

City of Racine: Colonial Park ravine and wetland restoration is underway

Posted on Thursday, May 18, 2017

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Root-Pike Watershed Initiative Network, in collaboration with the City of Racine, WeedOut! Racine and the Fund for Lake Michigan, has begun a project to increase water quality, plant diversity and spawning habitat.

The Problems Addressed

Root-Pike WIN Executive Director, Dave Giordano, outlined the issues the restoration project is looking to address: "This ravine has been overlooked as a potential opportunity for water quality improvement until Matt Koepnick with the City of Racine brought it to our attention. It has a major impact on the park's floodplain forest, and with improvements, this could be Northern Pike spawning ground (and other species perhaps). The ravine is very difficult to get to as the area is heavily wooded with both native and non-native vegetation. There are several problems that this project will address: Invasive plants are among the most critical as identified in the SEWRPC's Root River Nine Element Watershed Restoration Plan. This area has been overrun with buckthorn, reed canary grass and garlic mustard. The plan calls for the removal of invasive species throughout the park and the ravine restoration implementation will include replanting and regrading the ravine to better accommodate erosive flood events. This juncture of structure and vegetation - working hand-in-hand - is where there is as strong possibility to engage other coalition partners in the value of Colonial Park. These partners include WeedOut! Racine, the Root River Council, and UW-Parkside and Carthage College monitoring and volunteer workday groups, etc.

According to Giordano, another issue is that of nutrient loading, which can over-stimulate algae growth. Algae consume large amounts of dissolved oxygen, which has the potential to suffocate fish and other marine organisms, while also blocking available sunlight to bottom dwellers. This is an issue throughout our Lake Michigan tributaries.

Another problem addressed by the Colonial Park restoration project is the accumulation of sediment from a small eroding tributary stream that runs through a steep ravine and enters the Root River at Colonial Park. Downstream of the recent Valley View Drive crossing and culvert upgrade, the stream exhibits evidence of channel evolution. The bed elevation is lowered by routine water action intensified by the slope of the banks, the stream becomes incised and disconnected from its floodplain, further increasing the erosive energy on the stream banks. This causes the banks to erode and the channel to widen. Deposition of a portion of this eroded material in downstream reaches decreases the stream capacity, so the stream spills out of its bank more frequently, resulting in dispersed flow in some locations. Left unchecked, this channel evolution process would continue until the final slope of the stream channel is flat enough that energy in the flowing water is not sufficient to transport the native stream bed material. This process would continue to result in significant export of sediment and nutrients from the ravine. Adding to the situation is human activity impact in the form of increased impervious pavement runoff and over-fertilization.

A portion of the eroded sediment is being deposited in a wetland within the Root River floodplain in Colonial Park and a portion is being carried to the Root River. Deposition of sediment within the wetland limits several ecological functions, including potential use as habitat for fish that spawn in wetlands, such as northern pike. Discharge of sediment and associated nutrients into the Root River contributes to threats to the health of the river and Lake Michigan.

Project Goals and Activities

Root Pike WIN and its partners propose stabilizing this ravine to minimize future export of large quantities of sediment and nutrients. Since the project is located within a park, the project also provides a valuable opportunity for public engagement and education regarding stream and lake health and threats. Colonial Park is an oasis and a rare natural experience surrounded by dense urban development.

Expected Outcomes and Impact on Lake Michigan Water Quality

There are three outcomes of this project – physical repair and biological reestablishment, and water quality. To ensure success in all three areas, work has to progress in a specific order. Giordano explains: “The biological restitution and water quality measures are dependent upon the repairs to the physical environment. So, if the invasive species were removed first and replanted with native species along the ravine slopes without first improving the hydraulics of the ravine’s flow, the biological measures would fail and water quality would decrease again as time goes by. Given that the Horlick dam currently precludes passage of such fish, there are limited opportunities for Lake Michigan fish to utilize the Root River for spawning. Therefore, improving conditions downstream of the dam is a unique opportunity we want to seize. With the help of Inter-fluve and WeedOut! Racine, we will also improve the current plant diversity in the project area as a way to enhance the overall ecosystem.”

Root-Pike WIN is working cooperatively with the City of Racine’s Parks and Recreation Department. Tom Molbeck, Director of the Parks and Recreation department is pleased to be collaborating with mission-drive groups, “Discussion took place on the overall vision for the park, and this project, and our spirit of teamwork, have sparked improvement ideas and we’re working together to sequence the effort and effectiveness to meet a variety of stakeholder needs.”

“There is also another opportunity to engage groups that are concerned with fish habitat and passage,” said Giordano. “In our site survey of the ravine, we noted some small forage fish farther up the ravine than expected. We also noted a few natural springs adding bubbling up before the ravine flattens out into the floodplain. These observations lead us to believe there is a strong potential for a more extensive and high-quality spawning area for Northern Pike perhaps. This realization could fuel more interest in funding the ravine headwaters and eventually the wetland floodplain. Should this all become a reality, the educational experiences within the park should be richer and more diverse... inspiring stuff!”

As the project progresses through design, we will look for opportunities to bring WeedOut! Racine and the Root River Council to advance planning and implementation ideas. Melissa Warner, Jim Chambers and Monte Osterman have already expressed interest in getting involved through Root-Pike WIN initiated conversations. We welcome other groups to participate in the restoration efforts of the park as there is much to do. Colonial Park represents a rare opportunity for residents to enjoy a part of the City of Racine that is still in a naturalized state. We aim to make it the best, ecologically diverse experience for outdoor enthusiasts

from students and seniors to fisherman and flower-lovers.