

Get involved in protecting the health of the McKenzie Watershed!

Participate in the McKenzie Watershed Council. The Council meets on the 2nd Thursday of every month and welcomes your comments. We also invite you to join our citizen water quality monitoring program. For more information contact the Watershed Council at 541/ 741-5235.

Help out with a streamside project. Planting native trees along streams can improve watershed health. Technical assistance for designing and implementing projects is available from the East Lane Soil and Water Conservation District. If you are interested in implementing a streamside project on your property, or helping on someone else's, contact the District at 541/465-6436.

Assist with a watershed education program at your local school. Many schools in the watershed are teaching students about watershed health. For more information, contact your local school, or the McKenzie Watershed Council at 541/741-5235.

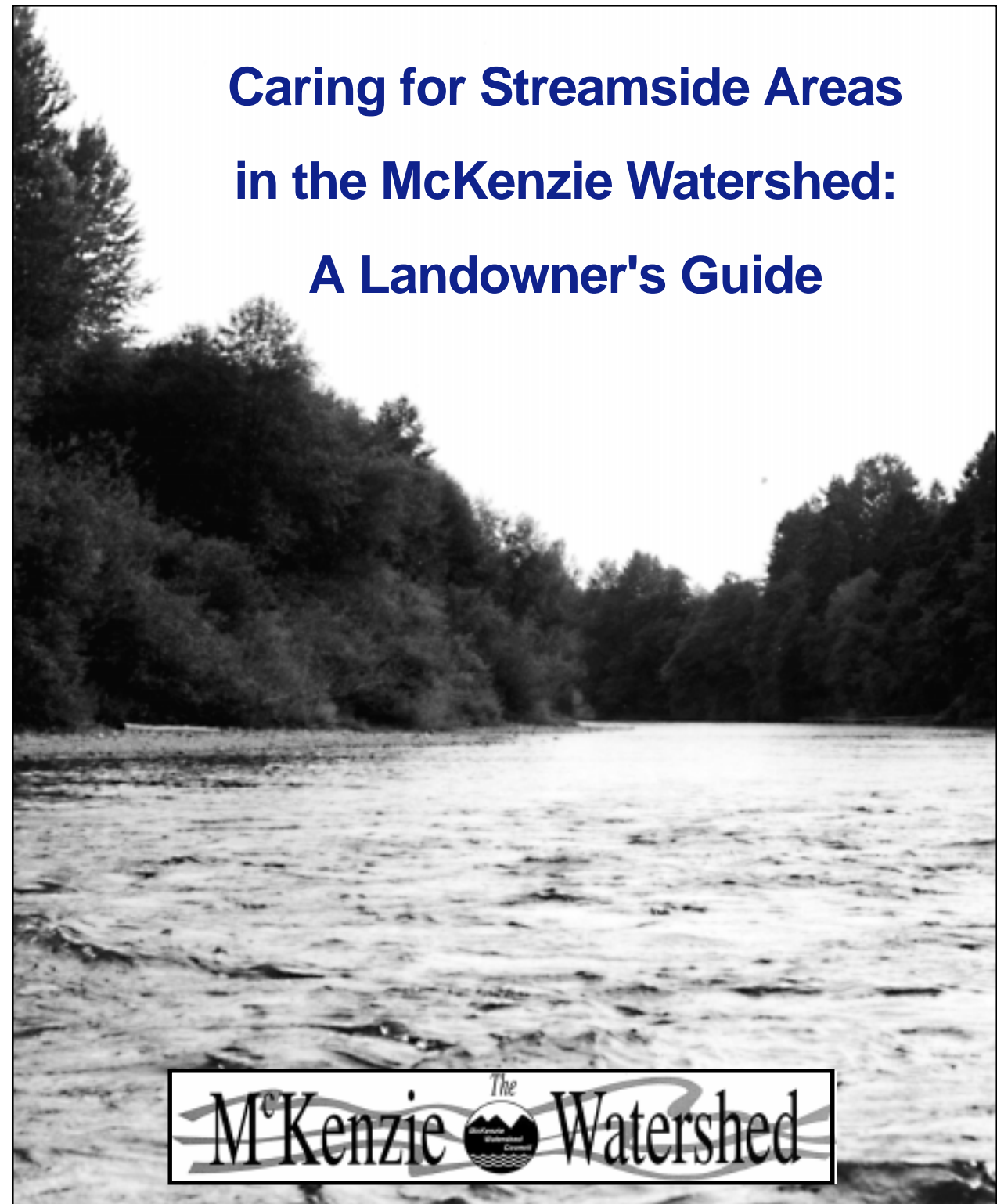
Work with the local land trust to protect streamside areas. The McKenzie River Trust specifically targets riverside properties along the McKenzie for conservation. The Trust offers non-regulatory solutions that protect communities, fish, and wildlife, while offering economic benefits to landowners. Contact the Trust at 541/ 345-2799.

