalize urban water sources, while pursuing environmental justice in the Lower Grand River Watershed. The partnership will use the mission, vision, and principles of the Urban Waters Federal Partnership to guide our work through:

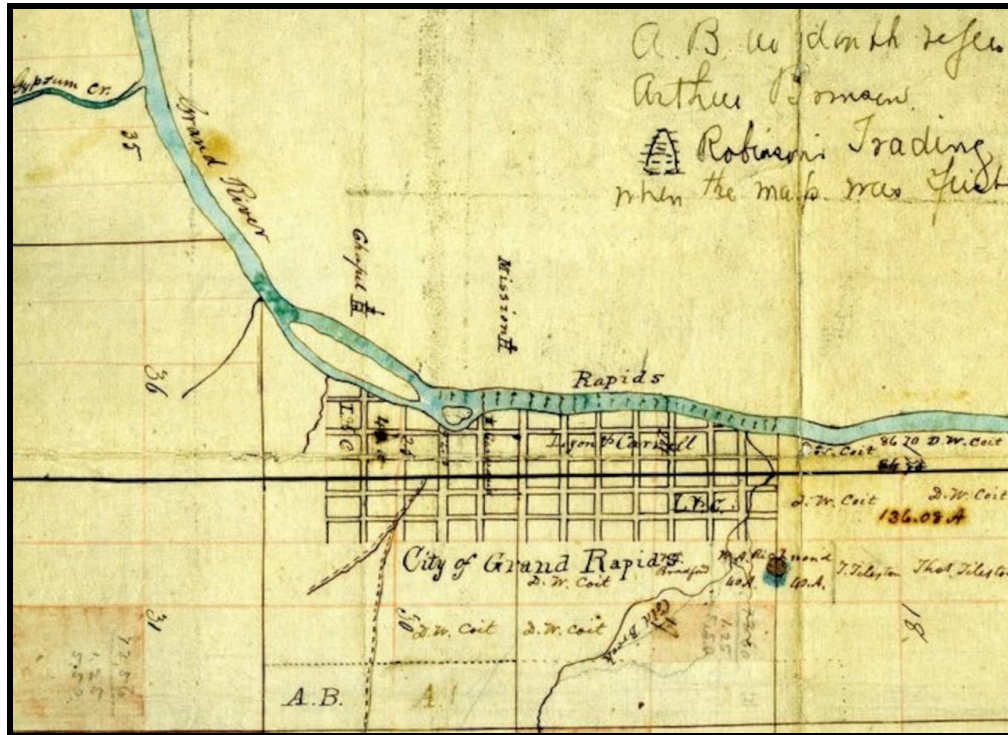
- Promote clean waterways.
- Reconnect citizens to their waterways.
- Conserve water.
- Promote access to clean and healthy water for everyone.
- Promote economic revitalization and prosperity through existing networks of urban water resources.
- Encourage community involvement and stewardship through active partnerships.
- Engage and hear the needs of the communities.
- Measure results and evaluate factors to future success.

Points of Contact

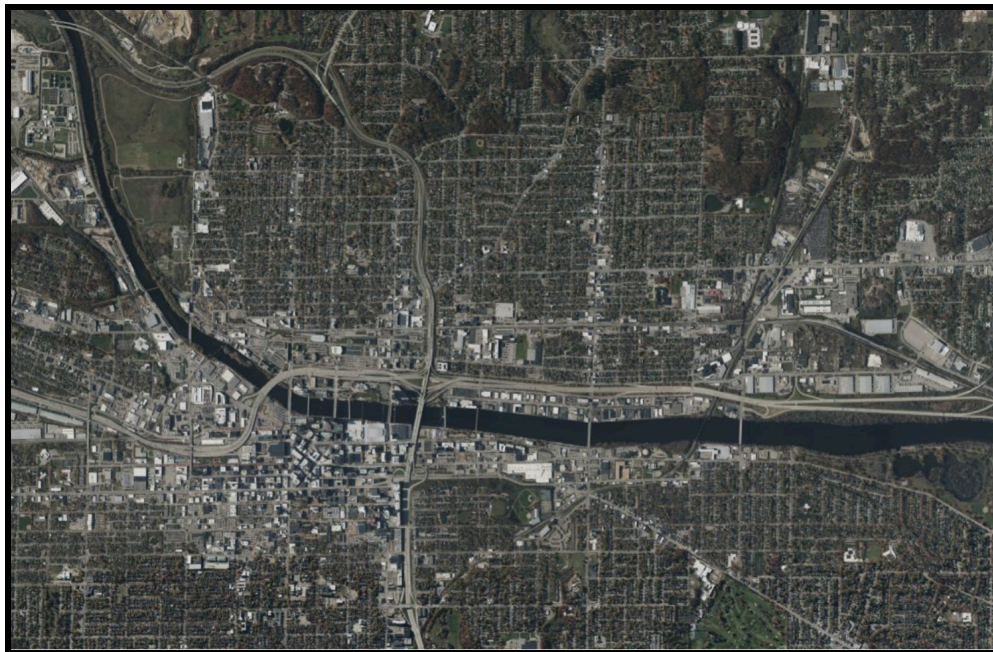
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Above: Grand Rapids History & Special Collections, Archives, Grand Rapids Public Library, Grand Rapids, MI Circa 1830



Above: Screenshot Aerial Image of the of the Grand River as it Flows through Downtown Grand Rapids, MI7

