

WOODY DEBRIS MANAGEMENT Fact Sheet



LOGJAMS: WOOD IS GOOD

In the past, woody debris was removed from streams to drain floodplains, float timber, and allow boat traffic. Now we recognize some logjams are “good” and should be left alone because they have the following benefits:

- Provide cover for fish.
- Stabilize channels by trapping sediment.
- Redirect flow to create scour pools and open gravel.
- Increase groundwater levels.

However, woody debris can float downstream, collect, and create “bad” logjams. Hazardous logjams that are causing or could cause severe flooding or severe erosion should be removed. If you are considering removing woody debris, consider these stream-friendly tips:

- Work from the streambank and keep equipment out of the stream.
- Anchor log debris to side for bank protection and aquatic habitat.
- Salvage log debris for stream restoration projects.
- Leave stump and roots behind when cutting down trees that may rip out banks.



A common motivation for many people to manage and remove large woody debris in streams is to enhance navigability. Paddling clubs or others seeking to keep waterways open for paddling should be educated about the functions and values of live and dead vegetation in and extending into the water. Woody debris that may be a nuisance to paddlers may be important structure for fish, perching birds, or basking turtles. People seeking to clear channels for navigation should assess the logjam and clear the minimum amount necessary to enable their boats to squeeze through. **The clean and open method** of woody debris management has been specifically developed to give some initial guidance on how to manage a logjam, while preserving the benefits they provide and minimizing the problems they create. See the reverse side for more information about this method.



A BUFFER IS THE BEST LONG-TERM PROTECTION

A streamside buffer of trees, shrubs, and grass protects land and water in the following ways:

- Slows floodwaters
- Blocks flood debris from entering fields
- Protects banks
- Filters overland pollutants
- Provides wildlife habitat

Buffers work!! Studies show that a dense tree stand at the top of the bank can cut down meander erosion in half. Consider preserving or planting trees and shrubs near your stream.



WOODY DEBRIS MANAGEMENT Fact Sheet Clean and Open Method



THE CLEAN AND OPEN METHOD OF WOODY DEBRIS MANAGEMENT

The clean and open method is designed to be part of a larger river maintenance/riparian corridor management plan, but can be used effectively at individual sites effectively. There are many benefits to utilizing woody debris management techniques, such as the clean and open method, for riparian maintenance.

BENEFITS

The clean and open method is beneficial for river maintenance in five ways:

- Preserves and increases fish and wildlife habitat.
- Reduces localized flooding and erosion while still maintaining the flow reduction benefits that logjams provide.
- Increase and/or maintains the river's aesthetic value.
- Meets requirements of stormwater pollution prevention initiations (SWPPI) from the general stormwater permit by creating and maintaining habitat, preserving riparian vegetation and reducing erosive flows.
- This method saves money by reducing the need to use heavy machinery and extensive restorative work.

CLEAN AND OPEN METHOD

- Does not require a Michigan Department of Environmental Quality (MDEQ) permit (there is no change to the stream bed or bank).
- Evaluate logjam by size, impact and safety to determine whether method is appropriate for the situation.
- Before starting any work, evaluate and address all safety concerns.
- Remove litter (man-made materials) with minimal log removal.
- Move loose, floating logs to allow **minimal** opening at center of stream flow. Use a handsaw or chain saw to make the opening just wide enough to allow flow through logjam.
- Lop off branches near the water surface so that they do not trap smaller pieces and form large accumulations.
- Loose wood can be added to each logjam end or removed. Leave any removed woody debris on flood plain or in a riparian corridor. This creates additional riparian habitat.
- Multiple volunteers can be involved.
- Leave rooted or embedded stumps and logs.



MATERIALS

- Come-along, block and tackle.
- Chain saws (only to be operated by professionals), hand saws.
- Stout rope.
- Avoid using heavy equipment such as backhoes, front – end loaders, bulldozers, etc. whenever possible and practicable.
- Canoes or boats depending on river or stream characteristics.

ACTIVITIES FOR VOLUNTEERS

- Rope teams to move or remove loose, floating woody debris.
- Trash removal teams for man-made materials in stream, on floodplain or riparian corridor.
- Logjam opening team—to cut a navigation channel.
- Equipment support team providing equipment to workers in stream.
- Planting teams for native trees, shrubs, and grasses in riparian buffer zone.



This fact sheet was created by the GLRC for Stormwater Management and Non-Point Source Pollution Prevention. For more information please contact: Michigan Department of Environment Quality at www.michigan.gov/deq or your local Natural Resources Conservation Service at www.mi.nrcs.usda.gov. Or you may contact the GLRC at www.mywatersheds.org; phone: 517.393.0342. September 2006