

Helping marinas use green infrastructure to improve water quality



OVERVIEW

Stormwater runoff — including rainwater and snowmelt — can carry sediments, chemicals, pathogens, and litter straight into the nearest water body. Marinas that cannot manage stormwater efficiently are at higher risk of flooding, erosion, and degraded water quality. As coastal storms become more frequent and severe, and as water levels continue to fluctuate, it is more vital than ever for marinas to make smart choices about how to handle stormwater.

Increasingly, marinas are turning to green infrastructure systems to slow, capture, and filter rainwater and snowmelt before it enters nearby water bodies like the coastal waters of the Great Lakes. Green infrastructure installations like rain gardens, porous pavement, and green roofs can boost property values, add aesthetic appeal, reduce operational costs, enhance water quality, and decrease flooding.

However, there are barriers to implementation of green infrastructure at Great Lakes marinas. Green infrastructure projects are sometimes perceived as difficult and expensive to install and maintain, and not every installation will be appropriate or effective at every facility.

PROJECT DESCRIPTION

Starting in 2019, a team from the Michigan, Ohio, and Wisconsin Sea Grant programs embarked on a three-year venture to help marinas make their facilities more environmentally sustainable by harnessing the power of green stormwater infrastructure. The project, titled “Advancing Stormwater Management at Marinas in the Great Lakes,” supports creation of a toolkit to help marinas make wise decisions about managing water as it flows across their facilities.

Michigan Sea Grant leads the three-state Sea Grant team that was awarded \$809,000 in late 2018 by the Great Lakes Protection Fund, an endowment established by state governments in 1989 to support projects that restore or enhance Great Lakes ecosystem health.



EXPECTED OUTCOMES

The project team is developing a Marina Green Stormwater Infrastructure Toolkit to help marina owners and operators learn, visualize, and then choose the best infrastructure practices for their facilities. A survey of coastal marina operators showed that despite abundant educational material about green infrastructure, very little information is specific to marinas. The toolkit will help marinas sift through available and applicable green stormwater infrastructure practices and point operators toward resources for technical assistance and financial support.

The team is developing content for the Toolkit, will test it with members from the Great Lakes Clean Marina Network in the fall of 2019, and expect to launch the online tool in winter 2020. The team has identified one marina each in the states of Michigan, Ohio, and Wisconsin that will work with local and state partners, as well as Clean Marina Programs, to design and install selected green infrastructure practices, including signs and resources to educate boaters, and marina managers and staff. Stormwater engineers from the Ohio State University will monitor the sites before and after the installations to record changes in water quality. The final outcomes of the project will include a technical workshop for marina owners and operators, state Clean Marina Program coordinators, municipal decision-makers, and the public to learn more about how they might support future green infrastructure projects at their local coastal or inland marinas.

GET INVOLVED

Stay tuned to the [Great Lakes Clean Marina Network site](#) for more details about this project and beta testing the green infrastructure toolkit in late fall 2019.

CONTACT

Catherine Riseng, Michigan Sea Grant Assistant Director and Research Program Manager, (734) 763-9422, criseng@umich.edu