Background

The Grand River is the longest river in Michigan, spanning 252 miles, and was named O-wash-ta-nong, meaning Far-Away-Water, by the Indigenous Anishinabek people who lived here prior to settlement. The Lower Grand River Watershed (LGRW) covers nearly 3,000 square miles of land from just west of Lansing to Lake Michigan, as far north as Montcalm and Newaygo Counties, and as far south as Barry and Eaton Counties. Besides the Grand, other rivers that drain their own smaller watersheds within the LGRW include the Thornapple, the Flat and the Rogue River, as well as scores of other smaller tributaries, creeks, and drains. The Grand River runs through the heart of Michigan's second-largest city, Grand Rapids, and restoring the rapids in this urban reach (Grand River Revitalization Project) was the primary focus of the Partnership during its inception. With 10 years of hard work the Partnership has grown in both scale and scope and now includes more partners, and more projects focused on the upstream and downstream communities in the entire LGRW. Investments in pollution control have improved water quality to the point where expanded public use and river-oriented economic development will be enhanced and encouraged.



Partners

Federal Agency Co-Leads in the Partnership:

U.S. Fish and Wildlife Service (USFWS)
U.S. Department of Agriculture (USDA)
Natural Resources Conservation Service (NRCS)

Additional Federal Agencies Playing Key Roles in the Partnership:

U.S. Army Corps of Engineers (USACE)
U.S. Environmental Protection Agency (EPA)
U.S. Forest Service (USFS)
U.S. Geological Survey (USGS)

Great Lakes Agencies/Organizations:

Great Lakes Fisheries Commission (GLFC)

State Agency Partners:

Michigan Department of Environment, Great Lakes, and Energy (EGLE)
Michigan Department of Health and Human Services (MDHHS)
Michigan Department of Natural Resources (MDNR)

Private Sector:

Fishbeck, Inc.
River Restoration.org
The Wege Foundation

Academia:

Aquinas College
Calvin University
Grand Rapids Community College
Grand Valley State University/Groundswell

Local Government Partners:

City of Grand Rapids
Grand Valley Metropolitan Council (GVMC)
Lower Grand River Organization of Watersheds (LGROW)
Downtown Grand Rapids, Inc. (DGRI)
Ionia, Kent, and Ottawa Counties
Barry Conservation District (BCD)
Kent Conservation District (KCD)
Ottawa Conservation District (OCD)
Ottawa County Water Resources Commissioner
City of Wyoming

Nongovernmental & Community Organizations:

American Rivers
Coldbrook Creek Community
Friends of Buck Creek
Friends of Grand Rapids Parks (FGRP)
Friends of Rush Creek
Grand River Network (GRN)
Grand Rapids Public Museum
Grand Rapids Whitewater (GRWW)
John Ball Zoo (JBZ)
Plaster Creek Stewards (PCS)
River Network
Rogue River Watershed Partners
Thornapple River Watershed Council
Trout Unlimited (TU)
West Michigan Environmental Action Council (WMEAC)
West Michigan Sustainable Business Forum (WMSBF)

Work Plan Goals

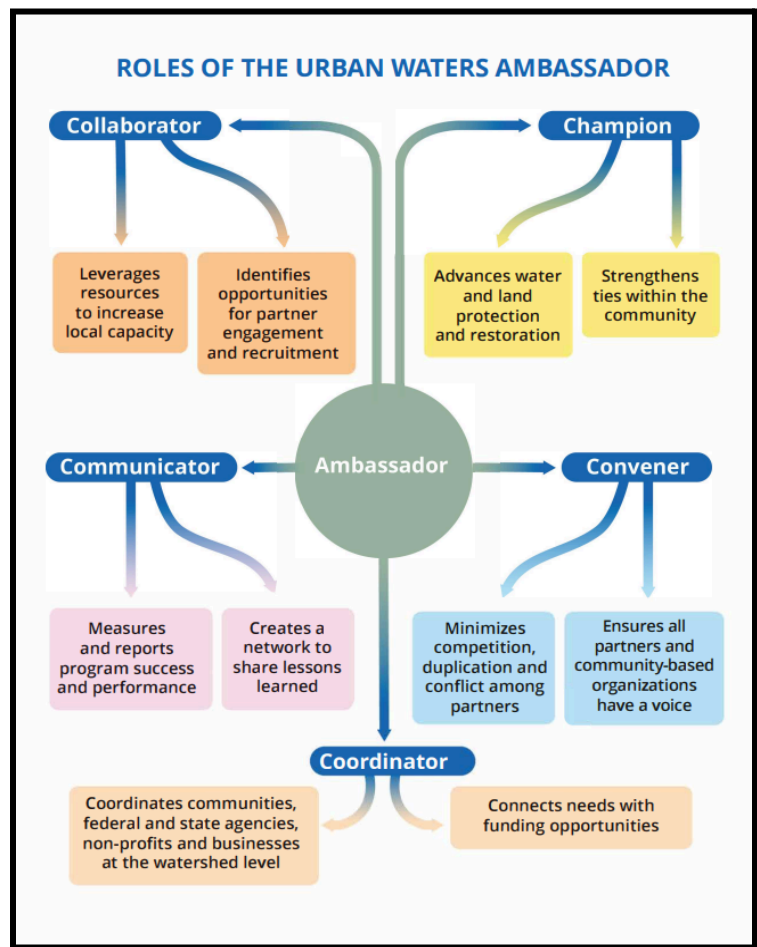
This Work Plan's goal is to advance partner efforts towards the following:

- Continue open and timely communications regarding project updates, funding opportunities, upcoming meetings and events, and other useful resources.
- Coordination among partners to reduce duplicative efforts and increase collaboration.
- Increasing community partners' organizational capacities by identifying potential funding sources, assisting with project design and/or implementation, and assessing how federal partners can provide support and technical assistance.
- Promoting efforts to engage the community in stewardship of local waterways, waterfronts, parks, and public green spaces.