Contact Information

Division of State Lands.....	503/378-3805 ext. 226
East Lane Soil and Water Conservation District / Natural Resources Conservation Service.....	465-6436
Lane County Extension.....	682-4247
Lane County Land Management Division	682-3807
Lane County Waste Management.....	682-4120
McKenzie River Trust.....	345-2799
McKenzie Watershed Council.....	741-5235
Northwest Coalition for Alternatives to Pesticides.....	344-5044

Contact Information

FINANCIAL SUPPORT PROVIDED BY: McKenzie Watershed Council
TECHNICAL ASSISTANCE PROVIDED BY: Bureau of Land Management, East Lane Soil and Water Conservation District, Lane County Land Management Division, Natural Resources Conservation Service, Oregon Department of Fish and Wildlife, Oregon Division of State Lands, Pacific Rivers Council, USDA Forest Service
BROCHURE PREPARED BY: McKenzie Watershed Council and University of Oregon's Community Planning Workshop



Caring for Streamside Areas in the McKenzie Watershed: A Landowner's Guide



What is a Watershed?

A watershed is an area drained by a distinct stream or river system, and separated from other watersheds by ridgetop boundaries. The McKenzie Watershed comprises about 1300 square miles in Lane and Linn counties. Bounded on the east by the crest of the Cascade Mountains, the McKenzie Watershed drains westward, following the path of the McKenzie River as it flows from Clear Lake to its confluence with the Willamette River just south of the town of Coburg. The McKenzie Watershed contains many smaller watersheds, such as the Mohawk, which drain into the McKenzie River.

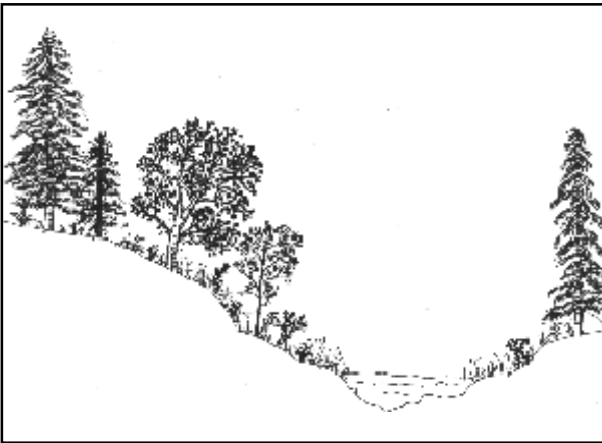


Why is My Streamside Area Important?

Residents of the McKenzie Watershed have good reason to be proud of their river and its beautiful streamside areas. For many generations, the watershed has provided us with a place to live and the resources that we need to survive. We fish, hike, swim, boat, watch wildlife, and relax in and along the river. The rivers and streams are also valuable as a home to many kinds of fish, wildlife, and plants. Because these areas are so important to us and to other living things, we need to pay special attention to how we care for them. This guide describes simple ways that can protect the rivers and streams of the McKenzie Watershed.

Healthy streamside (or riparian) areas do several important things. They help to reduce streambank erosion, thus preventing sediment and dirt from entering the river. They provide fish habitat when trees from the streamside area fall into the water. And, they shade the stream. Streamside areas provide mammals, birds, amphibians, reptiles, and other wildlife with:

- food and water
- cover for hiding and resting
- areas for breeding and rearing of young
- connections for traveling between isolated habitats



Healthy riparian areas have three layers of native vegetation. The layer closest to the ground is made up of grasses, the middle layer is composed of a variety of shrubs, and the upper layer is formed by tree canopies.

Who Should I Contact for Permits Before Beginning a Streamside Project?

Building structures or altering vegetation in the riparian zone can do harm to your property, your neighbors' property, and the quality of streams and rivers in the McKenzie Watershed. Some of the negative impacts include

- Removal of the natural, protective barrier between the river and developed areas;
- Destruction of habitat and food sources for fish and wildlife;
- Increased sediment entering the stream;
- Unstable stream banks; and
- Decreased water quality.

