

SHORELINE WOOD HABITAT INSTALLATIONS FOR LAKEFRONT PROPERTY OWNERS

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Prior to our development of lake shores, a natural lake had one or more large trees along the shoreline that had fallen into the lake about every 75 feet. They remained in the water, partially submerged, and resting on the lake bottom. Then, when we developed our shorelines, we removed all of those trees. They seemed unsightly and unkempt to us, and we wanted a clean look to our shorelines and lake bottom. As is typical with our human development of natural areas, we didn't understand how important these partially submerged shoreline trees were and thus, we couldn't imagine any unintended consequences from removing them.

Trees extending from the shore into the water contribute to the health of the lake in ways scientists are just beginning to communicate to the public. They have been an integral part of the lake's ecosystem, all the way up to that time when we developed the lakeshore, removed the fallen trees, and created our tidy lakefront landscape.

There are many benefits to fallen and partially submerged trees. They aid in sediment retention near the shore; provide shoreline protection; contribute to carbon sequestration, as well as the productivity of beneficial algae, invertebrates, and fish; provide protected spawning habitat; and provide a habitat for terrestrial plants and animals.

Of late, there are innovative conservation projects restoring this "wood habitat" to our lakes. One of

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the largest in Michigan’s history is on our own Portage Lake in Livingston County. It’s a 2,700-foot shoreline restoration project on the northeast shore of Portage Lake completed by Natural Shorelines Forever, along with MSU, DNR, EGLE, and volunteers. Over 50,000 lbs. of stumps, trees, and logs were installed on the shoreline and in the water during the winter of 2021, and in less than a year by way of a re-visit by MSU and EGLE, significant and diverse native aquatic vegetation and a wide variety of juvenile and predator-sized fish were seen utilizing this new cover. We eagerly await an upcoming DNR, MSU, and EGLE repeat of the thorough bio-reserve assessment baseline study done just after project completion.

Equally exciting is the leverage many could use from this project, maximizing their wood habitat implementation success. Upon receiving the five-page “lessons learned” document from this project in addition to presentations and discussions with others around the state, lakefront property owners were able to gain confidence and increased public support, and accomplish their wood habitat projects faster and with more innovation and at less costs than if they had started from scratch – an especially pleasing outcome.

But that’s not all. Recent wood habitat projects integrated with small private lakefront lots are getting all our attention. A very positive spinoff from the Portage Lake project is the emergence of individual lakefront property owners who are interested in getting simple permits and integrating wood habitat on their own shorelines, sometimes with as little as 35’ of frontage. While most lakefront property owners are

eager for wood habitat projects to be done “over there” (i.e. where there is no development) these property owners are open to the integration of wood habitat right in the middle of their shoreline, in and among their wading area, docks, boats, kayaks, and anything else along the shoreline.

Through a purposefully lengthy interviewing process of first thoroughly and exhaustively listening and understanding all of the lakefront owners’ current recreational activities – until the lakefront owner knows they are understood – a connection and trust is created with the lakefront owner. At this point, assurance is given that the wood habitat installation will be done around their docks, boats, wading areas, etc. in a way that will not affect their daily activities. After all, lakefront property owners want to wade in the water, get in and out of kayaks, dock their boats, take docks in and out, make sandcastles on the beach, etc. We heard it all and we get it. Many of us have lived on lakes all our lives and have done, and are still doing, all of these things.

Another breakthrough to encouraging wood habitat installations on private lakefront lots is that of simplification. There are simple techniques an installer or even the lakefront owner can do themselves with basic hand tools. Standardization of manageable length, width, and type of small trees or tree branches, where to source them, techniques for anchoring the structure to the lake bottom, transportation methods, and techniques to maintain the installation are simple and repeatable. EGLE has worked hard to minimize the permit process, and there are standard,

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easy-to-use templates, forms, and examples available to get these permits approved simply and inexpensively.

Our lake recreational activities and the introduction of wood habitat are not in conflict with one another, and must not be seen as such. It doesn't need to be one or the other. No one needs to give anything up. In fact, those who have installed a wood structure on their shoreline in the manner previously described now see them as fully integrated, quite beautiful, and an interesting feature of their property with terrific surprises in various and unanticipated ways.