Communication & Networking

To advance partner efforts towards these goals, the Ambassador will provide support for achieving the goals of the Partnership by:

- Continually update the UWFP Work Plan for the GR/GR partnership.
- Arrange and co-facilitate quarterly Project Network meetings.
- Communicate local watershed and river-related activities to core federal partners through monthly newsletters and Urban Waters monthly meetings.
- Help develop and electronically disseminate a monthly partnership newsletter.
- Coordinate with U.S. EPA Region 5 Urban Waters Regional Coordinator to develop and maintain materials for U.S. EPA Headquarters to post to the national Urban Waters website.
- Participate in national, monthly Urban Waters conference calls to keep informed about the program and provide updates about the GR/GR partnership.



Current Initiatives

The projects listed below have been identified by the Grand Rapids/Grand River UWFP partners as our shared priorities from 2024 through 2025. Whether specific efforts or broad areas of focus, they all have significant partner involvement and address significant concerns in the watersheds where the UWFP can contribute. There are six initiatives, with a varying number of projects and activities for each initiative.

Each initiative description includes the following:

- Overview – A general overview or summary of the initiative or project.
- Overall Goal – General statement on what partners hope to achieve through the initiative.
- Urban Waters Support – The specific actions for the Ambassador in 2024-2025.
- Partner Activities – Identified activities that the Partnership has committed to accomplishing.
- Expected Outputs and Outcomes – Anticipated qualitative and quantitative project accomplishments.
- Partners - List of Federal, State, and Local partners involved in the project.
- Funding Needs (NEW) - Identified areas in which funding currently does not exist for these projects.

Initiative 1: Improve Water Quality and Habitats through Implementation of Best Management Practices

Overview: Partners are collaborating on several projects that all have a common goal of improving water quality and habitats using best management practices and innovative solutions.

Overall Goal: The Lower Grand River and its tributaries will have improved habitats and meet water quality standards.

Urban Waters Support:

- The Ambassador will connect local partners with the Green Infrastructure Federal Collaborative to identify potential funding sources for implementation and technical assistance.
- The Ambassador will leverage the relationship between the US Department of Agriculture (USDA) and the UWFP to connect local partners with federal assistance and funding for invasive removal.

1.1: Reduce Runoff in the Lower Grand River Watershed

Nonpoint source (NPS) pollution, unlike pollution from industrial and sewage treatment plants, comes from many different sources. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and groundwater.

Partner Activities: Implementing current nonpoint source pollution reduction projects:

1. **Grand River Rainscaping Partnership:** Conducts site assessments and installs green infrastructure practices in residential neighborhoods and business areas to help reduce urban runoff.
2. **Promoting Public/Private Green Stormwater Infrastructure (GSI):** Engages residents and businesses in the Lower Grand River Watershed in adopting GSI to manage stormwater.
3. **Incentivizing Private Sector GSI:** Provides financial rewards for implementing GSI.
4. **Plaster Creek Watershed Restoration Projects:** Promotes and implements GSI with permeable paving, parking lot retrofit bioswales, and neighborhood rain gardens. Received National Fish Wildlife Federation (NFWF) Sustain Our Great Lakes funding to plant 500 trees, and continue GSI practices in EJ neighborhoods.
5. **City of Grand Rapids Vital Streets:** Includes installation of GSI incorporated into street reconstruction projects.
6. **LGROW Tree Planting:** Received Great Lakes Restoration Initiative (GLRI) funding to plant 450 trees over a 2-year grant period. Received Michigan Department of Natural Resources funding to conduct an Urban Tree Canopy Assessment of the City of Wyoming.

Expected Outputs and Outcomes:

- Implementation of GSI in residential neighborhoods and targeted underserved communities.
- Decrease in stormwater runoff, associated pollution, and flooding in Grand Rapids communities.
- Increase in native plants and trees.
- Residents, businesses, and farmers have greater understanding of non-point source pollution.
- Advocate for policy guidelines for tree canopy in subwatersheds.

Partners:

- Federal Partners: EPA, USDA-NRCS, USFS
- State Partners: EGLE
- Other Stakeholders: American Rivers, GRWW, GVMC/LGROW, City of Grand Rapids, PCS, WMEAC, Subwatershed groups, WMSBF

Funding Needs: To be determined.

1.2: Instream Restoration

Instream restoration projects aim to reestablish the natural hydrology of a watershed, by removing barriers, reconnecting floodplains, restoring historical meanders, and removing artificial drain tiles to the greatest extent possible.

Partner Activities: Implement Current Instream Restoration Activities

1. **Complete the [Grand River Revitalization-Lower Reach](#):** This project proposes to bring natural, cultural, and commercial excitement back to the Grand River from just upstream of Bridge Street Bridge to Fulton Street Bridge. The entire Grand River Revitalization project consists of the Upper and Lower Reaches and represents a 2.5-mile stretch of the river flowing through the heart of Downtown Grand Rapids that has been scoured, walled in, and dammed, leading to degraded habitat and water quality. Four low-head dams in the Lower Reach project area will be removed and replaced with two channel wide grade control structures constructed of rock, boulder, and alluvium that replicate natural channel design principles desired by Michigan Department of Environment, Great Lakes, and Energy (EGLE) and the Michigan Department of Natural Resources (MDNR). The design will incorporate over 125 scattered habitat boulders to improve aquatic habitat and flow diversity.
2. **Initiate Environmental Impact Statement (EIS):** Public scoping and development of project alternatives for the Upper Reach project, that includes potentially removing the Sixth Street Dam and construction of a purpose-built sea lamprey barrier, in partnership with the Great Lakes Fishery Commission, USFWS, GRWW, and the City of Grand Rapids.

