

An aerial photograph of the Grand River in Grand Rapids, Michigan. The river flows from the foreground towards the city skyline in the distance. The banks are lined with trees, some of which are bare, suggesting a cooler season. A multi-lane highway runs parallel to the river on the right side. The sky is overcast with soft, diffused light.

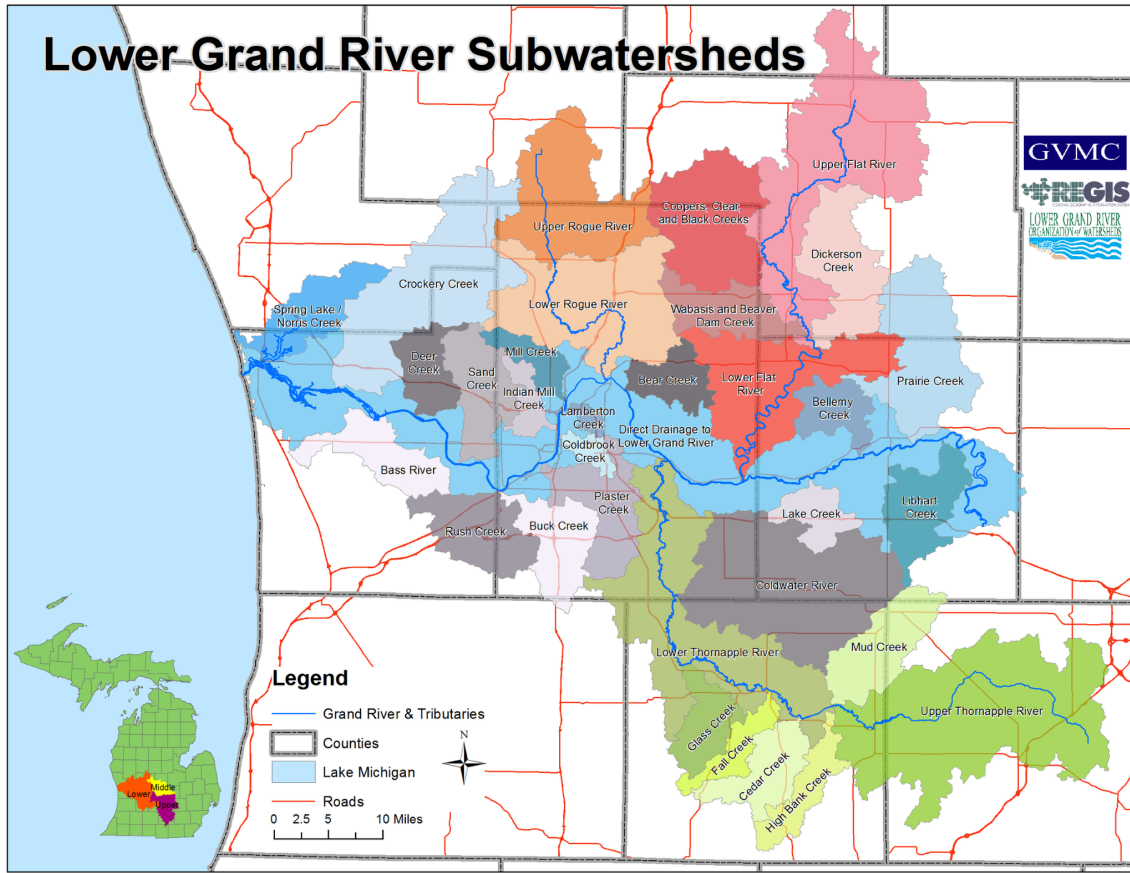
**Grand River/Grand Rapids Urban Waters
Federal Partnership 2020 - 2023 Work Plan**

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Workplan Geographic Boundary

The projects included in this workplan are mostly 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.



Points of Contact

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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

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

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 Native Americans who lived here prior to settlement. The Lower Grand River Watershed area 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 LGROW watershed area 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 Restoration Project) was the primary focus of the Partnership during the 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 Lower Grand River Watershed. 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. 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.

