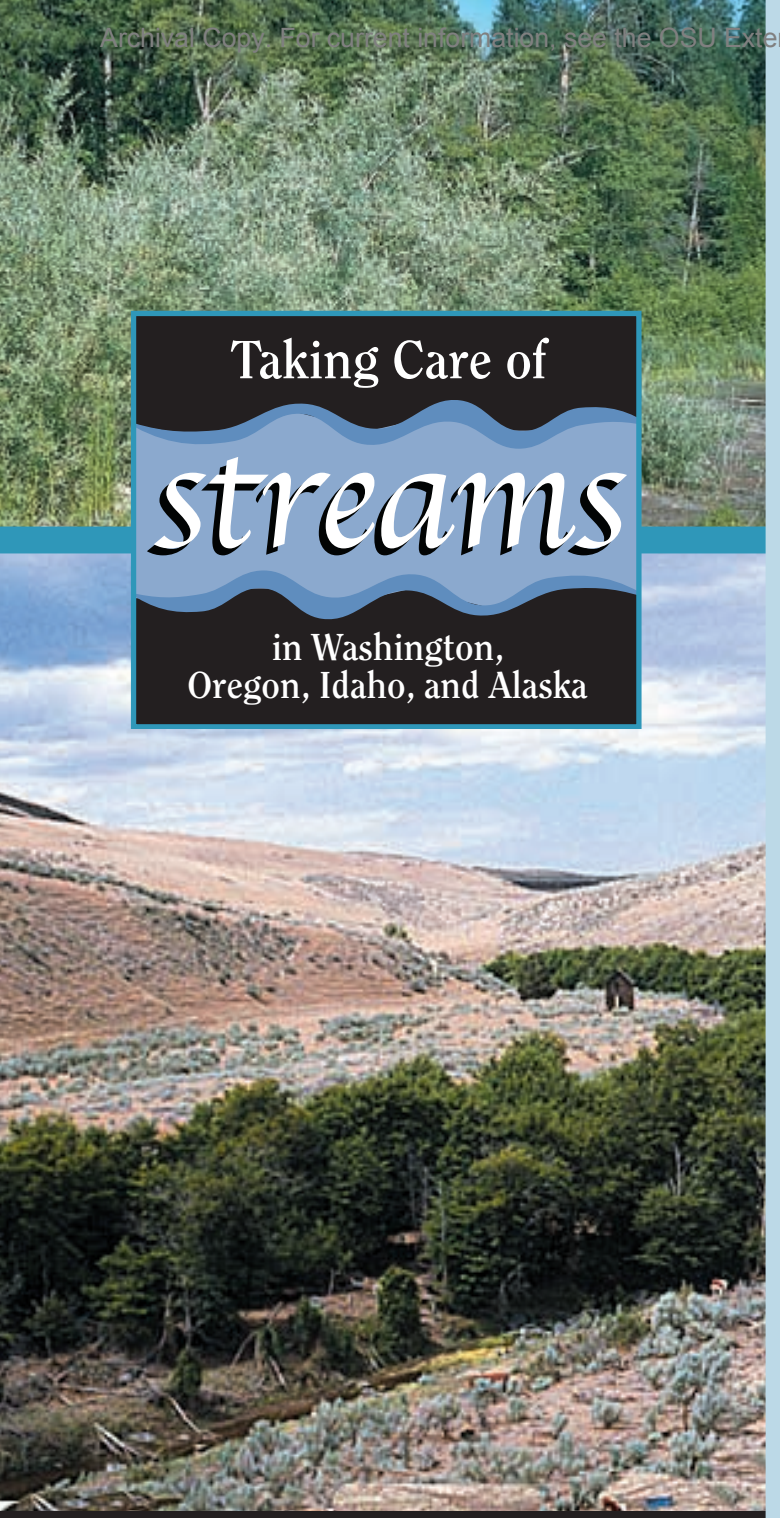

Taking Care of streams in Washington, Oregon, Idaho, and Alaska

A Guide to Riparian Areas in Rangelands

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Oregon State University • University of Idaho • Washington State University
in cooperation with the University of Alaska

Riparian areas used as livestock pasture need special care to remain healthy and productive. This brochure describes what a riparian area is, why it is important, and what you as a rancher can do to take care of your land. A healthy riparian pasture benefits you, your livestock, wildlife, and everyone downstream.

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 plants. These plants provide food and shelter to numerous fish and wildlife, which is especially important in arid areas of the West.

Healthy riparian areas:

- Reduce the chance of damaging floods
- Improve water quality
- Provide habitat and food 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.
- Reduce erosion by holding soil in place with roots.
- Filter sediment out of muddy runoff, keeping sediment from smothering fish habitat.
- Allow heavy winter rains 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, food, and shelter for wildlife and livestock

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 drier regions of the inland Pacific Northwest, a few of the common native riparian plants are:

- Black cottonwood
- Cow parsnip
- Coyote and sandbar willows
- Creeping spikerush
- Ponderosa pine
- Red-osier dogwood
- Snowberry
- Tufted hairgrass
- Water and Nebraska sedge
- Water birch
- Woods' rose

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

Red-osier dogwood

Sandbar willow

Cow parsnip

Comparison of overgrazed and healthy rangeland. (Photo courtesy of USDA NRCS)

How do people (and livestock) change riparian areas?