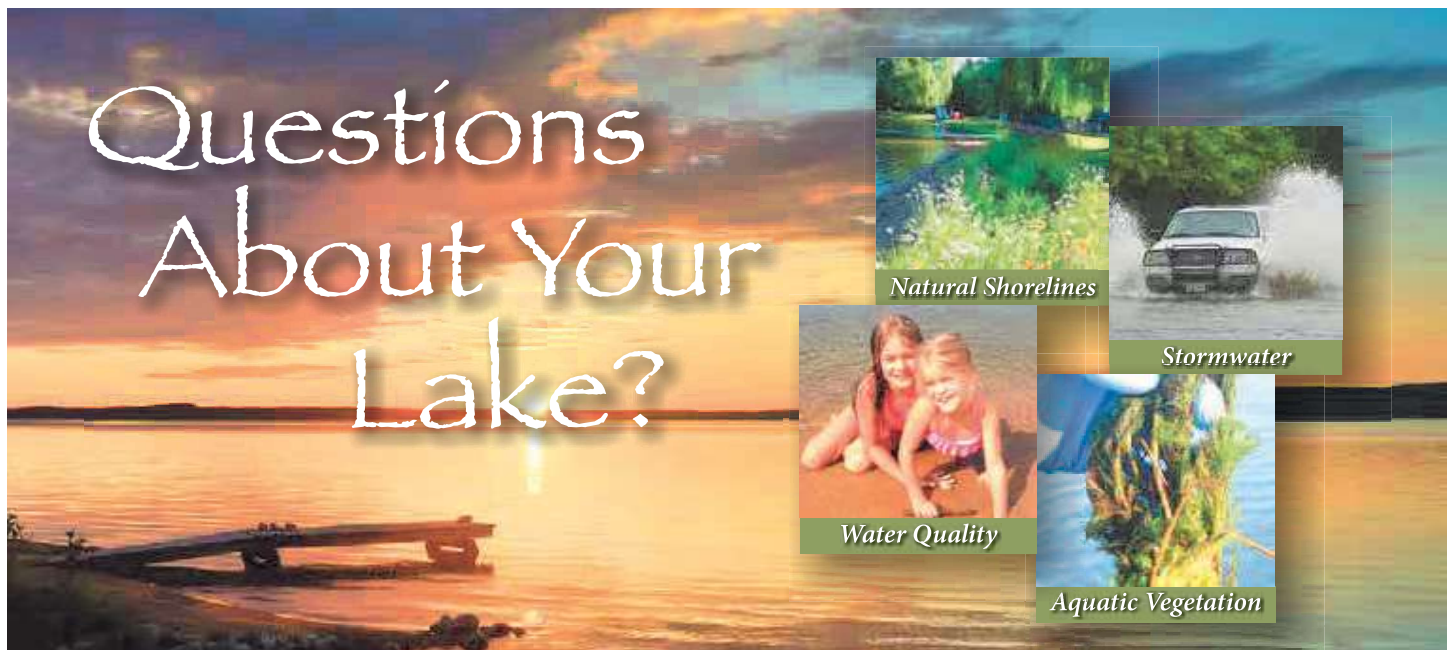
Standing on one's deck, dock, or even walking right up to the edge of these wood habitat areas, we see minnows, crayfish, small bluegills, perch, and large predator fish using their new "hotel and restaurant" where there was once an empty, desert-like sand shoreline and bottom. Now it's alive and teeming with life. Herons and kingfishers feed. Ducks show up to eat. An Eastern Kingbird rests on a branch waiting for aquatic insects to emerge through the water column, shed their skin, and turn into delicious flying insects. Fish

nest up against a submerged tree limb; a sunfish glistens in the sunlight with all her tropical colors. While science and biodiversity are certainly important, when it comes down to it, this, and the lake health promise, is the vision the small lakefront lot owner cares about when considering a wood habitat installation.

While discussing an upcoming wood habitat project with a lakefront owner, he said, "I can't wait to show my grandkids all the lake life that shows up after this project is done." This small change will make a big impact on the lake, and it will ensure future generations will be wading, swimming, and boating on a healthier lake for generations to come. R

REFERENCES

Czarnecka, M. Coarse woody debris in temperate littoral zones: implications for biodiversity, food webs and lake management. *Hydrobiologia* 767, 13–25 (2016). <https://doi.org/10.1007/s10750-015-2502-z>



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