

## Midwest Region Coastal Program Project “Idea” Template

### **1. Project Title**

Samuel Myers Park Restoration: Re-establishment of Resilient/Accessible Coastal Wetland/Dune Habitat in an Urban Primary Environmental Corridor

### **2. Description of the Entities Undertaking the Project:**

The Racine Health Department Laboratory has primary responsibility for environmental monitoring and the assessment/maintenance of natural spaces (e.g. wetlands, prairies, and dune environments) within the City of Racine in cooperation with Parks, Recreation & Cultural Services and Forestry. Areas of staff expertise include: pollution source identification, environmental restoration, geosciences, freshwater sciences/technology, public health, urban planning, environmental microbiology and molecular microbiology. Recent initiatives by the RHD Laboratory include restoration of coastal wetlands and associated dune/swale systems; implementation of green infrastructure (including constructed wetlands) to increase stormwater infiltration/coastal habitat; native plant community/tree canopy enhancement in a migratory bird flyway; terrestrial invasive species management; conducting a coastal resiliency assessment of Racine County and developing opportunities for outdoor environmental education/recreation.

In order to carry out these activities the Racine Health Department Laboratory routinely partners with other local agencies/organizations such as the Great Lakes Community Conservation Corps (GLCCC), UW-Parkside, Weed Out! Racine and the Root-Pike Watershed Initiative Network. The mission of the GLCCC is to “leverage resources among Great Lakes communities to train and educate disadvantaged populations for credentials that close the skills gap, improve water quality, build habitat, grow the legacy of the original Civilian Conservation Corps of the 1930s and make the region more competitive in the global economy.” UW-Parkside, a 4-year baccalaureate and graduate degree granting institution, provides expertise in the area of macro-invertebrate assessments as well as a pool of students that benefit from external internship opportunities with the City of Racine. Weed Out! Racine is a “volunteer organization that aims to maintain the biodiversity of our public spaces and native places by stopping the spread of invasive species.” The Root-Pike Watershed Initiative Network is a 501(c) 3 non-profit who works cooperatively “to restore, protect and sustain the five watersheds of Southeastern Wisconsin.”

The City of Racine Public Health Department Laboratory (with support from other municipal departments when/if needed) will be the primary entity carrying out this project. The Laboratory will partner with the Great Lake Community Conservation Corps (GLCCC) on habitat improvement; corps members will assist with clean-up, physical wetland reestablishment, removal of invasive vegetation and reseeding/replanting as needed. UW-Parkside will be contracted to perform pre- and post- macroinvertebrate assessments on the remaining and reestablished wetlands. The City of Racine will offer project related internships to qualified UW-Parkside students seeking a degree in biology, environmental studies or related field. Weed Out! Racine technical assistance and their volunteer network will be engaged to remove invasive vegetation and naturalize public areas where needed and beneficial. Root Pike WIN (RP-WIN) will assist with the community outreach and education portions of the project. Root Pike WIN’s experience and expertise at community outreach and education will ensure stakeholders are appropriately represented and informed.

### **3. Statement of Need:**

Samuel Myers Park, encompassing 11 acres of coastal land mass and 0.5 miles of Lake Michigan shoreline, is located in downtown Racine, WI. Prior to restoration, frequent poor water quality led to a permanent swim ban. Beyond poor water quality, the habitat at the park was degraded due to Phragmites, which crowded out native vegetation and reduced biodiversity. Monitoring, as part of a Great Lakes

Restoration Initiative (GLRI) grant, identified factors contributing to poor water quality: stormwater runoff, goose/gull fecal contributions, and resuspension of sediments possessing high bacteria concentrations. Restoration actions were prioritized due to its unique coastal wetlands and function as a migratory bird stopover site.