Because streamside areas are sensitive to human activities, Lane County has developed a permit system for activities in riparian areas. ***As residents of the McKenzie Watershed, we all are responsible for protecting our valuable water and streamside resources.***

The Riparian Zone

The regulated riparian zone extends out 50 feet horizontally from the ordinary high water line on land zoned residential, commercial, or industrial, and 100 feet on land zoned for resource use (farm and forest).

The following activities are regulated in riparian zones under Lane County regulations:

- Building
- Removal of vegetation
- Trimming or cutting vegetation

Also, any work done in rivers or streams, along streamside areas, or in wetlands may require a state or federal permit. If you have questions about the need for a permit, contact Oregon Division of State Lands at 503/378-3805 ext. 226.

REMEMBER!

Contact the Lane County Land Management Division before you cut back or remove vegetation in the regulated riparian zone. **Call 682-3807 with questions.**

A unique program under Lane County's Riparian Ordinance may waive permit fees for those landowners who develop an enhancement plan for their streamside areas, and have it approved by the local Conservation District. Technical assistance for enhancement planning is provided by the Natural Resources Conservation Service and East Lane Soil and Water Conservation District. If you are interested in learning more about this restoration opportunity, contact Land Management Division at 682-3807.

What Types of Native Plants Should I Use in the McKenzie Watershed?

Native plants are important contributors to a healthy streamside area. Native plants are easy to maintain because they are suited to local conditions and do not need the extra attention, watering, and chemicals that some non-native plants require. They can stabilize soil and provide food and cover for wildlife. Certain varieties of native plants are fast growing. Others have good soil-binding characteristics. Most grow well in wet soil.

If you'd like information or assistance with a project to restore streamside areas, call East Lane Soil and Water Conservation District at 465-6436



Photo by David Hausam

Recommended Native Plants

Healthy riparian areas contain a mix of many types of native vegetation.

Trees:

Douglas-fir *Pseudotsuga menziesii*
Western hemlock *Tsuga heterophylla*
Western redcedar *Thuja plicata*
Bigleaf maple *Acer macrophyllum*
Oregon ash *Fraxinus latifolia*
Black cottonwood *Populus trichocarpa*
Red alder *Alnus rubra*
Willow *Salix* spp.
Ponderosa pine *Pinus ponderosa*
Grand fir *Abies grandis*

Shrubs:

Red-osier dogwood *Cornus stolonifera*
Vine maple *Acer circinatum*
Red-flowering currant *Ribes sanguineum*
Snowberry *Symphoricarpos albus*
Serviceberry *Amelanchier alnifolia*
Nootka rose *Rosa nutkana*
Beaked hazelnut *Corylus cornuta*
Salal *Gaultheria shallon*
Sword fern *Polystichum munitum*
Deer fern *Blechnum spicant*
Tall Oregon-grape *Mahonia aquifolium*
Douglas spirea *Spiraea douglasii*

From: East Lane Soil and Water Conservation District, and Northwest Native Plants, Thurston County Master Gardener Foundation.

Get involved!

- Replant your own streambank. Each stretch of river or stream that is replanted and stabilized improves the health of the watershed, or...
- Help out with a streamside project on someone else's property.

How Can I Manage My Property to Protect the Streamside Area?

A few simple actions can help to protect the fish, wildlife, and native plants that live in the rivers, streams, and streamside areas of the McKenzie Watershed, as well as the quality of our water supply.

■ Leave natural debris, such as stumps, fallen trees, and boulders, in the stream.

Logs and other natural debris left in streams creates good habitat for fish. The debris provides cover from predators, clean gravel for spawning fish, and pools for rearing young fish. Aquatic insects, which provide food for fish, also thrive in the habitat created from debris. Debris slows the velocity of the river, helping to prevent young fish from being washed downstream.

■ Prevent muddy runoff from entering the stream by planting and leaving native vegetation along the stream.

Fish need clean gravel for spawning and rearing their young, and are less likely to spawn in a river or stream where there is sediment on the gravel beds. Also, sediment from muddy runoff can settle on fish eggs and prevent oxygen from reaching them. A healthy streamside area planted with native vegetation catches and filters muddy runoff, reducing the amount of sediment entering the stream.

■ Remove garbage from the stream area.

