

# Woody Debris Management



## What's the Problem?

As trees growing alongside a stream or river age, die and decay, large branches and sometimes even the whole trunk, can fall onto the streambank or into the channel itself. In the past, these logjams were thought to be a significant problem and were completely removed. However, all the woody debris should not always be removed. Total removal can increase erosion and negatively impact habitat for fish.

## Low-cost solutions

A low cost solution is to include volunteers in your woody debris management plan. For example, volunteers could be used for trash removal, planting native species in the riparian buffer, and supporting the community staff working in the stream.

## What are the Benefits of Woody Debris Management?

Streams and rivers with adequate woody debris tend to be more ecologically healthy. Woody debris management provides a variety of cover habitats for fish, aquatic insects, and wildlife. It reduces localized flooding and erosion while maintaining flow reduction and sediment deposition benefits, and increases and/or maintains the river's aesthetic value.

## Woody Debris Management Techniques

**Managing Logjams through the Clean and Open Method.** The Clean and Open Method of Woody Debris Management has been specifically developed to give guidance on how to manage logjams, preserving the benefits they provide while minimizing the problems they can create. The following method can be used at individual sites effectively and is designed to be part of a larger riparian corridor management plan.

1. **PLAN** – Address public health, legal access, safety concerns, define point of access to river, determine depth of water, flow and emergency plans.
2. **CLEAN** – Remove trash and dispose of properly.
3. **OPEN** – Move or cut loose, floating debris to allow a passage of flow.
4. Place excess woody debris along streambanks and in the adjacent riparian corridor to create habitat.
5. Leave woody debris that is embedded in the stream's banks or bottom undisturbed.
6. Minimize impact to the riparian corridor at the work site.

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## Woody Debris Management Techniques (con't.)

### Utilizing Logs to Create Habitat through the Habitat Structure Method.

The Habitat Structure Method has been specifically developed to give guidance on how to make use of logs in the river system to create important habitat structure, preserving the benefits it provides while minimizing the problems they can create. The following method can be used at individual sites effectively and is designed to be part of a larger riparian corridor management plan.

1. BE SAFE – Address public health, legal access, safety concerns, define point of access to river, determine depth of water, flow and emergency plans.
2. PLAN – Develop a plan that utilizes large tree trunks and limbs as structure in a stream.
3. PERMIT – Secure approved permit for project from MDEQ (Inland Lakes and Streams Permit).
4. MOVE – Move or place selected woody debris in optimum position.
5. SECURE – Attach woody debris to bank by using cable and post or chain.
6. DO NOT secure to live trees.
7. Minimize impact to the riparian corridor at work site.
8. Minimize exposure of cable, post and chain.

Source: Wayne County Department of Environment.



Source: Friends of the Rouge

**Cover photo:** Courtesy of Wayne County Department of Environment.

**Photo above:** One element of the Habitat Structure Method is to secure woody debris to the bank using cable.

## Other Considerations

- Remove as little debris as possible because it is easier to remove additional pieces later than to repair the damage of excessive removal.
- Removal criteria will depend upon the management objectives and needs to be tailored to the specific river or stream.
- Frequent monitoring of the area for a year after action is complete is necessary to ensure that the removal has not aggravated erosion, or resulted in any other unintended impacts.

## Woody Debris Management

### Resources

Bryant, Mason D. *The Role and Management of Woody Debris in West Coast Salmonid Nursery Streams*. 1983.

Massachusetts Department of Environmental Protection.  
*Massachusetts Nonpoint Source Pollution Management Manual: Chapter 8*. 2006.

Ohio Department of Natural Resources.  
*Ohio Stream Management Guide: Large Woody Debris in Streams*. 2002.

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*Woody Debris Management 101: Clean and Open Method*. 2004.

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