Based upon study results, a comprehensive redesign plan was created with the goals of: 1) improving water quality, 2) restoring habitat, 3) enhancing public access, and 4) improving aesthetics. Restoration activities (2013 – 2017) improved water quality through abating/infiltrating stormwater runoff and treatment within existing and constructed wetlands. Habitat improvements created an environment less hospitable for loafing gulls, while increasing site function for migratory birds and pollinators. Permeable cordwalk paths improved accessibility and allowed visitors to explore the site while minimizing habitat disturbances. As of 2019, ~60,000 units of native vegetation have replaced over five acres of Phragmites, black locust and other invasive/non-native species and Sam Myers Park has consistently ranked in the top 10 birding hotspots within Racine County. Within the last 12-month period the following notable species have been sighted at Sam Myers Park: northern flicker, common loon, common tern, lesser scaup, blue-winged teal, mallard duck, bald eagle, and green-winged teal. Banded piping plovers have also been previously noted. In August of 2017, Samuel Myers Park became certified as a Monarch Waystation (Monarch Watch ID# 17474). In 2019, Samuel Myers Park was proposed for listing as Critical Species Habitat by the Southeast WI Regional Planning Commission (SEWRPC).

Despite best efforts to create resiliency as part of the overall coastal wetland restoration project, unanticipated historic high water levels and successive, intense storm events, culminating in a January 10 – 12<sup>th</sup> event with 50 – 60 mph winds and waves in excess of 20 feet, have resulted in significant wetland infill, damage to dunes and upland habitat. Although the aggregated damages from the January 10 – 12<sup>th</sup> storm make Milwaukee, Racine and Kenosha Counties eligible for federal disaster assistance, there is no guarantee of receipt of funds, they would not cover 100% of the damages (and may not include parks) and they will not address damage that occurred outside of that window. For example, successive storms prior to/after those dates have resulted in a loss of most vegetation along the beach face/wetland fringe as well as decreasing the size and volume of water retained within the coastal wetland due to scouring/accretion of beach sands from elsewhere on site, shrinking the wetland surface area by 70.9%. Re-establishment of this critical habitat is necessary to maintain functionality (including recreational water quality) and retain its ecosystem and educational value in an otherwise primarily urbanized corridor.

#### **4. Goals and Objectives:**

The long-term, overarching goals of this project are to: 1) restore wetland storage capacity/function, 2) re-establish dune features that form the bounding structure for constructed wetlands, 3) enhance site resiliency to water levels changes/storm surges, 4) re-establish native plant communities on disturbed soils/where compromised, and 5) provide public access in conjunction with educational signage regarding the need for coastal resilience.

#### **5. Activities:**

Specific project activities to meet the stated objectives include:

1. Coastal wetland storage capacity/function will be restored through excavation of infill and redistribution of material on site. Hydrological connectivity will be restored through the reopening and/or stabilization of natural channels and/or improvements.

2. Dunes will be re-established using on-site materials or purchased, clean upland sand that conforms to previous permit requirements to meet as built grades prior to the storm damage with some additional freeboard to accommodate higher Lake Michigan water levels and associated storm surges.
3. Site resiliency will be enhanced through the incorporation of protective practices such as dune toe stabilization, the installation of dissipative structures and geotextile grid material.
4. Re-established wetlands and dunes will be planted with site appropriate natives species (plants, plugs or seed mix), with assistance from the GLCCC, Weed Out! Racine and/or other volunteer groups.
5. A permeable cordwalk path, terminating in a seating area, will be placed to allow passive viewing access to the restored coastal wetland. Benches will be constructed from reclaimed wood. The City of Racine will work with Root-Pike Watershed Initiative Network to design and produce educational signage and/or other materials for distribution whose content speaks to the role coastal habitat plays in creating resilience and maintaining urban biodiversity.
6. Upland areas, including pollinator and rain gardens, will be assessed for weather-related damage and replanted, as needed.

