

Safe Harbor Partnership on the Shasta River

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Emerging Issue

- New and emerging issues recognized by UC Davis/UCCE
- Safe harbor agreement developing



Our RESPONSE (ANR, UCCE, UC Davis)



- Asked to come in and help develop riparian grazing strategies
 - Met with ranchers individually
- Integrating policy management and science
- Turned site visits into formal documents

Site Specific CONSIDERATIONS

- Identify varied riparian reaches separately
- Develop weed management and grazing objectives for each reach
- What infrastructure is currently available/present?
- What type of water source is this?
- What type of vegetation would normally/potentially grow here?



Site Specific RECOMMENDATIONS

- Seasons of grazing to target mgt. objectives while keeping livestock nutrition in mind
- Grazing monitoring and documentation
- Supplementary riparian weed management practices
- Livestock management decision triggers



Recommended Management Decision Triggers

INDICATOR	DEFINITION	TRIGGER
Herbaceous Veg Use	Limit on 5 of forage production that can be utilized	40%
Herbaceous Stubble Height	Sets a minimum residual height for forage following a grazing bout	4 inches
Browse on riparian woody plants	Limits on the % of new years leader growth that can be browsed on (e.g. willows)	20%
Streambank disturbance	Limits the amount of livestock hoof damage or trampling on streambanks	10-20%

Managing Weeds with Grazing

Prescribed grazing is the controlled implementation of the **timing**, **frequency**, and **intensity** of grazing to achieve specific goal(s).

GRAZING MANAGEMENT CONSIDERATIONS:

Type of livestock (*e.g., cattle, sheep, goats*).

Number of livestock (*stocking density – head/acre*).

Duration of grazing (*stocking rate – head/acre/year*).

Seasonal timing of grazing (*e.g., spring, summer, etc*).

Spatial distribution of grazing (*e.g., fences, water*).

Managing for healthy plants

Riparian Plant “Vigor”

- Chronic, heavy defoliation reduces primary productivity, root mass, and plant vigor
- Competition can shift species composition from high to lower root mass species.



Managing Targeted Grazing

Key Considerations

- Animal nutritional requirements, which vary seasonally (e.g., breeding, gestation, lactation, growth).
- Plant requirements to conduct critical functions (e.g., photosynthesis, reproduction).
 - Do we want these species to increase or decrease in abundance?
- Mitigate potential negative impacts of animals on soils, riparian areas, habitat, non-target plant species, etc.



Managing Weeds with Grazing

Infrastructure

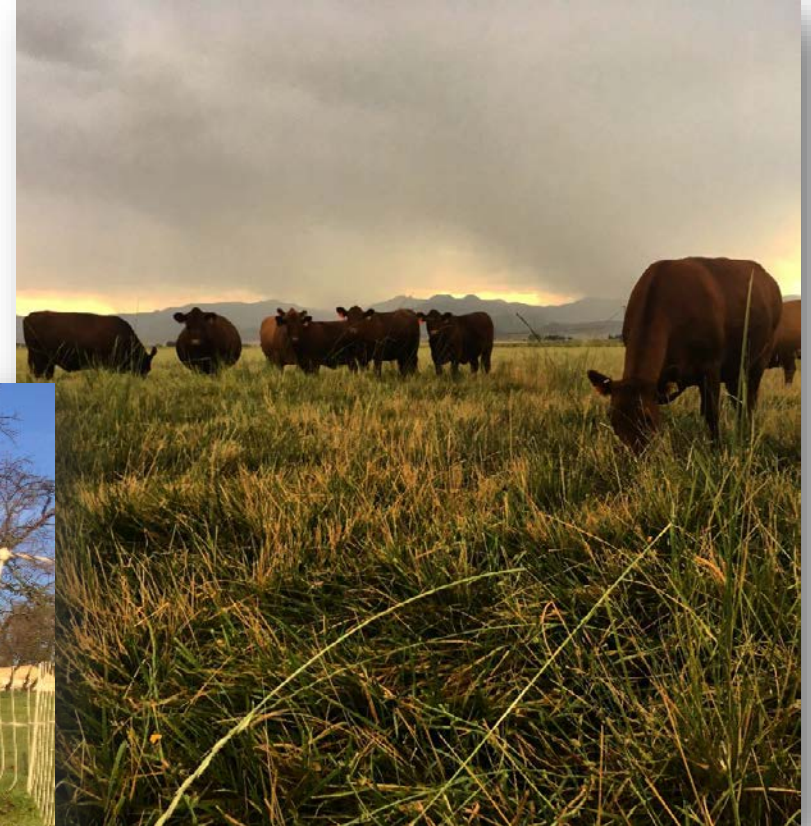
- Facilities needed to implement grazing prescription
 - Fence
 - drinking water
 - supplemental feed



Managing Weeds with Grazing

- **Livestock Considerations**

- Species
- Age/class
- Reproductive cycle
- Nutritional needs



Management strategies to consider



- Site Specific stocking rates, timing and intensity
- Manage timing, duration and intensity by using specified indicators
- Livestock distribution practices
 - Location of water, supplementation, fence etc...
- Reduced stocking density/pressure in sensitive areas

Recently funded Rustici project

Prescribed Grazing Management Strategies to Enhance Agricultural Production and Meet Riparian Habitat Conservation Objectives



Research Objectives

1. Establish and implement treatment strategies that can be practically replicated at a realistic pasture scale.
2. Stakeholder-participatory research approach.
3. Provide riparian management decision-making flexibility.



Extension Education Objectives

- Develop and extend cost-effective, science-based prescribed grazing practices which can be included in integrated riparian weed management strategies.



Objectives

1. In collaboration with ranching partners, establish research and demonstration sites
2. Develop an easy to use best management guide
3. Extend research results to landowners, land managers, ranchers, and agencies



Thank you

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