Garbage is not only unattractive, but can also release pollutants into the stream. These pollutants can harm or kill animals and plants, and make our water unsafe to drink and swim in. Animals that live along the stream can get trapped or tangled in the garbage, or ingest harmful pollutants. Please dispose of garbage appropriately; your local Waste Management agency can answer questions you might have.

■ Do not put lawn clippings or other exotic vegetation along the streamside.

Non-native plants, such as blackberries and Scot's broom, can outgrow and outcompete native plants. Dumping lawn clippings and other vegetation near streams, especially small ones, can reduce water quality; as clippings decompose, they reduce the amount of oxygen in water. This reduction, in turn, may harm aquatic animals and plants. Composting is a great alternative for disposing of lawn clipping. Your Extension agent can provide information about how to start composting.



More Ways to Manage Your Property to Protect the Streamside Area

■ Use chemicals sparingly on gardens and lawns.

When excessive chemicals are used, they can move into the stream as surface runoff and through the soil. Be sure to follow the instructions for pesticide and fertilizer use. Even small amounts of these chemicals can be toxic to plants and animals that live or feed in the stream. Less harmful alternatives to these chemicals are available. For example, leaving grass clippings on your lawn can supply half of all fertilizer needs.

■ Recycle engine oil and dispose of chemicals properly, not by pouring them down storm drains or into roadside ditches.

Chemicals such as engine oil, paint, antifreeze, cleaning solvents, drain cleaner, gasoline, and detergents can be toxic to plants, wildlife, and humans. Even minute quantities of these chemicals can cause health hazards. When you pour these chemicals down storm drains or into roadside ditches, they go directly into nearby streams without being treated. If you wash your car or pets outside, soapsuds and detergent can be poured onto absorbent ground away from streams. Yet, most chemicals are toxic and should not be poured on the ground because they can move through the soil and into the stream.

■ Care for all streams, even those that flow only for a portion of the year.

Some streams flow only during or immediately after a rain storm or snow melt. Other streams carry water during most of the year, but do not flow throughout the summer. All stream beds will still carry pollutants when water flows, even if the stream bed is dry during some of the year. When you add pollutants to a dry stream bed, the effect is the same as putting these materials directly into a running stream.



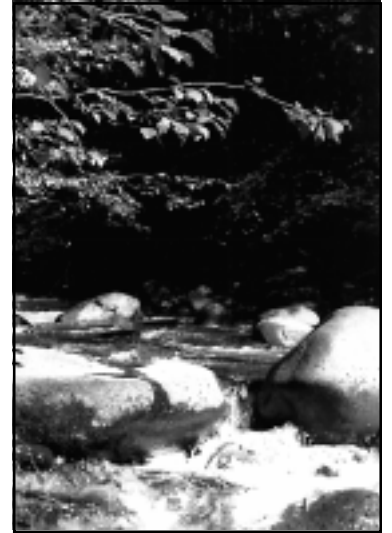
Why Restore My Streamside Area?

Planting vegetation on your stream banks can dramatically slow the erosion and loss of valuable riverfront property. Vegetation along the stream also improves water quality, helping fish and wildlife, and improving the overall health of the watershed.

Overhanging vegetation serves many important functions. It provides fish with cover from predators. As leaves drop into the stream, they provide food for insects, which in turn feed fish and birds. Trees, shrubs, and grasses along stream banks provide shade that keeps water temperatures cool, a requirement for such fish species as salmon and trout.

Vegetation and woody debris help to stabilize stream banks.

Erosion is a natural process. Some stream banks will erode more than others, particularly on the outside of bends in the stream. A healthy streambank has 80% or more of the land covered by vegetation or woody debris. Roots from native plants help to stabilize the banks by making the soil resistant to water erosion. Live roots hold the soil together, which also slows the rate of erosion. The more trees and shrubs you plant, the stronger the banks will be. Without vegetation, the streambank erodes rapidly, causing loss of property.



Streamside vegetation reduces the flow of nutrients into the stream. Vegetation along stream banks absorbs nutrients that move over the land and through the soil. Large amounts of nutrients can reduce the level of oxygen in streams and rivers, harming aquatic plants and animals.

Healthy streamside areas can help to reduce the effects of floods and low flows. Vegetation along stream banks acts as a sponge to water, absorbing water during a rainfall, and then releasing it slowly over time. This slow release helps to reduce flooding downstream. Also, debris from the streamside area, such as stumps and fallen trees, slows the velocity of the river. Overhanging vegetation keeps water temperatures cool during warm, dry summer months when flows in streams and rivers are low.