## **6. Methods:**

Proposed physical improvements shall be shall be constructed according to the ordinances and requirements of the City of Racine, the State of WI and WI DNR. The proposed improvements will be constructed according to engineering plans approved by the City of Racine and in accordance with any permit requirements. Proper construction techniques will be followed. Erosion and sediment control measures shall be constructed and maintained in accordance with WI technical standards and will be inspected weekly by City of Racine staff in possession of erosion control inspector credentials. A mitigation report will be generated at the end of the project and contain photos from specific stations to visually reflect physical and plant species conditions. Presence of surrogate and other species of concern will be noted, utilizing records obtained by on-site staff, Hoy Audubon members and as noted on eBird. Water quality and baseline macro-invertebrate data will also be provided.

## **7. Timetables and Milestones:**

September – October 2020: determination of permit status, site pre-assessment, photo-documentation and surveying  
November – December 2020: research coastal resilience measures/select firm and develop engineering plans  
January – February 2021: develop bid specifications/let bid for construction  
March – June 2021: award bid/complete construction (wetland and dune re-establishment)/develop sign content  
June – September 2021: re-establish native plant communities/place public access and signage  
September – October 2021: conduct post-implementation water quality and baseline macroinvertebrate assessments  
November – December 2021: finalize project report

## **8. Information to Support Environmental Compliance Review:**

Construction and other site improvements occurring at Samuel Myers Park have been the subject of NOAA NEPA review on multiple occasions and the actions undertaken were found to not be in violation. Proposed project activities are in line with previous actions and in keeping with the intent to preserve/restore/establish coastal habitat conducive to the conservation of threatened or endangered species. Multiple state threatened species have been noted on site as a result of previous improvements, e.g. Blanding's turtles and sea rocket. This site has also been proposed for addition as critical species habitat by the SEWRPC. Construction will avoid potential nesting periods/locations on site and is being undertaken to restore site integrity in order that conditions favorable to these species is maintained. In compliance with the National Historic Preservation Act, this site has previously undergone a review which confirmed that sites/artifacts of historic and/or archaeological significance would not be disturbed as a result of project activities. Offshore shipwrecks have also been identified by the WI State Historical Society and are outside of the proposed project area.

## **9. Stakeholder Coordination or Involvement:**

City of Racine Public Health Department Laboratory: lead agency

City of Racine Forestry Department: recommendation of site appropriate tree species and planting assistance

Racine Parks, Recreation & Cultural Services Department: general site maintenance/debris removal

Great Lakes CCC: assistance with site clean-up/improvements, invasive species management and planting

Weed Out! Racine: voluntary assistance with invasive species management and planting

Root-Pike Watershed Initiative Network: volunteer coordination, education/outreach material development

UW-Parkside (Dr. Jessica Orlofske): baseline macroinvertebrate assessment

## **10. Project Monitoring and Evaluation:**

City of Racine Public Health Department Laboratory staff and interns will assume responsibility for environmental monitoring and project evaluation. Water quality monitoring (e.g. turbidity, DO, pH) and evaluation of plant success (e.g. # of individuals, # of stems) will be conducted in accordance with annual wetland mitigation monitoring and evaluation requirements (USACE #2013-03306-MHK, sunsets 12-31-21) and WI DNR specifications for recreational water quality monitoring (of the adjacent nearshore area). Pre-construction and as built grades will be determined by a licensed surveyor to ensure work undertaken meets engineering plan specifications. UW-Parkside will assume direct responsibility for conducting a genus/family level baseline macroinvertebrate assessment. Other project partners will assist with implementation only.