Partners

Federal Agency Co-Leads in the Partnership:

- **U.S. Fish and Wildlife Service (USFWS)** - The USFWS provides its unique authorities and expertise on endangered species and the management of sea lamprey, a devastating Great Lakes invasive species. The agency plays a key role in project planning for the Grand River Restoration Project through early and frequent engagement at many levels and in a variety of contexts. To restore the rapids, an innovative inflatable barrier will replace an aging dam and functional lamprey barrier, and an endangered mussel will be relocated from construction areas. USFWS involvement is helping to ensure the Great Lakes fishery is protected from lamprey and endangered mussels are conserved, while helping city residents connect with their river and reveal their namesake, the Grand Rapids.
- **U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS)** - The NRCS local field, area, and state office staff contribute time, ideas, and technical knowledge to the Grand River Restoration Project. An NRCS former staff member served as a local technical advisor on the Grand River Restoration Steering Committee and the Water Quality Subcommittee, and currently assists in integrating water quality issues into the Grand River Restoration Project. NRCS worked with other federal and non-federal partners to discuss resource concerns and how to address them through the project.

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)

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

Private Sector:

Fishbeck, Inc.
River Restoration.org
The Wege Foundation

Academia:

Aquinas College
Calvin University
Grand Rapids Community College
Grand Valley State University/Groundswell
Kendall College of Art & Design (Ferris State University)

Nongovernmental Organizations & Community Based Organizations:

American Rivers
Coldbrook Creek Community
Friends of Buck Creek
Friends of Grand Rapids Parks (FGRP)
Friends of Rush Creek
Grand Rapids Whitewater (GRWW)
John Ball Zoo
National Wildlife Federation
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:

- Continuing open and timely communications regarding project updates, funding opportunities, upcoming meetings and events, and 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
- Working to elevate the successes and ongoing work of all partners through creative outlets

Communication & Networking

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

- Finalize and 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.
- Communicate with Urban Waters partners about urban waters-related activities, funding opportunities, and other information that may assist local partners.
- 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.
- Identify opportunities to help local partners. Connect federal partners to these needs and provide direct assistance as appropriate.

Current Initiatives

The projects listed below have been identified by the Grand Rapids/Grand River UWFP partners as our shared priorities from 2020 to 2023. 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.

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 USDA and the UWFP to connect local partners with federal assistance and funding for invasive removal.
- Using the EPA created “Navigating Federal Funding for Green Infrastructure and Nature-Based Solutions”. The ambassador will continue to connect local partners with program funding.

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 diffuse 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, including native trees, in residential neighborhoods and business areas to help reduce urban runoff.
2. **The Rainy Day Project** - implements water conservation and GSI practices, focusing on underserved, and frontline communities in the City of Grand Rapids.
3. **Promoting Public/Private Green Stormwater Infrastructure (GSI)** - in the Lower Grand River Watershed will engage residents and businesses in adopting GSI to manage stormwater.
4. **Incentivizing Private Sector GSI** - will provide financial rewards for implementing GSI.
5. **Plaster Creek Watershed Restoration Projects** - promote and implement GSI with permeable paving and neighborhood rain gardens.
6. **Vital Streets** - includes installation of GSI incorporated into street reconstruction projects.
7. **Friends of Grand Rapids Parks** - Urban Forestry projects.

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: GRWW, GVMC/LGROW, City of GR, PCS, WMEAC, subwatershed group (Friends of Buck Creek)

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.

Partner Activities: Implement current nonpoint source pollution reduction projects:

1. Complete the **Grand River Restoration** - project that proposes to bring natural, cultural, and commercial excitement back to the Grand River. A 2.5-mile stretch of the river flowing through the heart of Downtown Grand Rapids has been scoured, walled in, and dammed, degrading the habitat and water quality. Rocks and boulders will recreate the rapids in the lower section, and the removal of the Sixth Street dam in the upper portion will reveal the historic rapids that have been drowned out by the dam.
2. **Lower Grand River Watershed Habitat Restoration and Farmland Conservation Project** works to restore habitat in the Grand River in downtown Grand Rapids.
3. **Alger Ravine** is being restored through streambank stabilization practices to reduce erosion and threats to private property.
4. **Glen Echo Ravines** are being restored through streambank stabilization practices to reduce erosion and threats to private property.
5. **The Highlands Daylighting** project will daylight approximately 1,500 feet of 36” storm sewer, which was formerly stream
6. **Plaster Creek Watershed Restoration Projects** work to restore Plaster Creek to the existing floodplain at upstream Leisure Creek Condominiums including replanting with native plants and native trees.

