



## Introduction

# RIPARIAN BUFFER TOOLBOX

*guiding riparian buffer establishment  
and management*

As the transition from aquatic to upland habitats, riparian buffers provide a range of environmental and cultural benefits. Not only do these areas of permanent vegetation offer wildlife habitat, they also promote biodiversity, bank stability, and water quality, factors that lead to more stable and better-functioning natural systems. At the same time buffers can provide other landscape functions ranging from bio-energy to agroforestry.

This Toolbox was developed to guide the efforts of local projects and partnerships. It presents a process for the planning, installation, and maintenance of riparian buffers in Minnesota with an emphasis on maximizing landscape benefits. New tools are presented for planning buffers, as well as information about strategies for implementing buffers that have proven successful over many years of conservation work.

Strategies covered in the Toolbox apply to vegetated buffers along streams, lakes, rivers, drainage systems, stormwater basins, and wetlands, essentially any natural system where uplands transition to aquatic habitats. The Toolbox focuses on establishing new buffers for wildlife and water quality but also covers planning strategies for protecting and enhancing existing buffers and corridors by applying landscape ecology concepts and restoration techniques.

As buffers are often used along with other tools for environmental improvement, the Toolbox covers methods to combine Best Management Practices (BMPs) to maximize environmental benefits. Basic information is included about other BMPs, along with links to more detailed information





## Table of Contents and Guide Structure

The process outlined in this Toolbox starts with watershed planning, building partnerships, site selection, and then covers site assessment, the design process, and buffer implementation.

Buffer establishment strategies are covered under earthwork and site preparation, planting, and site management. Links to additional resource information, including detailed planting and management discussions, are also provided.

The following outline summarizes the process described in the Toolbox.

- I. Watershed Planning**
- II. Partnerships and Funding**
- III. Site Identification**
- IV. Site Assessment**
- V. Design Considerations**
- VI. Plant Selection**
- VII. Plan Development**
- VIII. Earthwork and Site Preparation**
- IX. Buffer Planting**
- X. Buffer Management**