3. **Plaster Creek - Covenant Park Floodplain Restoration:** Funding received through NOAA Initiative for Resilient Great Lakes Coasts for engineering plans at a former golf course turned multi-use park. This one-year grant will produce 60% engineered plans ready for construction in 2026-needs funding.

Expected Outputs and Outcomes:

- Public involvement in public comment periods.
- Increased awareness of project goals through articles and social media posts.
- Restored connectivity of rivers and streams.
- Improved fish passage and fish populations.
- Reduced sedimentation.
- Protection and improved habitat for aquatic species (mussels).
- Wetlands and hydrology restored in agricultural fields.
- Removal of four low-head dams in the Grand River, construction of two boulder drop structures, construction of two constructed riffle structures, installation of over 125 scattered habitat boulders, and enhancement of three public river access locations.

Partners:

- Federal Partners: EPA, USDA-NRCS, USFS, USFWS, NOAA
- State Partners: EGLE, MDNR
- Other Stakeholders: GRWW, GVMC/LGROW, City of Grand Rapids, PCS, WMEAC

Funding Needs: To be determined.

1.3: Invasive Species Management

Invasive species force native plants and animals out of their natural areas, changing the ecological function of the habitat. They also can cause damage to the economy and human health.

Partner Activities: Implement invasive species control projects

1. Invasive Species Management: Through the [West Michigan Conservation Network](#) invasive control focuses on early detection and response to invaders that can impact the economy and natural resources in urban areas. Another goal for this project is to improve securing funding for restoration efforts after treatment.

Expected Outputs and Outcomes:

- Increase in early detection rates for invasive species populations and for management after “treatment” of these populations.
- Decrease in invasive species populations.

Partners:

- Federal Partners: EPA, USFS
- State Partners: NRCS, MISIN
- Other Stakeholders: KCD, OCD, WMCN, City of GR, PCS, Blandford Nature Center, Land Conservancy of West Michigan, FGRP

Funding Needs: Funding needed for restoration efforts after invasive management treatment.

Initiative 2: Provide Education and Outreach on Activation and Stewardship of the Lower Grand River Watershed

Overview: Connecting students to the watershed where they live, play, and learn will help them create a healthy relationship to our natural resources in which they can advocate for in the future. By virtue of these programs, community partners also showcase career opportunities in STEM such as natural resources management, conservation, freshwater biology, environmental education, and more. Efforts to expand our audience for environmental educational opportunities to communities within the Lower Grand River Watershed (LGRW) and increase stakeholder participation are being conducted by several partners.

Citizen science opportunities include but are not limited to: volunteer stream monitoring activities, clean ups, installation and maintenance of green stormwater infrastructure projects, and participation in planning and management of the LGRW. Providing high-quality educational experiences and resources about the LGRW fosters a sense of stewardship, work to encourage behavior change, and creates a network of informed individuals within our communities. This network is invaluable to achieving the other initiatives and goals outlined in the work plan.

Overall Goal: Increased awareness and ownership of the natural resources within the Lower Grand River Watershed for both K-12 students and community members. Encourage behavior change that limits the creation of environmental issues.

Urban Waters Support:

- Ambassador will connect local partners with federal partners who provide technical expertise to support NGO educational efforts.
- Ambassador will work with local partners to fill gaps in public outreach related to stewardship of the LGRW.

2.1: K-12 Environmental Educational Programs

Partners work with K-12 educators, local school districts, and municipalities to engage students and teachers in outdoor learning and connecting place-based activities to their curriculum.

Partnership Activities: Implement current environmental education projects.

1. **Teach for the Watershed:** Is a K-8 place-based, biology program that provides students with quality, outdoor experiences to help them explore West Michigan's watersheds. Students have the opportunity to use hands-on equipment and tools to determine the quality of a local stream within their local subwatershed, identify causes of nonpoint source pollution, and how to estimate water quality by sampling macroinvertebrates and conducting chemical tests.
2. **Tree Planting Work/Wetland Mitigation:** Raises awareness in local communities for urban forestry, developing a youth neighborhood forester class to focus on tree plantings.
3. **Plaster Creek Stewards Green Team:** Offers urban youth paid summer watershed ecology training and GSI skills building with hands-on projects that combine education and restoration.
4. **Friends of Grand Rapids Green Team:** Offers urban youth paid summer forestry training while caring for newly planted trees while building job skills with hands-on learning opportunities.
5. **Grand Rapids Whitewater Summer Science Program:** 10-day Grand River focused outdoor educational experience for incoming high school juniors. The goal of the program is for students to conduct hands-on science investigations around sturgeon, aquatic species, and endangered species, learn about and practice principles of design thinking, work with scientists, business owners and civic leaders invested in our communities, and present research to community leaders working to build a sustainable future. This program is a partnership between GRWW, LGROW, and the GRPM.
6. **Groundswell Stewardship Initiative:** Housed at Grand Valley State University. Groundswell is a coalition of community partners and educators that creates opportunities for pK-12 students in Kent and Ottawa counties rooted in hands-on environmental exploration through place-based education. Groundswell supports schools through funding for student stewardship projects, providing professional learning opportunities for educators to increase understanding of place-based education, and serves as a liaison connecting schools to local experts in the field of environmental stewardship. Through this support Groundswell reaches over 3,000 pK-12 students annually, fostering educational stewardship on a local level.