Expected Outputs and Outcomes:

- Public involvement in 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,
- Wetlands and hydrology restored in agricultural fields.

Partners:

- Federal Partners: EPA, USDA-NRCS, USFS, USFWS
- State Partners: EGLE, MDNR
- Other Stakeholders: GRWW, GVMC/LGROW, City of GR, PCS, WMEAC, Blandford Nature Center, Land Conservancy of West Michigan

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 upon funds for restoration efforts after treatment.

2. **Instream Restoration Projects** - Control or reduce invasive aquatic species.

Expected Outputs and Outcomes:

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

Partners:

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

Initiative 2: Provide Education and Outreach on activation/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 and conservation, freshwater biology, environmental education, and more.

Efforts to expand our audience for environmental educational opportunities to communities within the 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 will foster a sense of stewardship, work to encourage behavior change, and create 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:

- The ambassador will connect local partners with federal partners who provide technical expertise to support NGO educational efforts.

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** is raising awareness in local communities, developing a youth citizen forester class to focus on tree plantings.
3. Friends of Grand Rapids Parks has a **Summer Youth Green Team** that hires students to help water and care for trees, exposing green career pathways.
4. **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.
5. **School Stewardship Projects**
6. **Professional development for educators**
7. **Lower Grand River Water Trail** will increase awareness of the Grand River as a recreational destination and raise awareness about efforts to protect its water quality.

Expected Outputs and Outcomes:

- # water quality results posted online in the Lower Grand River Watershed
- # youth citizen forester classes conducted
- 2,000+ 6th grade students participating in the Teach for the Watershed program annually
- # H2O-Q backpacks/instructions distributed to teachers
- Water Trail Development Plan
- 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

Partners

- Federal Partners: EPA, NOAA, USFS,
- State Partners: EGLE,
- Other Stakeholders: WMEAC, TU, GVMC/LGROW, Schools, GVSU, Groundswell, Wege Foundation, GRPS

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. **MS4 Public Education Plan** outlines the objectives that need to be met through the NPDES Stormwater permit for 23 entities
2. **LGRWMP I&E Strategy** identifies target audiences, messages, and delivery mechanisms that lead to actions to improve the watershed.
3. **Grand River Rainscaping Program** is educating residents and business owners on the benefits of green infrastructure
4. **Tree Planting Work/Wetland Mitigation** is developing a youth citizen forester class in the Grand River Watershed, Indian Mill and Plaster Creek Volunteer Coordination – raising awareness and getting people educated about what’s happening in their environment.
5. **Rain Barrel Workshops** provide education and resources for community members to construct and install residential rain barrels.

6. **Plaster Creek Green Team** offers urban youth paid summer watershed ecology training and GSI skills building with hands-on projects that combine education and restoration.

Expected Outputs and Outcomes:

- Trainings 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
- Connect teachers and students to community resources to support the above points
- Create a fee for service projects

Partners:

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

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 DO at several coldwater streams in the watershed.
2. **GVSU Grand River Sampling** - Chemical and biological data for entire Grand River
3. **EGLE 5-year Basin Rotation** - conducts macro surveys and habitat assessments on selected waterways in the Lower Grand River Watershed
4. **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* concentration predictions will be used to inform a warning system developed by the City.

