



Apostle Islands National Lakeshore

Natural Resources Highlights

Spring 2011

On the Path to Restoration

At Julian Bay, on Stockton Island, beach, dune, pine savannah and wetland all come together to form one of the most diverse and ecologically significant areas within the park. Many park visitors are attracted by the singing sands on the beach, but also want to explore the dunes. While the beaches offer recreationists a durable surface, the sandy dunes are a fragile environment. The shallow roots of dune vegetation make it very sensitive to foot traffic. Over the years, many informal trails have formed through the dunes and the pine savannah. To allow visitors to experience this special area, while allowing fragile dune plants to recover, approximately 600 feet of floating boardwalk was installed by park staff and a Minnesota Conservation Corps Crew. The floating boardwalk lies on the surface of the dune and can be moved, if needed. This boardwalk is the first phase of restoring the vegetation at Julian Bay. The next phase will take place this summer, when thousands of native plants will be planted in areas impacted by foot traffic. Funding provided by the U.S. Fish and Wildlife Service's Coastal Program made this project possible. Another restoration project has been started in the Presque Isle campground on Stockton Island. Two beach access points were established to make it easier for visitors to get from the campground trail to the beach without cutting through a campsite or scrambling up a steep bluff. Split rail fences were also installed in campsites with steep bluffs to promote safety and minimize bluff erosion. More than 3,200 native plants, including hairgrass (*Deschampsia flexuosa*) and wild rose (*Rosa blanda*), were planted at the beach access points to help stabilize the shoreline and prevent erosion.



New floating boardwalk at Stockton Julian Bay



Protecting Rare Island Habitats from Overabundant Wildlife

The park is trying to reduce the impact of deer on unique plant communities that, at the time of the early explorers, were common in the Great Lakes Region, but are now very rare. What makes these forests unique is Canada yew, a plant that blankets the understory of islands with little or no history of deer. The target islands are Sand and York, where the park has tried a number of ways to reduce deer numbers, including the use of public hunters, volunteers, and NPS staff. Great Lakes Restoration Initiative (GLRI) funding has made it possible to use trained marksmen from Wildlife Services (USDA) to help us with this important problem. Deer removed from the islands have

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been donated to the Red Cliff Tribe. GLRI funding has also been used for seasonal staff to conduct pellet and browse surveys, a project led by the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) to better understand the deer population, and a University of Wisconsin research project that is testing the use of trail cameras to obtain a population estimate. This technique is proving to be very useful and has provided us with a population estimate of 76 for Sand Island. Based on this, we know that the culling efforts have, at least temporarily, reduced deer numbers on Sand by approximately 50%. These projects will continue through the summer of 2012.

Great Lakes Restoration Initiative Helps in the Battle Against Exotic Species

In the on-going battle to protect native plants from invasive exotics, the park received a big boost in 2010. Funding from the Great Lakes Restoration Initiative (GLRI) enabled the park to hire a seasonal biological technician that focused on exotic species management. Efforts to protect the Apostle Islands' native plants have become even more important due to threats posed by a changing climate, trampling of fragile landscapes, and an increase in invasive exotic species in the surrounding area.



Purple Loosestrife treated on Long Island

Invasive exotic plant species tend to spread rapidly, outcompeting native plants and decreasing plant diversity and wildlife habitat. Through the work of our exotic species technician, new exotic (non-native) species were found early; we were able to increase control and monitoring of exotic invasive species; and the most intensive survey of developed areas and cultural landscapes was completed since the late 1990's. Five of the most invasive species within the park were actively treated. These include serious threats to the park's wetlands - purple loosestrife (*Lythrum salicaria*); sandscapes and dunes - spotted knapweed (*Centaurea stoebe*); open areas - Canada thistle (*Cirsium arvense*), Japanese knotweed (*Polygonum cuspidatum*); and forests - Japanese barberry (*Berberis thunbergii*) and Glossy Buckthorn (*Rhamnus frangula*). Thanks to GLRI funding, we'll be able to continue this work through 2011.

Research Projects – 2011

- Pollinator (bees) response to climate change – Rodman, Yellowstone NP
- Birds (tree swallows) as indicators of the Great Lakes – Custer, USGS-BRD
- Eagles as indicators of bioaccumulative contaminant trends – Route, NPS-GLKN
- Wave Observation System at the Sea Caves – Wu, University of Wisconsin
- Role of symbiotic fungi in beach grass adaptation to climate change – Emery, University of Louisville
- Mapping and biological survey of shoreline rock pools – Ferrington, University of Minnesota
- Estimating deer populations with the use of remote trail cameras – Van Deelen, University of Wisconsin

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