

Our Beautiful Great Lakes Shorelines

The Great Lakes water levels have generated more than a few conversations. From concerns over extremely high water in the 1980's to concern over the low water conditions of today. Scientists have been recording water level data for the Great Lakes over time and have found that the water levels are cyclic. Though there is no way to predict future lake levels, looking at the past one could predict that the water levels on the Great Lakes should rise again.



Carolyn Rock

The natural shorelines, along with the animals, plants and humans that use them depend on these water level fluctuations. Today the water continues to be low creating long stretches of exposed shorelines. These exposed shoreline areas are a critical component of a healthy Great Lakes system. These areas provide fish and wildlife habitat, protect water quality and protect the shoreline from erosion. The most important features of many of these shorelines are the plants that are growing on them. One of the most pronounced impacts on vegetation seen in the past five years can be found on the western shore of Green Bay. The low water levels have promoted the growth of both plants that grow completely underwater



Mike Hawley

(submergent) and plants that grow underwater and extend above the water (emergent) like bulrush. Both of these types of plants provide critical nursery habitat for fish species such as Yellow Perch and minnows that need to find shelter in these extremely shallow waters. Mike Hawley, Fisheries Technician for the Department, has been conducting surveys using seine nets in the shallow waters along the western shore of Green Bay for the past 20 years.

“The past few years we have seen a huge increase in the number of young of the year yellow perch and minnow species found in our seine surveys - that is really encouraging! There are many factors that can influence fish populations however I feel very strongly though that this recent population boom is a direct result of the increased vegetated habitat.”

Fish are not the only critters that enjoy these vegetated areas provided by lower water levels. Frogs and turtles, aquatic insects, muskrats and shorebirds all find themselves relying on these areas. When the water levels rise on the new vegetation, aquatic invertebrates thrive. Unfortunately for the invertebrates, they are a wonderful lunch for fish, frogs and shorebirds.

“Shorebirds love to feast on the aquatic invertebrates.” says Jeff Pritzl, Wildlife Biologist with the Department. “The real benefits for the shorebirds will come down the road when the water levels increase and

flood the new vegetation. The flooded vegetation provides homes for insects, frogs and turtles which in turns provides food for shorebirds and mammals.”

The sand dunes along Lake Michigan also provide an especially unique habitat, home to several rare plant species.

“When Lake Michigan was high in the 1990’s much of the frontal dune habitat was destroyed”, explains Carolyn Rock, Naturalist at White Fish Dunes State Park. “The lower water levels have again allowed the dunes to re-build and the vegetation to flourish. Even with the new vegetation, there are still plenty of places for swimmers and sunbathers to play near the water and relax on the sand.”



Carolyn Rock

Protecting these rare species and unique habitat has become a primary goal at the state park. Beach grooming at the Park has been reduced to a fraction of the historical levels to help achieve this goal. Point Beach State Forest has taken a similar approach to preserving this unique habitat by completely eliminating beach grooming activities and promoting educational programs on the natural dune processes.

Plants and animals aside, the natural beaches also benefit the everyday lives of you and me. Have you ever gotten sand in your eyes during a walk on the beach or had to shovel sand off of your patio? Vegetation is the most critical weapon against sand erosion. It works in two ways. First the vegetation holds the sand underneath it from blowing or being eroded away. Second, the vegetation acts to catch blowing sand. The catching of the blowing sands creates sand

dunes. Once the water level rises again, both the dunes themselves, along with the vegetation act to protect the shoreline from both erosion and flooding. Without the dunes and dune vegetation, the soils that support our buildings and roads would be washed away at a faster rate.

Have you heard of [Cladophora](#)? Cladophora is a native algae that grows in large mats and washes up on the shoreline. Once you’ve smelled it decomposing on the shoreline you won’t forget it. Cladophora has become a large nuisance problem for many of us and we continue to look for ways to help control it. One way to help control Cladophora is to eliminate its food source – nutrients. Vegetation on the beaches works to both filter out and absorb nutrients from upland (stormwater) runoff before it reaches the water where it can be used by Cladophora and other algae species.

Like Cladophora, [Phragmites](#) is another nuisance species that threatens the health and the enjoyment of our beaches. Phragmites is an exotic species, a tall reedy grass that grows in dense stands to 10 feet in height. It is invasive and loves to crowd out other vegetation and colonize disturbed areas, especially areas that have been groomed. It grows thick and tall, eliminating the ability of natural vegetation to grow and thrive. For







us, it becomes an eye sore blocking the view of the lake and inhibiting access to the water.

“Once Phragmites has invaded it is very difficult to remove or control.” says Bob Bultman, Door County Invasives Species Team Coordinator. “Healthy natural vegetation is your best weapon against Phragmites.”

The beautiful Great Lakes shorelines need to be treated with care to ensure that they continue to survive and protect the water that we depend on. State Regulations in these areas provide some protection however there are things that you can do too!



Carolyn Rock

-  Reduce your footprint when visiting beach areas. For example, do not trample fragile beach grasses, stay on marked paths, do not feed the wildlife and do not litter. Do not drive on the beach. Besides illegal, it's terribly destructive.
-  Learn more about the value of natural vegetation on shoreline property. Get active in your community discussing the values that natural shorelands bring to stabilize the shore, slow flooding, filter runoff, provide nurseries for fish, birds and aquatic invertebrates as well as slow shoreline erosion naturally.
-  If you are a shoreline property owner minimize your disturbance. Try to set a goal of restoring or protecting your shoreline so that 70% is in a natural state. Keep piers, boats, and the removal of vegetation to one area that is 30% or less of your total shoreline frontage. Please be aware that there are specific standards for [vegetation removal, pier placement](#), etc.
-  Get involved. Work with your local Conservation Groups, State Park, Nature Preserves, neighbors, etc. to help fight the spread of invasive species like Phragmites. Many groups hold work days where you can get involved with the removal of the invasives.
-  Protect your shoreline by removing Phragmites and other invasives.
-  Before conducting any activity on your beach review the [beach maintenance activities fact sheet](#) or contact your local Water Management Specialist to determine which activities require permits.