

Trees, Logs, and Roots Keep Streams Healthy

Wood, in the form of tree trunks, large logs, and tree roots provide important biological and physical benefits for streams.

Fish (especially trout and bass), stream insects, and other stream animals benefit substantially from wood in streams.

Wood in streams also reduces bank erosion and the transport of eroded sediment downstream to Chesapeake Bay.



For more information on the importance of wood in streams contact the Maryland Department of Natural Resources Fisheries Service at 410-260-8300 or call us at 1-877-620-8DNR x8605



Biological Benefits

Wood (trees, logs, and roots) in streams provides shelter and food for stream animals. In streams with good water quality, less wood typically means there will be fewer fish. Game fish, such as trout and bass tend to be larger and more numerous where wood is abundant. Wood also provides hiding places for young fish and protects them from predators. Young insects and other stream invertebrates are often very abundant on submerged wood. They provide food for fish and other larger animals and are also important indicators of stream health. Young dragonflies, for example, usually live on roots and logs in streams. There are 109 rare, threatened, or endangered dragonfly species in Maryland. Wood in streams provides critical habitat for their survival.

Physical Benefits

Trees, large logs, and tree roots stabilize stream banks and are important in forming stream channels. Tree roots prevent stream bank erosion, thus reducing property loss and preventing sediment from entering streams, rivers, and ultimately Chesapeake Bay. Sediment is also trapped behind logs and roots, keeping it from being transported downstream. Deep pools are formed where large logs fall across the stream channel. Streams without large pieces of wood have little variety in depth and flow.

Logjams

Logjams occur naturally. They can span the entire stream creating obstructions and altering flows. Backwaters formed behind logjams enrich floodplain soils and provide important nursery areas for young fishes, as well as other plants and animals.

Removal of Wood from Streams

Trees, logs, and roots are commonly removed from Maryland's streams to improve navigation and safety for canoes and kayaks. Although removing wood from streams and rivers may take less than a day, their removals can have long-term and cascading impacts to the stream's ecosystem. Rather than removing wood from Maryland's waters, portaging canoes and kayaks may be necessary. Sometimes it must be removed if it threatens infrastructure such as bridges or culverts. If wood absolutely must be removed, the minimum amount should be displaced downstream, rather than being placed on the bank. Where wood has been cut or displaced, it can be repositioned and anchored to the shoreline so its benefits are not lost. Repositioned wood should be aligned in a downstream orientation at an angle ranging from 20 to 40 degrees to the stream bank. This orientation will ensure that the repositioned wood does not deflect river flows into the stream bank and cause erosion.

Maryland regulations pertaining to the cutting or removal of wood from streams:

Anyone planning to cut or remove wood from any stream channel should check with the Maryland Department of the Environment (800-633-6101). It is illegal to change the course, current velocity, or cross section of a stream in Maryland without a permit. If removing or cutting wood in a stream changes its course or current, you are likely required to obtain a permit. In addition, removal of wood from a stream may cause bank erosion, violating sediment and erosion control regulations.



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