Livestock walk through riparian areas to reach streams, and they graze on riparian plants. This activity can reduce or eliminate vegetation, compact soils, and erode streambanks. If livestock use riparian areas continuously, native plants may never get a chance to grow back, and undesirable plants may take over.

Without plants, water tends to erode surface soils, cutting channels into the ground. More rainwater, animal waste, pesticides, fertilizers, and eroded soil flow through the channels to the stream, degrading the water and harming aquatic habitat. Also, less water will be available in the stream during the dry season because there are no plants to help capture and store rainwater in the soil. Opportunistic plant species, including weeds, may take over degraded areas, providing less forage, diversity, and habitat for livestock and wildlife.

When streams and riparian areas are not healthy, people feel the consequences.

- We lose recreational areas.
- Fish and wildlife vanish, reducing opportunities for hunting, fishing, and wildlife viewing.
- Livestock forage is lost.
- Flood damage may increase.
- The region may lose economic opportunities because people avoid unattractive, unhealthy areas.

What Can You Do?

Create a successful grazing strategy that allows diverse riparian vegetation to thrive. Key components of such a strategy are to avoid overgrazing and to include adequate rest for the plants in the grazing cycle. A good grazing strategy will help retain water, soil, and nutrients on your property; increase plant vigor; and encourage more desirable plant species. The increased pasture productivity will provide plenty of forage for your livestock, reduce the need for supplemental feeding, and protect water and streambanks. Before you begin your plan, become familiar with local, state, and federal regulations regarding management of riparian areas on private lands.

Develop a sound grazing plan

- Divide your entire grazing area into three or more pastures of about the same size.
- Separate riparian pasture areas from upland pasture areas and from the adjacent stream.
- Allow grazing only 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.
- Let the herd graze one pasture, then move them into another pasture when the desired plant height is reached.
- Do not allow grazing on steep streambanks.
- Clip tall weeds and old grass to control weeds and encourage grass regrowth.
- Make sure not to allow more animals than your pasture's carrying capacity.

Timing

- Get to know the growing cycle of plants that are natural to your area and its soil.
- Determine how many animals can graze a particular pasture based on the amount and condition of forage available in midsummer.
- Limit grazing during the fall and winter when grasses are dormant.
- Moist soils tend to be damaged more easily by erosion and compaction than dry soils. Time grazing schedules accordingly; restrict winter grazing in areas that tend to have large amounts of runoff and erosion.
- If possible, try to limit grazing during peak roosting periods for riparian birds.
- Keep livestock permanently out of riparian areas that have difficulty recovering.

How to limit grazing

Fencing

Advantages:

- Permanently defines the pasture perimeter.
- Easily divides pastures into temporary plots for rotational grazing.
- Keeps animals completely out of sensitive areas or areas you choose to make off-limits.

Disadvantages:

- Fencing can be costly and time-intensive to maintain.
- Fencing is impractical if there are steep banks.
- Floods may wash out fences.
- Fencing above high water levels may exclude too much forage.
- You will need to provide water access or alternative water sources for livestock.

Other methods

Livestock are attracted to the green vegetation, shade, and water near streams, so the key is to provide these features away from the stream.

- Provide water sources away from the stream: troughs fed by wells, springs, or water piped from the stream.
- Make sure there is enough water for the entire herd.
- Keep water from freezing with tank heaters.
- If it's not practical to provide enough water away from the stream, improve access to the stream. Create a graded, cobbled, or paved access area and fence it off from the rest of the stream.
- Supply alternative shade on hot days and windbreaks on cool days, away from the stream.
- If needed, provide supplemental feed away from the stream.
- Provide salt blocks away from the stream.
- Cull individuals that loiter near the stream so that others don't get into the habit; it's a learned behavior.

Monitor your grazing plan

A successful grazing strategy involves taking time to implement it correctly, as well as flexibility and commitment.

- Monitor your plan consistently.
- Be flexible and change your plan when needed.
- Give the plan time to work.
- Take photos before you begin your plan and after you implement it to document your success.

You don't need to do this alone

Contact your local Cooperative Extension, Natural Resources Conservation Service, or conservation district office for more information and help.

What about the cost?

Financial assistance may be available from your local Agricultural Stabilization and Conservation Service office. Involve adjoining landowners to share the job and learn about what you're doing.

Alternative water sources offer livestock shade and keep them out of streams. (Photo courtesy of USDA NRCS)

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For more information

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

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Seattle, WA
206-553-1200
800-424-4372 (toll free in AK, ID, OR, WA)
http://www.epa.gov/r10earth/

Oregon
Oregon State University Extension Service
Call your local office or 541-737-4021
http://oregonstate.edu/extension/

Natural Resources Conservation Service
503-414-3200 (*http://www.or.nrcs.usda.gov/*)

Oregon Association of Conservation Districts
503-472-6307
http://www.netcnct.net/community/oacd/

Washington
WSU Cooperative Extension
Call your local office or 509-335-2885
http://wawater.wsu.edu

Natural Resources Conservation Service
509-323-2900 (*http://www.wa.nrcs.usda.gov/*)

Washington Association of Conservation Districts
360-407-6200 (*http://wa.nacdnet.org/*)

Idaho
University of Idaho Cooperative Extension
Call your local office or 208-885-7025
http://www.uidaho.edu/wq/wqhome.html

Natural Resources Conservation Service
208-378-5700 (*http://www.id.nrcs.usda.gov/*)

Idaho Association of Soil Conservation Districts
208-338-5900 (*http://www.iascd.state.id.us/*)

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