

Impacts of and Techniques to Control Invasive Species



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There is no silver bullet

Project Planning

- Goals and Objectives
- Reasonable
- Achievable
- Scope

Treat the Problem,
Not the Symptom





Why control non-native plant species if they are not on the noxious weed list?

- Improve streambank stability
- Increase vegetation production
- Increase plant species diversity to cope with climatic and natural occurrences (e.g. insect infestations, disease).
- Improve cover for wildlife species
- Improve water quality
- Hold water on land longer
- Streams with properly functioning riparian-wetland areas filter sediment, capture bedload, and aid in floodplain development.

Kentucky bluegrass

- Shallow roots
- Low root strength
- Poor streambank stabilizer,

But:

- Low growing point
- Highly palatable



Smooth brome

- Palatable early season
- Invasive nature
- Deep rhizomatous roots
- Moist Sunny sites
- Late spring burn
- Mowing/chemical



Reed canarygrass

- Native/Introduced
- Rhizomatous roots
- Weed like - takes over plant community
- Palatable early season
- High nutrient uptake
- Biofuel in Europe & Scandinavia
- 9 Tons/acre



Reed canarygrass Control

- Rodeo herbicide
- Shading
- Repeated tillage
- Repeated defoliation
- Ponding (long term)
- **Combination**



Russian Olive



- Adaptive to many sites
- Ornamental
- Shelter belts
- No biological control



Tamarisk (Salt cedar)

- Introduced
- Erosion control
- Ornamental
- Deep roots



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“Popular press articles widely report that each individual saltcedar tree can use as much as **200** gallons per day. A more realistic estimate of maximum tree-level daily water use derived from sap flux measurements would be **32.2** gallons.”

Owens, K.M. and G.W. Moore. 2007. Saltcedar Water Use: Realistic and Unrealistic Expectations Rangeland Ecol Manage
60:553–557



Chemical





Cut and Spray



Bio- control



Mechanical/Fire

Tamarisk (Salt Cedar)



Beetle



Herbicides

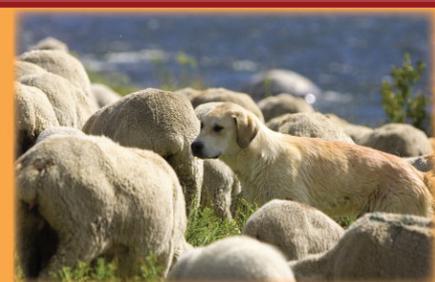
Targeted Grazing



TARGETED GRAZING



A Natural Approach to Landscape Enhancement



www.sheepusa.org/targetedgrazing



Multi-species grazing



Grazing "systems" for riparian areas must generally

- Limit grazing intensity and season of use;
- Ensure sufficient vegetation is left during periods of high flow to protect streambanks, dissipate energy, and trap sediments, and;
- Control the timing of grazing to prevent damage to streambanks when they are most vulnerable to trampling.



Other factors to consider when designing a grazing strategy

- Stocking rates & utilization levels
- Stream type(s)
- Post-grazing regrowth and residual cover (especially prior to high flows)
- Duration of treatments by season
- Topography of the ranch and riparian areas
- Economic feasibility and practicality
- Wildlife requirements