5. **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
6. **GRPM Hester Dendys** - collects macros at 3 locations in the downtown area

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

Partners:

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

3.2: BMP effectiveness

Partner Activities: Implement current BMP effectiveness evaluation projects

1. RCPP Monitoring
 - **EQIP Practices** - assess impacts of agricultural BMP implementation on local water quality
 - **River Restoration** - assess before and after conduction of river improvements
2. Grand Rapids Public Museum
 - **Angler Counts** - daily recording (May-October) of angler location and methods of fishing in the downtown area.
3. City of Grand Rapids
 - **Flow monitoring at Highlands**, CA Frost monitoring effects of daylighting.
 - Flow meters at Mary Waters for underground detention.
4. **Plaster Creek Stewards Research**
 - Level loggers to measure water depth
 - Water Balance study to determine effectiveness of bioswale at Christ Church

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 GR, KCDC, GRPM, volunteers

3.3: Biodiversity/Biological

Partner Activities: Implement current biodiversity and biological assessment projects

- Frog and Toad, Turtle Surveys
- Adult Sturgeon downstream, juvenile in restoration project areas
- River Redhorse

- Fisheries
- Mussel relocation
- Emma Cole Research Project--Native plant inventories throughout Kent County to inform climate impacts and restoration efforts

Expected Outputs and Outcomes:

- Assess biological health and populations in rivers to assess project impacts.

Partners:

- Federal Partners: USFWS, NRCS
- State Partners: MDNR
- Other Stakeholders: GRWW, City of GR, Consultants, JBZoo, GVSU, Sea Grant, Gun Lake Tribe, PCS

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: Implement current biodiversity and biological assessment projects

1. **Lower Grand River Watershed Resilience Plan** will develop actions plans for each of the 32 subwatersheds within the Lower Grand River Watershed
2. 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.

Expected Outputs and Outcomes:

- Subwatershed Action Plans to identify steps that watershed groups can take to increase resilience
- Hazard Mitigation Plan that provides opportunity for FEMA funding to enhance climate resilience.
- Projects led by watersheds 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: City of GR, River Network, Community Collaboration on Climate Change (C4), Kent County, Ottawa County

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: Implement current biodiversity and biological assessment projects

1. **Environmental Justice Collaborative**
2. Promote the **Grand River Restoration** project that proposes to bring natural, cultural, and commercial excitement back to the Grand River and will increase access and create an inclusive environment for communities of color to recreate along the Grand River.
3. **Rainy Day Project**

Expected Outputs and Outcomes:

- To be determined

Partners:

- Federal Partners: To be determined
- State Partners: To be determined
- Other Stakeholders: To be determined

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 partnership with the UWFP to be considered for a HUD pilot project.
- Ambassador will leverage partnership with the HUD to support the Grand Rapids Green Affordable Housing program.

- 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** is working on creating a sustainable funding mechanism for watershed management through voluntary contributions
3. **Tannery Contamination/PFAS response (Wolverine CAG)**

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

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. **Grand Rapids Green Affordable Housing**
2. **Specifics to increase use of compost in GSI**
3. **Asset Management Plans** are developed by municipalities to strategically manage systems and resources.

Expected Outputs and Outcomes:

- Updated Climate Resiliency Plan from the 5-Year Sustainability Plan
- Integrating GI in City plans and public spaces
- Every resident will be within a 5-minute walk to green spaces

Partners:

- Federal Partners: To be determined
- State Partners: To be determined
- Other Stakeholders: 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:

- Center for Disease Control and Prevention
- Department of Agriculture
- Department of Housing and Urban Development
- Department of Interior
- Environmental Protection Agency
- Americorps
- 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
- Department of Education
- Federal Energy Management Act
- Community Development Financial Institutions

State Partners

- Environment, Great Lakes, and Energy
- Department of Natural Resources
- Agriculture and Rural Development
- Department of Education
- Health and Human Services
- Department of Transportation

Past Accomplishments

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

- Sewer Separation
- **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** works 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** works with farmers to implement agricultural conservation practices.

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)
- **GREENS - Grand Rapids Environmental Education Network Supplement**
- **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)

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)

Initiative 4: Adaptation and Resilience planning related to climate change

- In progress. Mayor Heartwell’s leadership
- City leading in sustainability

Initiative 5: Environmental Justice

- Adopted DEI values into strategic plans.
- Targeting project to vulnerable populations, being aware. Healthier homes, others

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)