## **11. Information on Key Project Personnel:**

Dr. Julie Kinzelman, Director – Laboratory Division

Adrian Koski, MS – Research Assistant III/Grant Program Coordinator

Matt Koepnick – City Forester

Engineering firm to be identified, if awarded

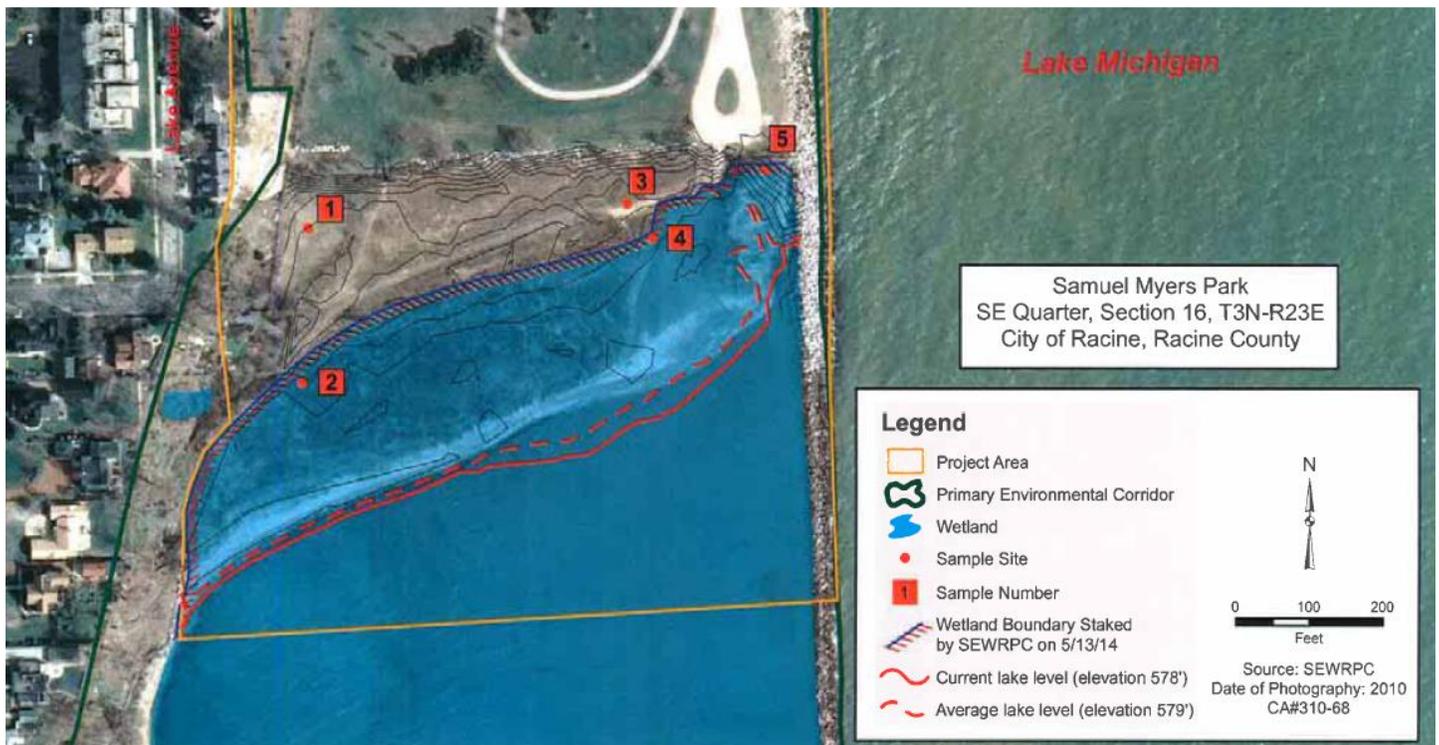
Construction contractor to be identified through formal bid process

## **12. Anticipated Future Funding Needs:**

Complete re-establishment and reconstruction activities made necessary as a result of the January 10 – 12<sup>th</sup>, 2020 storm event is estimated at \$675 - \$700K. A request for federal disaster assistance has been made. If granted, this could potentially cover up to 87.5% of the total projected costs (although not guaranteed). However, previous storm events/associated damages will not be covered. As a result, the full remediation of storm damage at Samuel Myers Park will remain incomplete until such time that external funding is identified due to a lack of municipal or external funds that can be directed towards the necessary activities (i.e. the entire project, outside of paving, was funded through a succession of foundation, local, state and federal grants as well as donations which have been 100% expended and current USFS funds disallow construction related activities). Thus, the proposed project seeks to restore site functionality in locations subject to damage outside of the FEMA PDA area/timeframe or not covered under potentially forthcoming disaster assistance funding (estimated at \$149,800). Without re-establishment and enhanced resiliency of the total site, critical habitat could be compromised, irreparably damaged or lost.