Expected Outputs and Outcomes:

- Water quality results posted online in the Lower Grand River Watershed using the [Data Repository](#).

- Educate teachers and students how to collect and analyze water quality parameters independently and share results online.
- Educate K-12 students about the importance of STREAM through water quality monitoring, insect sampling and fly-tying.
- Raise awareness in youth about the importance of tree plantings, State designated Water Trail.
- Support local school districts in implementation of place-based stewardship education projects, which includes teachers, students, and community partners implementing local solutions supported by best practice. At least 30 school projects and 3,000 K-12 students per year.

Partners:

- Federal Partners: EPA, NOAA, USFS
- State Partners: EGLE,
- Other Stakeholders: WMEAC, GVMC/LGROW, Schools, GVSU, Groundswell, Wege Foundation, GRPS, FGRP, GRPM, GRWW, Baldwin Foundation, Great Lakes Fishery Trust, Great Lakes Stewardship Initiative

Funding Needs:

- Project funding for schools to support place based stewardship education.

2.2: General Environmental Education & Outreach

Programs and opportunities for the public to gain awareness about the watershed conditions and issues, while also empowering our communities to incorporate best management practices into their lifestyles to improve water quality.

Partner Activities: Implement current environmental education projects.

1. **Municipal Separate Storm Sewer System (MS4) Public Education Plan:** Outlines the objectives that need to be met through the NPDES Stormwater permit for 23 jurisdictions in the LGRW.
2. **Lower Grand River Watershed Management Plan (LGRWMP) Information & Education Strategy:** Identifies target audiences, messages, and delivery mechanisms that lead to actions to improve the watershed.
3. **Grand River Rainscaping Program:** Educates residents and business owners on the benefits of green infrastructure.
4. **[Lower Grand River Water Trail](#):** Will increase awareness of the Grand River as a recreational destination and raise awareness about efforts to encourage recreation and protect its water quality.

5. **Rain Barrel Workshops:** Provides education and resources for community members to construct and install residential rain barrels.
6. **Plaster Creek Stewards Project GreenER (Ecological Restoration):** 8-week education program that equips adult learners with knowledge & skills to protect and restore their watershed and a project stipend to put their learning into practice.
7. Community Science:
 - a. **Angler Counts** - Daily recording (May-October) of angler location and methods of fishing in the downtown area.

Expected Outputs and Outcomes:

- Training held for stormwater education (i.e., rain gardens, rain barrel workshops).
- Resources created and shared for public access.
- Increase knowledge of what a watershed is and how it functions.
- Increase knowledge of behaviors that will limit nonpoint source pollution generation.
- Increase public awareness of stormwater practices within local communities.
- Increase knowledge of green infrastructure and the value of installation.
- Create and/or update educational tools to support the above points.
- 8 neighborhood forester classes were conducted.
- Facilitate partner communication and support for the above efforts among active UWFP partners and stakeholders; promote these efforts and provide continued community outreach on their progress - Groundswell.
- Water Trail Development Plan.

Partners:

- Federal Partners: EPA
- State Partners: EGLE
- Other Stakeholders: American Rivers, MS4 Communities, GVMC, LGROW, WMEAC, PCS, TU, KCD, Groundswell, GVSU, FGRP, GRPM

Funding Needs: To be determined.

Initiative 3: Monitoring the Health of the Watershed

Overview: Monitoring water quality, habitats, and other indicators help us understand trends in the watershed.

Overall Goal: Assess health of watershed through targeted monitoring of water quality and biological surveys. Compile and analyze data and disseminate results. Measure effectiveness of practices in meeting performance expectations.

Urban Waters Support:

- Ambassador will work with local partners to strengthen public awareness on the public monitoring volunteer opportunities.
- Ambassador will showcase local projects and activities that need funding from federal partners.
- Ambassadors will identify opportunities to aid local partners, such as field work, data analysis. Connect federal partners to these needs and provide direct assistance as appropriate.

3.1: Water Quality

Partner Activities: Implement current and new water quality monitoring projects.

1. **TU Mayfly Sensors:** Collects data on pH, conductivity, temperature and dissolved oxygen (DO) at several coldwater streams in the watershed.
2. **Emma Cole Research Project:** Native plant inventories throughout Kent County to inform climate impacts and restoration efforts.
3. **GVSU Grand River Sampling:** Chemical and biological data collected from local university students for the entire Grand River.
4. **City of Grand Rapids River Run Sampling:** Quarterly sampling of the Grand River from Plainfield Township to Johnson park.
5. **EGLE 5-year Basin Rotation:** Conducts macro surveys and habitat assessments on selected waterways in the Lower Grand River Watershed.
6. **USGS Monitoring Station at North Park:** Water level, turbidity, temperature, dissolved oxygen, and conductivity monitored every 5 minutes at the river's upstream limit of the City of Grand Rapids.
7. **USGS Monitoring Gauge at Sixth Street Bridge**
8. **GRPM Hester Dendys:** Collects macroinvertebrates at 3 locations in the downtown Grand Rapids area.
9. **MiCORPS Monitoring:** Partners across the LGRW are conducting benthic macroinvertebrate monitoring with experts and volunteers.
10. **Plaster Creek Chloride Monitoring:** Plaster Creek Stewards conducting 1-year study of conductivity levels of major tributaries of Plaster Creek.
11. **Groundswell Stewardship Initiative Student Projects:** Participating Groundswell educators in Kent and Ottawa counties conduct water quality data collection and education for their pK12 students. Citizen science collected is shared with Grand Valley State University, Rogue River Watershed Partners, LGROW, and other stakeholders in the LGRW.

