

## Grazing Management in Riparian Systems



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## Healthy Riparian Area

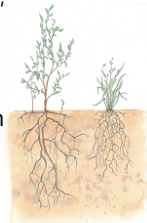
- Vegetation and roots protect and stabilize banks, improve shading
- Elevated saturated zone, increased subsurface storage and water
- Increased summer streamflow
- Cooler water in summer, reduced ice effects in winter
- Improved habitat for fish and other aquatic organisms
- High forage production and quality
- High diversity of wildlife habitat

## Degraded Riparian Area

- Little vegetation to protect and stabilize banks & little shade
- Lowered saturated zone, reduced subsurface storage of water
- Little or no summer stream flow
- Warm water in summer & icy water in winter
- Poor habitat for fish and other aquatic organisms
- Low forage production & quality
- Low diversity of wildlife habitat

## Grazing Management is Vegetation Management

- rest & regrowth produce vigorous, productive riparian plants,
- energy stored in roots will sustain healthy riparian growth,
- healthy plants build strong stream banks,
- woody vegetation adds reinforcement,
- plant species diversity adds forage and shelter values.



## Grazing Management is Vegetation Management

- Enough Vegetation During High Flows
  - dissipates stream energy,
  - traps sediments & build stream banks,
  - builds ground water reserves,
  - maintains stream channel shape



## Grazing Management is Vegetation Management

- Protection During Vulnerable Stages
  - protect banks from trampling when fragile,
  - protect brush species during periods of dormancy,
  - maintain productive forage species.



## Aspects of Managing Grazing

- **Distribution** problems often exist and must be address
- **Stocking rate** may exist, but changes to stocking rate often do not solve concerns
- Proper **season of use** determines effect of grazing on plants and riparian systems

## Why do cattle use riparian areas?

- Water
- Cool temperatures/shade
- Good quality forage in summer
- Flat terrain
- Cover from wind

## Attracting livestock to uplands

- Upland water development
- Careful salt placement
- Create trails
- Supplement strategically
- Fertilization - improve upland forage
- Seed palatable upland species
- Reduce palatable riparian species

## Restricting livestock from riparian areas

- Drift fences
- Exclosures
- Natural or constructed barriers
- Dense vegetation
- Herding/hazing
- Electric shock collars
- Low quality vegetation

## Controlling livestock access

- Hard stream crossing
- Fenced access "gaps"
- Stream diversions
- Pumped water slightly off stream



## Sustainable Grazing?



- Yes, grazing can cause damage

## Sustainable Grazing?



Callum Creek 1980



Callum Creek 1996

- But, grazing can be managed

## Impacts of Passive Grazing



## Impacts of Passive Grazing



## Season Long Grazing



Winter Grazing

Spring/Fall Grazing

## North Fork of Humboldt, 1989



Season Long Grazing

## North Fork of Humboldt, 1994



Riparian pasture with spring use by yearling bulls

Goosey Lake Flat (NV), 1965



Goosey Lake Flat (NV), 1991



Bear Creek (OR), 1976



Bear Creek (OR), 1996



Some situation are difficult



Grazing Mgmt. Includes:

- Herbivore species
- Intensity (stocking rate)
- Season of rest
- Season of grazing
- Duration & frequency

## Kind and class of animal?

- Cow-calf
- Horses
- Yearling Cattle
- Sheep - unherded
- Sheep - herded
  
- Bison?

## Stocking Rate

- Even when pastures are **understocked**...riparian areas can **overgrazed**
- Understocked and Overgrazed
- Stocking rate can be unimportant in managing riparian areas

## Dormant Season (Winter) Use

++ PRO ++

- Soil compaction minimal
- Limited bank trampling
- Utilization of herbaceous plant not detrimental

-- CON --

- No opportunity for regrowth before spring run off
- Woody plants can sustain heavy use

## Early Season (spring) Use

++ PRO ++

- Better livestock distribution
- Reduced use of riparian vegetation
- Opportunity for regrowth
- Availability of palatable herbaceous plants reduce use of woody species

-- CON --

- Potential soil compaction
- May affect plant vigor
- Likely to adversely affect wildlife in area

## Hot Season (summer) Use

++ PRO ++

- Streambanks are stable
- Usually sufficient moisture for regrowth
- Nutritious riparian vegetation

-- CON --

- Greater tendency of cattle to use riparian areas
  - Dormant upland veg.
  - Green riparian veg.
  - Cool temp in riparian
  - Available water
- Grazing occurs when plants are most sensitive

## Late Season (fall) Grazing

++ PRO ++

- Plants have completed growth
- Soils are dry
- Less impact to wildlife

-- CON --

- Regrowth potential is low
- Limited ability to regrow before spring runoff
- Livestock more likely to use woody species
- Distribution problems

### Guidelines for grazing systems:

- Maximize
  - Time for post grazing growth
  - Residual cover after grazing season in fall
- Minimize
  - Length of grazing season
  - Duration of summer grazing
  - Years of consecutive summer grazing

### Guidelines for grazing systems:

- Continuous - Usually most damaging to riparian areas
- Late-Season Deferment - Design systems so that pastures containing significant riparian areas are not grazed (deferred) during summer/fall months
- Rest Rotation - Rotate a year of complete rest between pastures in different years.

### Guidelines for grazing systems:

- Riparian Pasture Management:
  - Create small pastures around riparian areas
  - Devise pastures with either mostly upland or most riparian vegetation
  - Manage riparian pastures with riparian goals in mind
  - Fencing costs may be great but usually less than ribbon fencing riparian areas.

### Guidelines for grazing systems:

- Management-Intensity Grazing:
  - Large herds of animals created by herding of fencing
  - Grazing one area of land for just a day or two
  - Don't graze twice in one year
  - Provides sufficient rest
  - Implement herd effect

### Grazing Management...

- Livestock are just one "human induced" impact on riparian systems.
  - Yes, we can *almost always* manage riparian areas with cattle.
  - It isn't always easy.
  - It isn't always necessary.
  - But, it can be done.
- [www.cowsandfish.org](http://www.cowsandfish.org)

