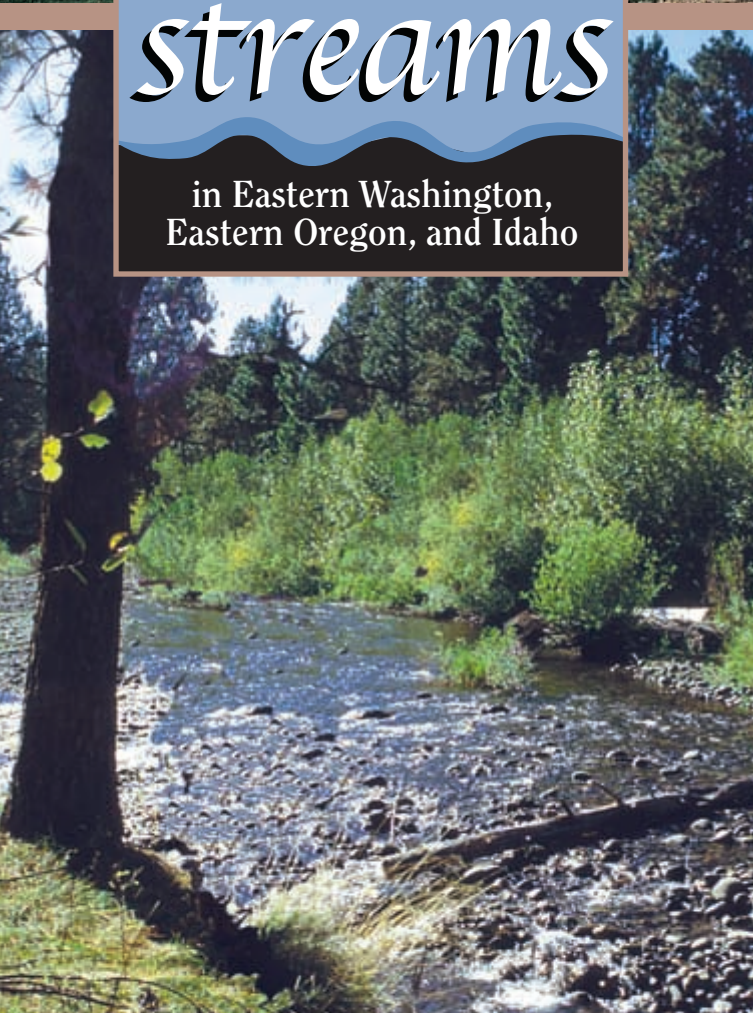




Taking Care of

streams

in Eastern Washington,
Eastern Oregon, and Idaho



A Landowner's Guide to Riparian Areas

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Oregon State University • University of Idaho • Washington State University

As a landowner in the inland Pacific Northwest, you have a unique opportunity to help maintain or improve the health of streams and riparian areas.

A riparian area is the area of land adjacent to a stream, lake, or wetland. Most healthy, natural riparian areas have moist, fertile soils that support many types of moisture-loving plants. These plants provide food and shelter to numerous fish and wildlife.

Healthy riparian areas:

- Reduce the chance of flood damage
- Improve water quality
- Provide habitat for fish and wildlife

Why do riparian areas matter?

Plants in healthy riparian areas:

- Provide wood to streams, creating fish habitat and slowing the stream current during and after storms.
- Shade streams in summer. Cool water is healthier for many native fish species.
- Help prevent erosion by holding soil in place with their roots.
- Filter sediment out of muddy runoff, keeping it from smothering fish habitat.
- Allow rain to soak into the soil instead of running into the stream. This reduces flooding and allows water to be released slowly to the stream during the dry season.
- Filter out pollutants, such as fertilizers, pesticides, and animal wastes.
- Provide important food sources, homes, shelter, and travel corridors for wildlife, fish, and other aquatic organisms.

The bottom line is:

- Less flooding during and immediately after storms
- More water in the stream during summer
- Cleaner water
- Homes and food for wildlife, including many species of fish, insects, amphibians, reptiles, birds, and mammals



It's all about plants

Healthy riparian areas include a variety of types and ages of plants, including trees, shrubs, grasses, and groundcovers. Plants adapted to local rainfall, climate, insects, and soil conditions tend to be easier to care for because they need less water and pesticides.

Most native plants are well adapted to their region. In the Pacific Northwest, a few of the common native riparian plants are:

- Black cottonwood
- Bunchgrass
- Coyote and sandbar willows
- Golden currant
- Lupine
- Ponderosa pine
- Quaking aspen
- Red-osier dogwood
- Snowberry
- Tufted hairgrass
- Woods' rose

Sandbar willow



Snowberry flowers



Lupine



How do people change riparian areas?

Removing or damaging plants through livestock grazing, timber harvest, construction and landscaping practices, especially in the riparian area, can harm streams. Plants, particularly trees and shrubs, catch rainfall and allow it to soak slowly into the ground instead of running quickly into streams. In addition, plants help prevent the carving of gullies that can result when water flows across bare soils. When water runoff from storms reaches streams too quickly, more erosion and flooding occur downstream. More rainwater, pesticides, fertilizers, and sediment reach the stream in areas without riparian plants to slow and filter water. When streams and riparian areas are not healthy, people feel the consequences.