Expected Outputs and Outcomes:

- Additional data about the river.
- Understanding benefits of river improvements.

- Engaging more partners in assessing water quality.
- Ability to predict change in water quality conditions for recreation.
- Updated Watershed Management Plan for Plaster Creek including an Appendix addressing Chloride (first in Michigan).

Partners:

- Federal Partners: USGS
- State Partners: EGLE
- Other Stakeholders: TU, GVSU, GRPM, GRWW, City of Grand Rapids, GVMC, LGROW, PCS

Funding Needs: To be determined.

3.2: Best Management Practices Effectiveness

Partner Activities: Implement current Best Management Practices (BMP) effectiveness evaluation projects.

1. Regional Conservation Partnership Program Monitoring
 - EQIP Practices: Assess impacts of agricultural BMP implementation on local water quality.
 - River Restoration: Assess before and after conduction of river improvements.
 - Flow monitoring at Highlands: CA Frost monitoring effects of daylighting.
 - Flow meters at Mary Waters for underground detention.
2. Plaster Creek Stewards Research
 - Level loggers to measure water depth.
 - Soil testing for toxicity curb-cut rain gardens to measure effectiveness.

Expected Outputs and Outcomes:

- Improved water quality as a result of BMP implementation.

Partners:

- Federal Partners: NRCS,
- State Partners: EGLE,
- Other Stakeholders: LGROW, GVMC, ESC, TU, KCD, LCWM, Blandford, City of Grand Rapids, KCDC, GRPM, volunteers, PCS

Funding Needs: To be determined.

3.3: Biodiversity/Biological Surveying Projects

Partner Activities: Implement current biodiversity and biological assessment projects.

1. **Frog and Toad, Turtle Surveys.**
2. **Adult Sturgeon Downstream, Juvenile in Restoration Project Areas:** Project partners in West Michigan conduct juvenile lake sturgeon studies.
3. **Surveying River Redhorse.**
4. **Mussel Relocation:** Relocating Federally Endangered Snuffbox mussels (*Epioblasma Triquetra*), as well as State threatened and endangered mussels from a project area larger than 45,000 square meters in downtown stretch of the Grand River.
5. **Groundswell Stewardship Initiative Student Projects:** Participating Groundswell educators in Kent and Ottawa counties conduct environmental stewardship projects through native plant gardens, riparian zones, bioswales, tree plantings, and other biodiversity-based plantings with their pK12 students. These plantings are installed on school campuses, in local parks, and on other public properties.

Expected Outputs and Outcomes:

- Assess biological health and populations in rivers to assess project impacts.
- Relocated 9,000+ federally endangered, state threatened and endangered species of concern and common species mussels in late 2024.

Partners:

- Federal Partners: USFWS, NRCS
- State Partners: MDNR
- Other Stakeholders: GRWW, City of GR, Consultants, JBJoo, GVSU, Sea Grant, Match-E-Be-Nash-She-Wish Band of Potawatomi Indians, PCS, Grand Rapids Public Museum

Funding Needs: To be determined.

Initiative 4: Adaptation and Resilience Planning Related to Climate Change

Overview: Changes in temperature and precipitation are operating outside of the bounds of typical historical variation. So are the many things they influence, from stream flows to animal migration to human agriculture and more. This has many implications for habitats, human communities, natural systems, built infrastructure, planning and development, and emergency preparedness. Such

uncertainty requires readiness and flexibility in adapting and responding to the challenges and changes of the future. This capacity to adapt is known as resilience.

Overall Goal: To catalyze and build resilience within the LGRW to respond to the challenges and demands of a changing climate.

Urban Waters Support:

- The Ambassador will work to strengthen relationships with subwatershed communities within the LGRW.

4.1: Resilience Planning

Creating action plans and guidance for creating a more resilient watershed in response to a changing climate.

Partner Activities:

1. Lower Grand River Watershed Resilience Plan: Action plans for each of the 32 subwatersheds within the Lower Grand River Watershed are being developed.
2. Climate and Pollution Reduction Grant: GVMC has developed a Priority Climate Action Plan (PCAP), and will develop a Comprehensive Climate Action Plan (CCAP). These plans include a greenhouse gas emissions inventory for the four-county region of West Michigan, including Ionia, Kent, Montcalm and Ottawa Counties. It identifies how the region can meet the goals of the MI Healthy Climate Plan (EGLE).
3. Credit Trading and Funding Resiliency Dashboard.

Expected Outputs and Outcomes:

- Subwatershed Action Plans to identify steps that watershed groups can take to increase resilience.
- Projects led by watershed groups to reduce flooding, minimize impact of severe storms, and reduce heat island effect.
- Projects led by government agencies to create resilience infrastructure to minimize the impacts of climate change (flooding, severe storms, urban heat island effect).

Partners:

- Federal Partners: EPA, FEMA
- State Partners: EGLE, MDHHS
- Other Stakeholders: American Rivers, City of Grand Rapids, River Network, Community Collaboration on Climate Change (C4), Kent, Ottawa, Ionia, Montcalm Counties, WMSBF

Funding Needs: To be determined.

Initiative 5: Environmental Justice

Overview: Ensuring equitable results in environmental improvements and protections.

