



## **Shoreline Stabilization    *Know Your Lake***

Article 6 v1.1

Picture this - it's spring in Ontario County, Honeoye Lake thawed out weeks ago, the days are longer, the trees are beginning to flush, and Joe is anxious to get his dock and boat into the lake. He walks out to his shore, looks around, and can't quite figure out where the dock was last year. "Hmm", he thinks to himself, "this doesn't look how I remember." And then it hits him - he has shoreline erosion!

Although erosion is not intrinsically harmful, it is undesirable when it affects water quality, ecosystems, and property loss. Shoreline erosion is a natural process caused by storms, wave action, rain, ice, winds, runoff, and loss of trees and vegetation. Unfortunately, by clearing natural vegetation, installing impervious surfaces and structures, engaging in construction and development, and erecting shoreline projects humans often contribute to or accelerate the natural shoreline erosion process. All these activities exacerbate and sometimes cause the negative effects of shoreline erosion.

For decades, "traditional" shoreline stabilization methods have centered on "hard" construction approaches such as vertical concrete, metal, or wood break-walls, gabions, and rip rap. These common shoreline modifications and erosion control methods aside from being unsightly, can actually increase the rate of erosion resulting in costly structural damage, property loss, and destruction of the shoreline's natural environment. From an environmental standpoint, retaining walls are by far the most destructive method of stabilization. Biologists and engineers now realize that in addition to creating a physical barrier between the lake and bordering land, these hardened vertical or near-vertical structures reflect wave energy rather than absorb it, thereby worsening turbulence and increasing erosion in front of, under and adjacent to the "fix". It's likely that these types of structures are deflecting wave energy and only causing more erosion on neighboring property.

The body of experts along with the New York State Department of Environmental Conservation (DEC) recommend the use of "soft" or nature-based shoreline protection methods over "hard" or structural methods. Soft methods are much easier on the environment, imitate natural systems, can



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interact naturally within the ecosystem, are aesthetically superior, and save property owner's a significant amount of money. Some basic principles of soft shoreline protection are: imitate nature, keep slopes gentle, employ soft armoring, mix it up, and keep it small and simple.

A stretch of shoreline at Sandy Bottom Park that runs between the sandy beach and the inlet to Honeoye Creek at one time was significantly damaged by shoreline erosion. However, with funding from the NYS Department of Environmental Conservation Water Quality Improvement Project Grant Program, Ontario County Soil & Water Conservation District and the Town of Richmond implemented a nature-based shoreline stabilization project.



Coir wrapped soil lifts that incorporate native plant materials were utilized to reconstruct the eroded bank. Existing tree and shrubs were

kept in place to keep the shoreline protected, and over three dozen additional native plantings as well as live stakes were added to promote deep rooted vegetation to stabilize the shoreline. Also, boulders were placed in the lake in front of the project to reduce wave energy and ice scour that is especially



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strong at the north end of Honeoye Lake due to predominately southerly winds.

By employing nature-based shoreline stabilization at Sandy Bottom Park, a transitional habitat was created which serves as a connection between the aquatic and terrestrial ecosystems and is ideal habitat for many species of plants and wildlife. Just inland from the shoreline, pollinator pathways were developed by choosing plants and flowers that provide food and habitat for not only important pollinators but many other native species. One of the most significant outcomes of



this project is that the newly planted vegetation slows down and absorbs runoff that carries with it eroded sediments from the bare soil that occupied this shoreline before the project. These sediments contain phosphorus and nitrogen that have the potential to cause harmful algal blooms (HABs). By increasing the vegetation and reducing erosion, this project limits the amount of pollutants entering Honeoye Lake.

Homeowners are encouraged to consider these nature-based shoreline stabilization design practices when planning shoreline stabilization on their own properties. Visit this project site at Sandy Bottom Park to see first-hand the results of using these techniques. Additionally, plan to attend a Honeoye Valley Association (HVA) sponsored nature-based shoreline stabilization workshop next spring (pending state social distancing recommendations). When it comes to protecting the lake, what you do matters and every little bit helps.



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We welcome your feedback at the email address below and encourage you to exchange viewpoints with your neighbors, family and friends. HVA has been, and will continue to be, an active partner in the future of the Honeoye Lake watershed and is committed to communicating accurate information that leads to informed opinions regarding lake management recommendations.

Watch for more articles in the coming weeks and get to Know Your Lake!

- Interested in the Shoreline Stabilization Project at Sandy Bottom Park? Check this out: <https://www.honeoyelakewatershed.org/sandy-bottom>
- If you want to learn more about shoreline erosion and stabilization techniques see:  
<http://www.dec.ny.gov/permits/67096.html>  
<https://www.dec.ny.gov/permits/50534.html>
- Not familiar with HVA, or would like to learn more about us and our history, visit <https://hvaweb.org/page-1723989>

We'd love to hear your feedback, questions and comments. Please email us at: [honeoyecontact@gmail.com](mailto:honeoyecontact@gmail.com)