

## **The Plight of the Naked River**

**By Kimberly Balke, Biologist & Project Manager**

Trees. Is there anything in nature more useful than a tree? Whether it's alive or dead, a tree is a great thing. Most of our rivers and creeks begin in the trees, flowing through forests, picking up leaf litter, pine needles, cones, branches and fallen trees as they go. Those tree branches and trunks and root wads – that is what makes up the woody debris that our streams require to be healthy.

I stood on the banks of the Pere Marquette one summer, just outside of Baldwin and thought to myself, “How beautiful but where the heck is all the woody debris?” The river looked, well, naked. Many people may see a floating branch or submerged tree as an annoyance, but in fact they are pretty important for the following reasons:

- ✓ **Home.** Net spinning caddisflies use driftwood to attach their nets for catching food. Case making caddisflies attach themselves to wood and rocks, making protective cases of sticks, gravel and sand around their bodies. A rough piece of wood with feeding grooves from a riffle beetle will support more animal and plant life than wood with a smooth surface.
- ✓ **Food.** Algae, moss, fungi and microscopic organisms that grow on wood provide food for bugs like caddisflies, mayflies, stoneflies and snails which then provide food for fish, frogs, salamanders, turtles, crayfish and other wildlife.
- ✓ **Protector.** Large woody debris creates protected areas for fish during high water and extreme seasonal temperatures. Young trout use wood as escape cover from bigger fish, and the big fish use wood to hide from anglers.
- ✓ **Designer.** Fallen trees create new habitats, making a river more complex. A piece of wood can deflect the current away from a sensitive bank or it can scour out a nice, deep hole. The energy of flowing water is continually dissipated by driftwood in the channel, slowing erosion and collecting leaves and other organic debris that provide food for bugs.
- ✓ **Transportation.** Insects attached to woody debris can make their way down the river, spreading food opportunities throughout the stream.
- ✓ **Rest Stop.** Turtles and snakes use wood in the river for resting and basking spots. Mink, otter, muskrat, raccoon - a log in the stream is a spot to stop and eat a snack. I snuck up on an otter on the Betsie this fall; he scurried across a log in the river before diving into the stream. Stoneflies, some mayflies and dragonflies use driftwood to crawl out of the water so they can emerge as terrestrial adults.

Our rivers looked vastly different 150+ years ago than they do today. It is easy to forget and underestimate how the logging era of the late 1800s decimated our streams and the woods that surrounded them. In the *Manistee River Assessment*, Tom Rozich, MDNR Fisheries Biologist, includes an excerpt from a survey conducted on the Manistee River in 1869 by the River Improvement Company, “September 18<sup>th</sup>, in two canoes, so light we could carry them upon our shoulders, we commenced descent of the Manistee, from Section 18, T28N, R4W [near Deward]. ... This jam is 20 rods [330 ft] up and down the stream: estimated expense of removal, \$40 per lineal foot or \$800. Near the west boundary of the last-named township, is jam No. 2: 18 rods [297 ft]. On Section 6, T24N, R8W [Smithville] is jam No. 3, at crossing of the Ah-go-sah-trail: 20 rods [330 ft] in extent. These jams date back in buried centuries. As evidence, we find deep worn trail around them, where Indians have dragged their canoes; also soil accumulations from

fallen leaves and freshet of the stream, with forest growth. Cutting to the heart of a cedar twenty inches in diameter, growing over the center of the jam, I counted 160 years of growth.”

Incredible. Can you imagine seeing a log jam 330’ long with a 160 year old cedar growing in the middle of it on the Big Manistee River? What a sight to behold. Could you imagine dynamiting it out for \$800? It took hundreds of years for woody debris to accumulate in our streams and only a mere fraction of that to dynamite it all out. In the 1800s our rivers and their steep banks were cleared for ease of rolling and floating logs to railroads, cities, sawmills, and Lake Michigan.

Some of you reading this article may say, “Hey CRA, if fallen trees are so important then let the rivers move and the banks cave in as they please – stop stabilizing them!” That is not so simple. One reason is that landowners will rarely stand by and watch banks erode into the river losing land as they go. The more important reason is that we now manage our rivers for fish that thrive in cold water, spawn on gravel, and eat aquatic insects. A river laden with sand will eventually be shallow, wide, and warm with deep holes filled in, and gravel and woody debris buried. For those of you who don’t fish, value the trout and aquatic insect as indicators of how healthy our rivers are. The now extinct arctic grayling that used to inhabit our streams also had high standards, requiring cold water and insect life to flourish.

What can you do? If you see a fallen tree in the stream, don’t take it out. What else can you do? Change your perspective. Sure, you might not want a dead tree lying on your lawn or near your home. But when you stand at the river’s edge, you should want to see some trees that are laying in the river, interlaced into a nice log jam.

Every year CRA gets calls regarding trees that have fallen into the river. We work with contractors to move the woody debris around, often anchoring it along a streambank. When we place fieldstone on eroding banks, we look around for nearby trees to cut or have the contractor haul in trees from off-site to anchor into the base of the bank. On the Manistee River we’ve worked with the USFS to helicopter in hundreds of trees over a period of 7 years to drop along riverbanks, root wads and all. CRA likes the middle ground. We can navigate our streams and stabilize our banks, but we can also keep wood in them.

So the next time you are on creek or river, pick up a water-logged branch. See what you can find crawling or growing on it. And when you’re done, throw it back in. The river needs it.

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The Conservation Resource Alliance (CRA) is a private, non-profit organization based out of Traverse City, Michigan. CRA covers 13 counties in Northwest Michigan, working on water quality and habitat improvement projects on rivers and the wildlife corridors that surround them. CRA’s work is funded by grants, donations and memberships. To learn more check out our website at [www.rivercare.org](http://www.rivercare.org) or give us a call at (231) 946-6817.