Overall Goal: All people are treated equitably in discussions and decisions about environmental programs and projects.

Urban Waters Support:

- The Ambassador will strengthen relationships with frontline communities throughout the Lower Grand River Watershed in an effort to connect them with appropriate urban waters funding and resources.
- The Ambassador will support local partner efforts for an inclusive communications strategy to identify community champions.

5.1: Diversity, Equity, and Inclusion Efforts

Incorporating DEI principles in everything we do.

Partner Activities:

1. **Grand River Network: Grand River Equity Framework:** A community-sourced, guiding document that establishes a common understanding of river equity and uplifts thematic goals and strategies that create opportunity and equitable outcomes via revitalization efforts. 2024-2025 activities include:
 - a. Establishing an independent stakeholder body to regularly review the Equity Framework implementation progress
 - b. Publicly report the findings and make recommendations for continuous improvement.
2. Grand Rapids Stormwater Oversight Commission: New funding goal by Commission to allocate 40% of capital project funds annually to underserved communities (city's Neighborhoods of Focus).
3. Equity Framework for Greenstormwater Infrastructure: American Rivers

Expected Outputs and Outcomes:

- Partnerships with underserved communities to clean adjacent rivers and tributaries.
- Partners with federal funding will adhere to the Justice40 Initiative, where 40% of the overall benefits of certain Federal investments flow to disadvantaged communities that are marginalized, underserved, and overburdened by pollution.
- Groundswell Stewardship Initiative: pK12 education efforts are conducted primarily in schools and districts with high populations of students who have been as "At Risk" according to Section 31a of the Michigan State School Aid Act.

Partners:

- Federal Partners: USFS
- State Partners: To be determined

- Other Stakeholders: City of Grand Rapids, City of Kentwood, City of Wyoming, Grand Haven Area Community Foundation, Grand River Network, Urban Core Collective, GRWW

Funding Needs:

- Funding to support Kentwood Public Schools in installing vegetative barriers, trees, and trails to connect school property to county trails systems. The district was chosen using the EPA's EJ screening tool and the [Tree Equity Score from American Forests](#). Installations would also address NPS pollution issues on the school campuses. Students and community members would work together to select, design, and implement projects to address the above equity concerns.

Initiative 6: Policy and Regulations

Overview: Advocate for changes in policies and procedures to elevate environmental protection and restoration.

Overall Goal: Be leaders for change in West Michigan.

Urban Waters Support:

- Ambassador will leverage the role of the US Department of Housing and Development (HUD) partnership with the UWFP to be considered for a HUD pilot project.
- Ambassador will leverage partnerships with the Federal agencies to support environmental protection and restoration efforts by local partners.
- The Ambassador will connect local partners with partners in the Green Infrastructure Federal Collaborative to support ongoing GI and Stormwater Credit Trading efforts.

6.1: Water Management

Partners are working on developing tools for improved collaboration in managing water resources.

Partner Activities: Implement current policy projects.

1. **Stormwater Credit Trading Program:** To encourage GSI implementation on private property improving water quality in the watershed.
2. **Sustainable Watershed Funding Initiative:** State-wide partners are working on creating a sustainable funding mechanism for watershed management through voluntary contributions.
3. **Expanding Regional Watershed Collaborative:** American Rivers

Expected Outputs and Outcomes:

- Creating a community strategy that includes public engagement and partner meetings to increase awareness of sustainable funding.
- Number of businesses introduced to GSI and gauging potential for stormwater credits using case studies.

Partners:

- Federal Partners: UPEPA
- State Partners: EGLE
- Other Stakeholders: WMEAC, Wolverine CAG, City of Grand Rapids

Funding Needs: To be determined.

6.2: Sustainability

Adhering to the Triple (Quadruple) Bottom Line concept to consider environment, social, economic, and cultural impacts in all projects.

Partner Activities: Implement current sustainability projects

1. Aligning partner projects and activities with the [Michigan Healthy Climate Plan](#).
2. Asset Management Plans: Developed by municipalities to strategically manage systems and resources.
3. Create a Climate Action and Adaptation Plan (CAAP), alongside the community that will act as a road map for how Grand Rapids will reduce greenhouse gas emissions, and prepare for the impacts of climate change.

Expected Outputs and Outcomes:

- Climate Action and Adaptation Plan.
- Updated Climate Resiliency Plan from the 5-Year Sustainability Plan.
- Integrating Green Stormwater Infrastructure in City plans and public spaces.

Partners:

- Federal Partners: EPA
- State Partners: EGLE
- Other Stakeholders: All local partners, City of Grand Rapids, Community Collaboration on Climate Change (C4)

Funding Needs: To be determined.

Federal Partners Involved in the UWFP

Urban Waters activities continue to identify a need for involvement by federal agencies currently not active with the Partnership, and to expand the engagement of current federal partners in ongoing work. These needs should be prioritized for the future through continued discussion with other agencies and develop opportunities for activities to become a part of an agency's local priority. Future activities will seek to further develop this engagement and to showcase the coordination and leverage of additional federal initiatives. The federal agencies involved include:

- Americorps
- Center for Disease Control and Prevention
- Community Development Financial Institutions
- Department of Agriculture
- Department of Education
- Department of Housing and Urban Development
- Department of Interior
- Environmental Protection Agency
- Federal Energy Management Act
- National Institute of Environmental Health Sciences
- National Oceanic and Atmospheric Administration
- US Army Corps of Engineers
- US Department of Energy Efficiency and Renewable Energy
- US Department of Transportation
- US Economic Development Administration