- Recreational areas are lost or degraded.
- Fish and wildlife decline, reducing opportunities for hunting, fishing, and wildlife viewing.
- Increased flooding may cause erosion and property damage.
- The region may lose economic opportunities because people avoid unattractive and unhealthy areas.

Take pride in caring for the stream flowing across your land.



Do not allow livestock to enter streams.

What Can You Do?

Tend to your livestock and riparian areas

- Alternate grazing areas to allow vegetation to recover.
- Allow grazing when forage plants are about 9 to 10 inches tall, and stop grazing when they have been grazed down to about 3 to 4 inches tall.
- Limit or avoid grazing of riparian areas by using fences or paddocks where possible.
- Provide water, shade, and salt in other areas to encourage livestock to graze and loiter away from riparian areas.
- Limit or avoid grazing in riparian areas, especially during the fall and winter when grasses are dormant and the chance of erosion from runoff is greater.
- Keep livestock out of streams, other bodies of water, and fragile riparian areas that have difficulty recovering.
- Locate animal waste and compost piles on flat surfaces away from streams or drainage areas and cover them during wet periods.
- Locate paddocks in dry areas as far as possible from streams.
- Provide wide, grassy areas around paddocks to keep mud and animal waste in the paddock area from entering streams or ponds.
- Use gutters and downspouts on barns and stables to direct water away from paddocks.
- If grazing a large number of livestock, create a grazing management plan.
- Get technical assistance. (See the back of this brochure.)

Protect plants and the streamside

- Promote dense vegetation to reduce runoff and trap contaminants.
- Learn about native plants and use them where appropriate.
- Restore eroded streambanks with help from a professional.
- Leave wood and other natural materials in streams.
- Don't straighten channels or place rubble or rip-rap on streambanks.
- Use switchback trails to reduce erosion in steep areas.

Grow and maintain a stream-friendly garden and lawn

- Plant native plants—their care can be easier because they often are more tolerant of insects and low summer rainfall.
- Minimize the use of pesticides and synthetic fertilizers. Consider using natural, slow-release fertilizers.
- Locate compost piles on flat surfaces away from streams or drainage areas, and keep them covered during the wet winter months. Do not dispose of grass clippings near streams.
- Apply compost to pastures and gardens only during the growing season.

Be careful when you build

- Leave as many native plants as possible near streams and everywhere!
- Plan new construction away from existing streams and wetlands instead of modifying them.
- Direct runoff toward landscaping or another filtering system where possible.
- Minimize paved areas. Keep the roof area, walkways, and driveways as small as possible.
- Use gravel or bark instead of pavement for paths and driveways.
- Always observe local ordinances and get proper permits.
- Leave as wide a vegetation buffer as possible next to the stream.

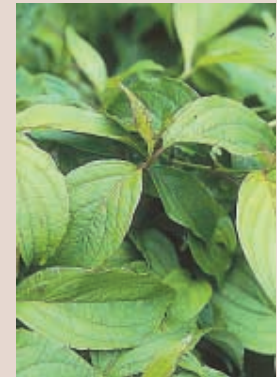
Streamside plants help stabilize streambanks, moderate stream temperatures, and provide habitat for fish and other wildlife.



Alternative watering systems such as nose pumps help keep livestock out of streams.



Quaking aspen



Red-osier dogwood

There's more you can do around the house

- Direct gutters away from streams, pavement, and septic drain fields and into areas where water can seep slowly into the soil.
- Don't pour soapy water, automobile oil, paint, household chemicals, or pesticides down storm drains. Drains often are connected directly to streams.
- Keep pet waste away from streams, riparian areas, and paved areas. Put pet waste in a bag and place it in the trash.
- Use less toxic or nontoxic household cleaners.
- Keep livestock, cars, and trees away from your septic tank and septic field.
- Inspect your septic system annually, and pump the tank as necessary.

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For more information

Best Management Practices for Erosion Control (R.L. Mahler, et al., Soil Science Division, University of Idaho, WQ-27). <http://www.uidaho.edu/wq/wqbr/wqbr27.html>

Landscaping with Native Plants in the Inland Northwest (T. Fitzgerald, revised 2001, Washington State University Cooperative Extension, MISC 0267) <http://pubs.wsu.edu>

Life on the Edge: Improving Riparian Function (D. Godwin, 2000, Oregon State University Extension Service, EM 8738). <http://eesc.oregonstate.edu/agcomwebfile/edmat/EM8738.pdf>

Protecting Groundwater: Managing Livestock on Small Acreage (J. Schmidt and B. Wolfley, 1992, Washington State University Cooperative Extension, EB 1713). <http://cru.cahe.wsu.edu/CEPublications/eb1713/eb1713.html>

*Stream*A*Syst: A Tool to Help You Examine Stream Conditions on Your Property* (G. Andrews and L. Townsend, 2000, Oregon State University Extension Service, EM 8761).

<http://eesc.oregonstate.edu/agcomwebfile/edmat/html/em/em8761/em8761.html>

Stream Corridor Restoration—Principles, Processes, and Practices (The Federal Interagency Stream Restoration Working Group, 1998, revised August 2000). http://www.usda.gov/stream_restoration

EPA Region 10

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Natural Resources Conservation Service

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Idaho Association of Soil Conservation Districts

208-338-5900 (<http://www.iascd.state.id.us/>)

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