

Restoration Fact Sheet: Riparian Areas

Issue: A riparian area is the zone of land immediately surrounding or bordering a body of water such as a stream bank. Since riparian areas have great influence on water quality and aquatic habitat, and are relatively simple to manage, they are a common tool in many watershed restoration efforts. The key features of healthy riparian areas are native trees with deep, soil-binding roots. Grasses and shrubs are also important ground covers and bio-filters.

TOOLS

Riparian projects often involve some combination of :

- Planting of native vegetation (grasses, shrubs and trees)
- Bioengineered bank stabilization (i.e., woven willow walls)
- Bank pull back or re-sloping
- Livestock exclusion / fencing
- Off-stream or controlled livestock watering
- Invasive weed clearing and control
- Geo-textile fabric (sediment filter)

NEEDED WHERE

Riparian restoration is needed in areas that:

- Lack vegetative cover or have bare soil
- Banks are unstable, actively eroding or prone to erosion
- Water temperatures are high and lack shade
- Banks are dominated by invasive weeds

EFFECTS

Healthy, vegetated riparian areas help to:

- Control temperature by providing shade
- Stabilize banks
- Shade out weeds once trees are tall enough
- Filter fine sediment from runoff
- Uptake excess nutrients from runoff
- Increase infiltration of runoff to ground water
- Recruit future large woody debris
- Provide nutrients for the aquatic food web
- Provide wildlife habitat

CONSIDERATIONS

- In some cases, riparian vegetation will naturally regenerate after exclusion or careful management of livestock or other landuse practices alone.
- Explore options for off-stream or managed livestock watering (nose-pumps, electric pump / trough, and water gaps).
- Planted trees may need brush control for up to six years or until they are “free to grow”.
- Plantings may need wildlife protection such as vexar tubing for browse, foil wraps for rodents, aluminum printing plates for beaver, or special elk fencing.
- Is the vegetation suitable for the site and is the vegetation native to the site?
- Riparian buffer widths, or fence location, should consider natural channel migration over time.
- Landowners may want to participate in the USDA’s Conservation Reserve Enhancement Program which provides annual payments per acre for planting riparian areas and floodplains.



Big leaf maple with vexar tube, South Fork Coos river riparian restoration project.



Non-functioning riparian area.

Native plants of the southern Oregon coast appropriate for riparian plantings.

	Shade Tolerance*	Flood Tolerance*
Coniferous Trees		
Douglas fir	2	1
western red cedar	5	4
redwood	3	4
Sitka spruce	5	4
shore pine	1	4
ponderosa pine	1	4
western hemlock	5	2
grand fir	4	3
Hardwood Trees		
red alder	1	3
white alder	1	5
cottonwood	1	4
Oregon ash	3	5
big-leaf maple	4	3
Oregon white oak	1	3
willows	1	5
Pacific dogwood	4	3
casacara	2	4
Shrubs		
salmonberry	2	4
Pacific serviceberry	3	3
snowberry	4	4
<i>Spiraea</i>	2	5
vine maple	5	3
Indian plum	3	4
hazel	3	2
thimbleberry	3	4
devil's club	4	5
stink currant	4	4
ninebark	2	3
red-osier dogwood	2	4
fool's huckleberry	3	2
red huckleberry	4	2
back twinberry		
rhododendron		
red elderberry		

1 = very intolerant; 5 = very tolerant

Information from Dr. David Hibbs at OSU Forestry