Past Accomplishments

Initiative 1: Improve Water Quality and Habitats through Implementation of Best Management Practices

- **Sewer Improvement Project**
- **The Rainy Day Project:** Implemented water conservation and GSI practices, focused on underserved, and frontline communities in the City of Grand Rapids.
- **Rainwater Rewards:** Demonstrated costs and benefits of implementing GSI practices and increasing implementation of GSI practices.
- **Trees to Heal Plaster Creek Watershed:** Tree planting with community partners to capture stormwater runoff; developed GIS map to track the health of trees. 515 trees planted. (June 2020 - Sep 2021)
- **Lower Grand River Watershed Regional Conservation Partnership Program (RCPP) Habitat Restoration and Farmland Conservation Project:** Worked to apply farmland conservation practices to Indian Mill Creek and Rogue River Watersheds. (2017 - 2023)
- **Implementing Leveraging the RCPP in the Rogue River Indian Mill Creek Watersheds:** Worked with farmers to implement agricultural conservation practices.
- **Lower Grand River Watershed Habitat Restoration and Farmland Conservation Project:** Worked to restore habitat in the Grand River in downtown Grand Rapids.
- **The Highlands Daylighting:** This project removed approximately 900 feet of 36” pipe to daylight approximately 1,500 feet of stream and flood storage areas.
- **Alger Ravine:** Restored through streambank stabilization practices to reduce erosion and threats to private property.
- **Glen Echo Ravines:** Restored through streambank stabilization practices to reduce erosion and threats to private property.

Initiative 2: Provide Education and Outreach on activation/stewardship of the Lower Grand River Watershed

- **STREAM Girls:** Engaged school-aged girls on getting outside and interacting with freshwater, insect sampling, water quality monitoring, fly-tying, and more. (Oct 2017 - Sept 2019)
- **Partners for Places:** Installed green infrastructure in identified disadvantaged neighborhoods. (Nov 2017 - Dec 2019)
- **Grand River Green Schools:** Worked with grounds managers at local schools to plant trees and train them on proper maintenance.
- **LGREEN- Lower Grand River Expanded Education Network (2018-2022):** A follow-up to the Lower Grand River Education Initiative, this grant supported K-12 students learning about NPS pollution and implementing a project to address a local NPS pollution issue. The grant also produced bilingual materials and videos to support classroom teachers.

- **GREEN and GREENS:** Grand Rapids Environmental Education Network Supplement: Created a district-wide plan for all GRPS to participate in an outdoor education experience every year, tied to grade appropriate curriculum and a community partner.
- **Stormwater Education Project:** Developed a green infrastructure “how to” guide and updated informational videos (June 2017 - June 2020)
- **Regional Rainscaping Project:** Provided education and training for designers and contractors to install and maintain GSI in Indian Mill Creek Watershed, Rogue River Watershed, and Plaster Creek Watershed. (June 2017 - June 2019)
- **Plaster Creek Watershed Support:** Completed site assessments for homeowners; established two new relationships with partners; equipped high school students with job skills in GI installation and maintenance (October 2021 - September 2022)
- **NOAA BWET:** [Great Lakes MWEE Toolkit for Educators and Students](#) provided support to schools to implement MWEEs (Meaningful Watershed Education Experience) for students and created an online toolkit with educational materials to support teachers in MWEE implementation.
- **NOAA BWET/H2O Q:** Projects distribute education lab-manuals to teachers to test water quality parameters to teach K-12 students in their own classrooms. Data can be collected and posted to an online database for data sharing in the community.

Initiative 3: Monitoring Health of the Watershed

- Increase in programs and understanding of trends
- **EGLE 5-year Basin Rotation:** Conducts macro surveys and habitat assessments on selected waterways in the Lower Grand River Watershed (2014 & 2019)
- Promote the use of nature-based solutions (such as green infrastructure) to help mitigate hazards of droughts, flash floods, urban heat island, landslide, erosion, and harmful algal blooms in the joint [Hazard Mitigation Plan](#) with Kent County, Ottawa County and the City of Grand Rapids.
- **USGS Real-Time E. coli Prediction and Warning System:** The USGS has develop a predictive model of E. coli concentrations as a best-fit function of water temperature, dissolved oxygen, conductance, turbidity, fluorescent dissolved organic matter (FDOM), tryptophan fluorescence, streamflow, and seasonality. Now in operational mode, the relevant parameters are fed into the model real-time (15-minute increments) and resultant E. coli

Initiative 4: Adaptation and Resilience planning related to climate change

- LGROW has completed the **Lower Grand River Watershed Resilience Action Plan**, which characterizes the threats and vulnerabilities the watershed faces from a changing climate and the resources and strengths it possesses for building resilience. This is a living document that is meant to be changed as directed by the Lower Grand River Watershed subwatershed groups. Learn more through the interactive story map below.

Initiative 5: Environmental Justice

- Adopted DEI values into strategic plans.
- Targeting project to vulnerable populations, being aware. Healthier homes, others
- Completion of the **Grand River Equity Framework** to establish a common vision, strategies, actions and metrics for equity within the context of Grand River Corridor revitalization.

Initiative 6: Policy and Regulations

- **GSI Campaign:** Introduce businesses to green stormwater infrastructure; develop case studies for potential stormwater credit program. (2017 - 2019)
- **Strengthening an Inclusive Stormwater Policy:** Community strategy and public engagement (May 2017 - May 2019)
- **Grand Rapids Green Affordable Housing Study** (2018)
- Completed 5-year Sustainability Plan (2016-2021)