

## **Christie Lake Fishsticks Program 2013-2014**

### **What is Fishsticks**

Simply stated it is a shoreline restoration process which has the benefit of enhancing both aquatic and shoreline animal life.

Fishsticks is now the common term used for creating a near-shoreline eco-system promoting fish spawning and nursery habitat for young fish as well as other life forms. The material used for Fishsticks may be either old mature trees and/or bundles of brush usually positioned along the selected shoreline during the winter months when the ice is thick with little damage caused to the land.

The addition of wood to the littoral zone or near shore area of a lake is the *next best* conservation practice after the establishment of a native vegetation plant community along the shoreline.

### **Why Have a Fishsticks Program**

**FOOD SOURCE** - The abundance of wood in the near shore areas creates a super market for the animals in the lake. The bottom of a single white pine log lying on the shoreline could house a density of up to 75,000 invertebrates. While the invertebrates dine on the white pine, small fish gather to feast on them, and larger fish find the abundance of smaller fish to their liking. Research in the USA has indicated that panfish in lakes with significant complex woody habitat have growth rates up to three times that of fish in more simple habitats due to the increased availability of invertebrates. Studies have also shown that not only are there more fish along woody shorelines, but they feed in these areas at rates seven times higher than along shorelines void of wood. Waterfowl and shore birds utilize the high protein diet of invertebrates and small fish that frequent these woody complexes.

**SHORELINE PROTECTION** - Wood complexes can protect shorelines from wind and wave erosion. The forty to fifty foot long trees commonly used to construct wood complexes calm the waters by absorbing the energy of both wind and powerboat generated waves. Without wood, waves can crash full force against the shoreline, eroding and undermining the shoreline vegetation. When the vegetation drops or slumps, it creates an area of raw soil that will reach the lake through runoff or wind. Powerful waves also prevent the establishment of native aquatic plant communities along the shoreline because of the scouring effect that takes place in the moving sand. Reducing wave energy allows detritus material floating or suspended in the water to drop out and accumulate in the shelter of the wood. This material is the "top soil" of the lake allowing native aquatic vegetation to take root, providing additional habitat and reducing areas available for potential colonization by invasive species.

**COVER** - Wood complexes provide essential cover that allows fish and other animals to successfully complete their lifecycles. Healthy populations of all living things must have the opportunity to be born, live and successfully procreate. The nooks and crannies of wood complexes offer critters safety from predators while at the same time concentrating prey to make predators more efficient. Wood provides the structure on which many species must lay or attach their eggs. More quality spawning and nesting habitat produces more young; more young provide more prey and the cycle continues in balance.

**BENEFITS** - Wood in the near-shore areas of lakes continues to play a crucial role in the ecosystem. The forest-lake interface creates edge habitat on the shoreline. This forest-lake edge habitat, like all edge habitats, contains richer species diversity and higher concentrations of species than the adjoining habitats themselves will have. Research has shown that a single white pine tree along the waterline could have as many as 27 separate species rooted on it. Aquatic animal life colonizes the woody structure throughout its lifetime, which can be as much as 300 years or more, and the structure protects the shoreline from wave erosion. These physically complex lakeshore habitats are far superior to the shorelines typically found today on well developed lakes.

## **How to Establish & Cost**

Christie Lake landowners and our Association can easily install woody habitat complexes along our shoreline as part of a restoration project. There is financial assistance, technical expertise, equipment and materials for approved projects available to lake associations and landowners interested in completing a wood complex on their shorelines through the *Lake Stewardship and Habitat Restoration Program* of the Ontario Ministry of Natural Resources (OMNR). See the following OMNR website link [http://www.mnr.gov.on.ca/en/Business/LetsFish/2ColumnSubPage/STEL02\\_166030.html](http://www.mnr.gov.on.ca/en/Business/LetsFish/2ColumnSubPage/STEL02_166030.html)

Installation is generally done in winter from the ice so there is very little ground disturbance of the uplands. The trees or bundles of branches are attached to the shoreline by steel rods or cables and weighted so they stay in place while they “settle in” for the next couple of hundred years.

**There is a tremendous opportunity for shoreline landowners and the Lake Association to improve the quality of our lake through prudent selection of sites for the addition of more wood to the shoreline.**

## **Epilogue**

*Crack, Crack, Splash! The old tree had lived a full and accomplished life. It had crossed paths with countless generations, changing with seasons, changing with age. Now it began its second life...in the lake. Within hours, crayfish crawled beneath its partially submerged trunk, followed by a mudpuppy and tadpoles. Minnows and small fish hovered within the lattice of its branches. Within days, sunfish, bass, pike, even walleye and muskellunge had also entered the complex network of branches. Algae and diatoms began establishing colonies, while dragonfly nymphs and mayflies followed to forage. A wood duck competed with a painted turtle for basking space. Use of the tree by a variety of organisms would continue again for much longer than its life on land; remarkably perhaps 300 to 600 years, slowly changing shape over time as it yields to father time.*