Riparian Areas-
What are they Worth?

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What is a Riparian Area?

- The band of vegetation that occurs adjacent to the stream bank
- Transitional zone between the wetlands and upland areas
Characteristics of a Healthy Riparian Zone:

- Diverse collection of native vegetation that are normally found in close association with water. Many of these plants have deep roots that bind the soils of the streambank and protect against erosion.
Benefits of Healthy Riparian Areas:

- Provide important habitat for wildlife and fish
  - Shade, food, cover
- Improve water quality
  - Filter & catch sediment
  - Assimilate pollutants
- Streambank stability
  - Reduce velocity of flood water
  - Armor banks
Benefits of Healthy Riparian Areas:

- Sustained stream flows
  - Store water in banks and floodplain
  - Prolong base flow
  - Recharge aquifer
Benefits of Healthy Riparian Areas:

- **Important recreational resource for anglers, hunters, canoeists, etc.**
Types of Plants found in Riparian Areas

- Sedges/Rushes
- Grasses
- Forbs
- Woody Plants (Trees & Shrubs)
Functions/Roles of Riparian Vegetation

- Erosion control
- Sediment trap
- Store water
Recognizing an Impaired Riparian Zone:

- Lack of vegetation, exposed soil, and eroding banks
- Presence of vegetation more typical of upland sites
- Sites dominated by exotic or introduced species
- Park-like settings or ones that have been continuously grazed
How Does a Riparian Zone become Impaired?

- Altered stream flow
- Overgrazing or overbrowsing
- Construction along stream banks
- Removing vegetation
- Planting introduced species
What Can Happen when a Riparian Zone becomes Impaired?

- Stream bank stability problems
- Reduced wildlife habitat
- Degraded fish habitat
- Silt and pollutants can more readily enter the stream
What can be done to improve or maintain riparian zone health?

- Maintain or restore appropriate native vegetation
  - Rotational grazing
  - Smaller recreational footprint
- Replant with a mixture of native trees, grasses, and shrubs
Bear Creek Riparian Restoration
Central Oregon
3500’, 12” Rainfall
Intermittent flow – No fish
Accelerated erosion - Sediment loss
Wet riparian area (sponge) = 4 acres / mile
Water storage = 1.5 ac ft / mile

1977
A Change in Grazing Management

1977 – 1984: No grazing / Reduced grazing to jump-start recovery

1985 – Present: Rotational grazing during late winter to maintain adequate riparian vegetation
- Perennial flow; prime aquatic habitat
- Riparian “Sponge” = 12 Ac/Mile (was 4 acres)
- Water Storage = 2,100,000 Gal/Mile
  (net gain of 4.9 ac ft of storage/mile – was 1.5 ac ft)
- 10x Increase in livestock forage
Riparian Chain Reaction

Adequate Vegetation:

- Protects banks from excess erosion
- Dissipates energy and slows the velocity of floodwater
  - Sediment dropped
  - Sediment trapped and stabilized
  - Floodplain / riparian sponge is enlarged
  - Increased groundwater recharge
  - Base-flow is sustained over time
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