Grazing Management

- Tools and Techniques
- Grazing Strategies
- Monitor



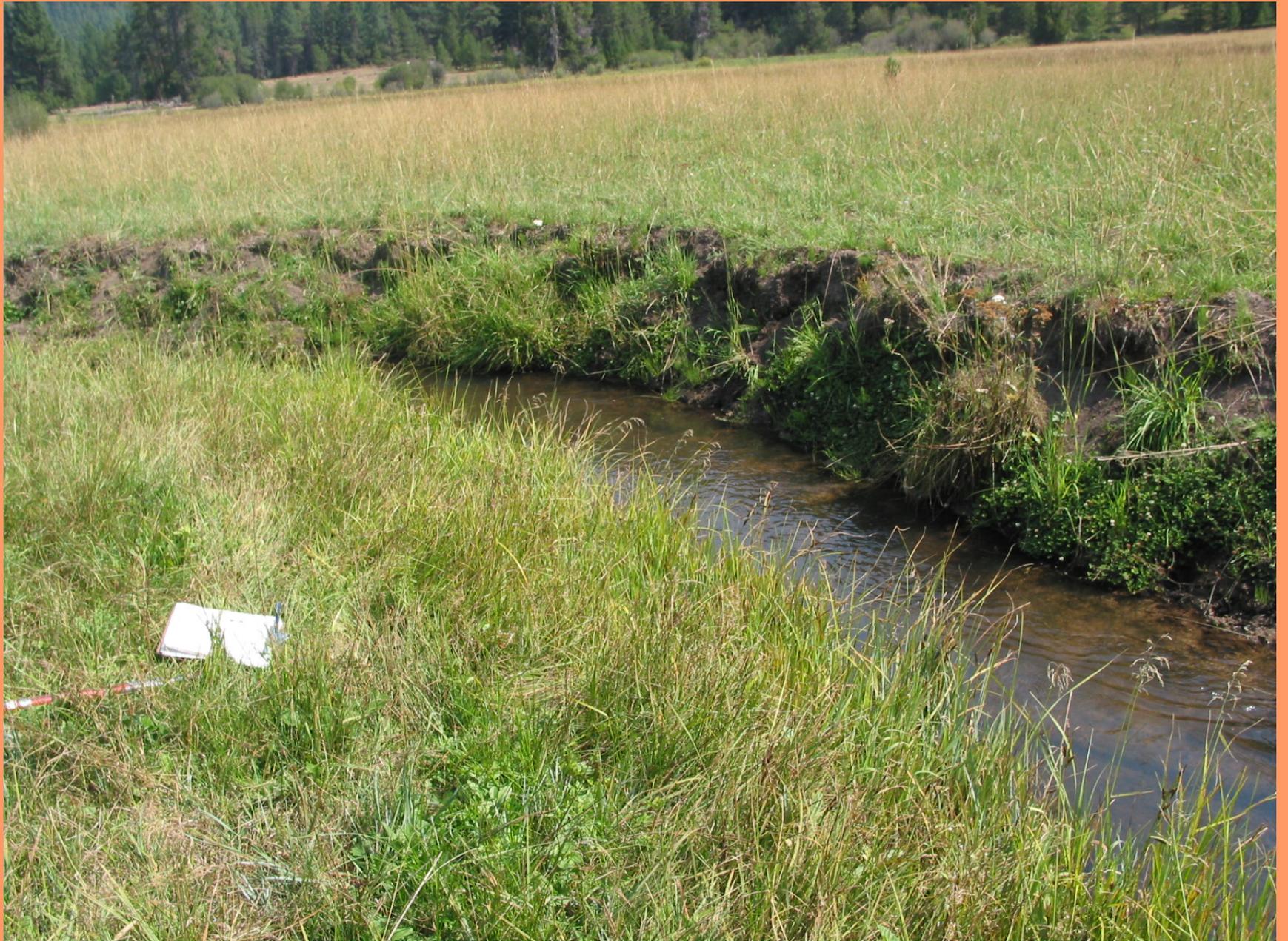


**Floodplain
access**

















Livestock Grazing

- Timing
- Duration
- Frequency



Points to Ponder

- Expense
- Was past management responsible for weed infestation?
- Planned changes in management?
- Return of water table needed to restore desired plant community and hydrology?

Project Planning

- Ecologic Threshold
- Economic Threshold
- No one time fix - incorporate ongoing control.
- Generally unable to eradicate - plan on it!
- Integrated Pest Management (IPM)



Grazing Management

- Have goals been established?
- What are the conditions?
- What do you want?
- PRESCRIBE MANAGEMENT
- Implement Management
- Monitor
- Adjust (adaptive management)

Don't get stuck on one method!



Photo by Tamarisk Coalition

“Livestock are a tool,
just like a hammer is a tool.
If you hit your thumb with the hammer,
you are using the tool incorrectly.
The same analogy can be said of livestock grazing.”

Dale Pizel, Rio Oxbow Ranch



Discussion