## **13. Details and Supporting Documentation on Project Location:**

Samuel Myers Park is located in a primary environmental corridor on the shore of Lake Michigan in parts of the Southeast one-quarter of U.S. Public Land Survey Section 16, Township 3 North, Range 23 East, City of Racine, Racine County, WI.



#### **14. Other Program or Project-Specific Narrative Requirements:**

The Samuel Myers Park project site encompasses multiple ecozones, including upland, sand prairie, sand dune/dune swale, coastal wetland and beach habitats. It is located in a primary environmental and migratory bird corridor; being further designated as a monarch waystation. Broadly supported through GLRI and other funding streams, identification of pollution sources, development of site appropriate restoration measures and physical amendments to restore/enhance functionality/improve recreational water quality/habitat took place over a 10-year period (2009 – 2018). Designed to incorporate resilience based on historic data, rising Lake Michigan water levels, increased intensity/frequency of storms and warmer weather resulting in a lack of protective ice pack has resulted in recoverable, albeit rather extensive, damage to portions of the restoration area. In order to maintain natural coastal system diversity/function, promote natural populations of native species within their historic range and provide ecologically sound levels of public use/local economic benefit it is necessary to restore damaged portions of the site and recalculate/ascertain what resilience may look like in the face of climate change. Additive to the aforementioned direct habitat benefits is the enhanced ability of well managed/maintained natural features to capture/infiltrate pollutant bearing stormwater and sequester carbon. Current efforts to increase tree canopy and native plant communities (USFS/GLRI) estimate up to an additional 2,474 cubic meters of stormwater infiltrated and carbon sequestration equivalent to 3.5 cars removed from the road at tree maturity. This project is ideally suited to the Urban Opportunity funding category as it wholly resides in a densely populated urban corridor, extending from Milwaukee, WI to Chicago, IL; an area where these types of habitats/green spaces, in their natural state, are rare. The selection of the GLCCC as a project partner engages disadvantaged youth, providing job training. This site also serves as an outdoor classroom space, engaging underrepresented middle school, high school and university students in environmental education and service learning. This project also maintains existing partnerships with local universities, watershed organizations and volunteer groups as well as leveraging the remaining funds of a USFS grant, FEMA disaster assistance (requested), WI DNR contract (nearshore recreational water quality monitoring – pending) and local resources to implement strategic habitat conservation.

**15. Budget:**

REQUESTED

Engineering plan development, construction and construction management: \$104,000  
Public education, outreach and organization of volunteers (RP-WIN, Weed Out! Racine): \$3,000  
Informational/educational sign: \$2,000  
Biotic Indexing (UW-Parkside): \$4,500  
Invasive species removal, planting, site clearing/management support (GLCCC): \$5,000  
Temporary Fencing, flagging, stream gauge and miscellaneous supplies: \$1,000  
Travel and mileage: \$300  
Native plants (plugs or seed mix, as appropriate): \$14,200  
Cordwalk path: \$6,800  
Student interns (2) (salary + FICA): \$9,000  
TOTAL ESTIMATED BUDGET: \$149,800

MATCH

WI DNR 2020/2021 BEACH Act Funds (nearshore recreational water quality monitoring): \$2,500/yr. (secured)  
US Forest Service/GLRI (tree canopy enhancement/exclusion fencing/maintenance): \$55,000 (secured)  
Federal FEMA Disaster Assistance: \$683,000 (pending)  
In-kind municipal (lab) staff support: \$21,600 (~6 hours/week for project duration) (secured)