

Appendix H

**Ohio Department of Natural Resources
Ohio Stream Management Guide**

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OHIO STREAM MANAGEMENT GUIDE

Index of Titles

Guide No. 05

The Ohio Stream Management Guides are fact sheets prepared by the Ohio Department of Natural Resources. The series of Guides covers a variety of watershed and stream management issues and methods of addressing stream related problems. The first several Guides present broad-based information and should be used in conjunction with those Guides which provide details about specific management practices. Input from staff of several ODNR divisions and from local, state and federal agencies is used in the development of the Guides. Funding for the production of the Ohio Stream Management Guides was provided in part through a federal grant under Section 319 of the Clean Water Act, Project #95 (h) EPA-2.

All of the Stream Management Guides, including an *Index of Titles*, are available from the Ohio Department of Natural Resources. Contact the ODNR Public Information Center at 1952 Belcher Drive Building, C-1, Columbus, Ohio 43224-1386 or 614/265-6791 or infomail@dnr.state.oh.us. For more information about the project, call the ODNR, Division of Water at 614/265-6739. Each Guide is designed to be easily and clearly reproduced and can be bound in a notebook. *Single copies are available free of charge. When distributing guides at meetings or in mailings, please use the printed editions as a master for reproducing the number of copies you need, or you may print high quality originals from PDF files available on-line at: <http://www.dnr.state.oh.us/odnr/water/pubs/onlnpubs.html>*

The Ohio Department of Natural Resources would appreciate hearing from you about the usefulness of this series of Guides. If you would like to provide us with your opinions, or input to be considered when we update the Guides, please contact us at ODNR Division of Water, 1939 Fountain Sq. Ct. E-3, Columbus, Ohio 43224-1336, or water@dnr.state.oh.us.

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| <p>01 An Introduction to Stream Management
An overview of streams as a water resource and the inter-actions between land uses and stream resources.</p> <p>02 Who Owns Ohio's Streams?
Questions and answers regarding the rights and responsibilities of landowners and the authorities and duties of government with regard to surface water.</p> <p>03 Natural Stream Processes
An overview of stream ecosystems, processes, and terms.</p> <p>*04 A Catalog of Contacts for Stream Topics:
Programs, Information, Authorities, Regulations and Funding. <i>(In Production)</i></p> <p>05 Ohio Stream Management Guides: Index of Titles
This guide contains a listing of all stream management guides with a brief description of each and availability information.</p> <p>06 Permit Checklist for Stream Modification Projects
Overview and contact information for permits, requirements and consultations, which may be necessary for completion of projects in or adjacent to streams.</p> <p>07 Restoring Streambanks with Vegetation
Construction guidelines for planting dormant cuttings of willow (or other rapidly-rooting species) to quickly establish living erosion barriers.</p> | <p>08 Trees for Ditches
Guidelines on species selection, planting locations and maintenance to achieve environmental and economic benefits while maintaining drainage capacity.</p> <p>09 A Stream Management Model
A walk-through guide to a the stream management display and demonstration at the Ohio Farm Science Reviews Gwynne Conservation Area.</p> <p>10 Biotechnical Projects in Ohio
Biotechnical practices using vegetation and other natural materials are defined, and several projects using these techniques are described and mapped. Contacts for on-site visits to some of these sites are listed.</p> <p>11 Tree Kickers
Construction guidelines for using hardwood logs anchored to a streambank at an angle to divert stream flow energy away from undercutting the streambank.</p> <p>12 Evergreen Revetments
Construction guidelines for creating a buffer system made of cut evergreen trees attached to each other and anchored into an eroding streambank.</p> |
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13 Forested Buffer Strips

Benefits of vegetation left or restored along streams.

14 Live Fascines

Construction guidelines for protecting streambanks with long bundles of live woody vegetation placed in shallow entrenchments parallel to the flow of the stream.

15 Gabion Revetments

Construction guidelines for protecting submerged streambanks by placing stone-filled wire baskets in shallow entrenchments along the stream.

*16 Riprap Revetments

Construction guidelines for protecting streambanks by layering various size rocks along a sloping bank. *(In Production)*

17 Live Cribwalls

Definition, use, and guidelines for constructing cribwalls to aid in the establishment of willow cuttings on streambanks.

*18 Stream Debris and Obstruction Removal

Questions and answers to assist landowners in maintaining a free flowing stream without logjams. *(In Production)*

19 Deflectors

A description of the procedures and materials necessary to stabilize streambanks by directing the current away from the outside of a stream meander.

*20 Eddy Rocks

Construction guidelines for placing groupings of large rocks in small streams or modified channels to help restore natural stream features and enhance in-stream habitat. *(In Production)*

*21 Grass Filter Strip

Construction guidelines for using uniform strips of dense turf or meadow grasses planted along impervious surfaces to improve water quality by sorbing particulate pollutants out of runoff. *(In Production)*

*22 Gravel Riffles

Construction guidelines for the procedure of placing gravel and cobble-sized stones at intervals in a modified or heavily impacted stream in order to stabilize the substrate. *(In Production)*

Stream Management Guides and Authors

- 01 **An Introduction to Stream Management** Margo Fulmer & Michele Willis
- 02 **Who Owns Ohio's Streams?** Lenn Black
- 03 **Natural Stream Processes** Mike Shiefer
- *04 **A Catalog of Contacts for Stream Topics:** Programs, Information, Authorities, Regulations and Funding
Margo Fulmer & Jason Remich
- 05 **Ohio Stream Management Guides: Index of Titles** Margo Fulmer & Jason Remich
- 06 **Permit Checklist for Stream Modification Projects** Kim Baker
- 07 **Restoring Streambanks with Vegetation** Dan Kush
- 08 **Trees for Ditches** Dave Bergman
- 09 **A Stream Management Model** Jim Lynch
- 10 **Biotechnical Projects in Ohio** Margo Fulmer
- 11 **Tree Kickers** Margo Fulmer & Roger Barber
- 12 **Evergreen Revetments** Margo Fulmer et al.
- 13 **Forested Buffer Strips** Dan Mecklenburg
- 14 **Live Fascines** Mark Ervin
- 15 **Gabion Revetments** Tara Lee & Jason Remich
- *16 **Riprap Revetments** Tara Lee
- 17 **Live Cribwalls** Mark Ervin
- *18 **Obstruction Removal** Lenn Black & Jason Remich
- 19 **Deflectors** Dan Mecklenburg
- *20 **Eddy Rocks** Dan Mecklenburg
- *21 **Grass Filter Strip** Dan Mecklenburg & Jason Remich
- *22 **Gravel Riffle** Dan Mecklenburg, Lenn Black & Jason Remich

Prepared by the Ohio Department of Natural Resources, Division of Water, principal author. Input from staff of several ODNR divisions, state and federal agencies are used in the development of the Ohio Stream Management Guides.

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<http://www.dnr.state.oh.us/odnr/water/pubs/onlnpubs.html>



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