



University of Idaho
College of Natural Resources

SILVOPASTURE AND FORESTLAND GRAZING STRATEGIES

APRIL HULET
EXTENSION RANGE SPECIALIST

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SILVOPASTURE AND FORESTLAND GRAZING STRATEGIES





fs.usda.gov <https://stevescountryattorney.com/2017/06/21/grazing-starts-on-cobble-national-forest/>

Timber **Livestock**

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WHY MANAGE FOR BOTH?



Economic **Livestock Production**
Aesthetics
Forest Health **Lower Fire Risk**

<https://forestry.usu.edu/news/utah-forest-facts/forest-grazing-managing-your-land-for-trees-forage-and-livestock>

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HOW? Adaptive Land Management-Grazing Strategy 




GOAL:
Sustainable interactions between **trees**, **forage**, and **livestock**

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GOAL:
Sustainable interactions between **trees**, **forage**, and **livestock**



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DESCRIBE THE LAND: TREE 

1. Forest Age
2. Forest Composition
3. Management

↙

- Forest Canopy
- Deciduous vs. Evergreen

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GOAL:
Sustainable interactions between *trees*, *forage*, and *livestock*



<https://wrangle.org/ecotype/north-american-ponderosa-pine-woodlands>

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DESCRIBE THE LAND: FORAGE

1. Identify key forage species (palatable)
2. Abundance

↓

We want livestock to select herbaceous forage instead of trees.

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DESCRIBE THE LAND: FORAGE

1. Identify key forage species (palatable)
2. Abundance

↓

Livestock Species

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WHAT MANAGEMENT ACTIONS 

can be taken IF forage values will not allow us to meet our goals?



<https://sandcreektreeservice.com/services/forest-thinning/>


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FOREST MANAGEMENT 

Tree Thinning

- Canopy > 50% → Professional Forester

What understory plants are coming back?



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FOREST MANAGEMENT 

Tree Thinning

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May require seeding treatment

Soil seed contact is important!

Wait to Graze




https://en.wikipedia.org/wiki/Aerial_seeding/media/File:Aseedinghel.jpg

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FOREST MANAGEMENT

Brush Management



https://www.nrs.fs.fed.us/fmg/nfmg/fm101/silv/p2_treatment.html

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GOAL:

*Sustainable interactions between **trees**, **forage**, and **livestock***



Chris Schwegel/University of Idaho Extension

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LIVESTOCK CONSIDERATIONS

Animal numbers and distribution is critical for success!

Concerns:

- Livestock may damage roots, shoots, bark.
- Trampling seedlings and broken branches
- Soil compaction = reduced infiltration
- Weed introduction

Benefits:

- Reduced Competition
 - Reduced Fire Risk
 - Economic Benefits

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APPROPRIATE STOCKING RATE

Balance forage supply with forage demand.

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APPROPRIATE STOCKING RATE

The **number of animals** a land manager places on a **piece of land** for a specified **period of time**.

Consider the most important grazing decisions.

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APPROPRIATE STOCKING RATE

4 step Method

1. Calculate usable forage
2. Adjust for terrain, water, or other constraints
3. Calculate forage demand of animals
4. Calculate stocking rate

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APPROPRIATE STOCKING RATE

4 step Method

1. Calculate usable forage

pounds/acre Is all forage usable?

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APPROPRIATE STOCKING RATE

4 step Method

1. Calculate usable forage
2. Adjust for terrain, water, or other constraints

↓

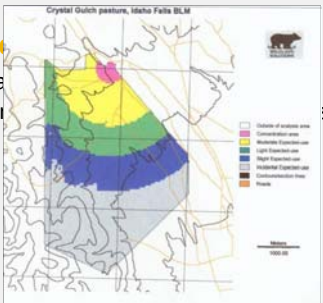
Not all forage is available

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APPROPRIATE STOCKING RATE

4-step Method

1. Calculate usable forage
2. Adjust for terrain, water, or other constraints



The map shows a pasture area with various colored zones representing different forage availability levels. A legend on the right side of the map includes the following categories: Moderate to excellent forage (yellow), Good to moderate forage (orange), Light to moderate forage (green), High to excellent forage (blue), Moderate to excellent forage (purple), and Pasture (brown). The map also shows a road and a water feature.

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APPROPRIATE STOCKING RATE**4 step Method**

1. Calculate usable forage
2. Adjust for terrain, water, or other constraints

Depends on:

- Animal species, breed, and experience
- Topography and soils
- Season

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APPROPRIATE STOCKING RATE**4 step Method**

1. Calculate usable forage
2. Adjust for terrain, water, or other constraints
3. Calculate forage demand of animals

- Estimated on the weight of animals.

Ruminants = 2.5% of body weight/day

Hind-gut Fermenters = 3.0 % of body weight/day

- Weight of animal X daily dry matter intake X number of days pasture will be grazed = forage demand/animal/year.

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APPROPRIATE STOCKING RATE**4 step Method**

1. Calculate usable forage
2. Adjust for terrain, water, or other constraints
3. Calculate forage demand of animals
4. Calculate stocking rate

Stocking rate = total usable forage/forage demand

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DISTRIBUTION AND GRAZING SYSTEMS

Herding, Fencing, Supplements

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- Soils are wet = livestock should be removed
- Fencing = is a management tool > grazing systems
- Strategically place water, salt, supplements

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APPROPRIATE STOCKING RATE

The number of animals a land manager places on a piece of land for a specified period of time.

↓

Grazing System

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GRAZING SYSTEM

Potential Damage to Herbaceous Plants from Defoliation

• **Low Demand**
Low biomass & low need for CHDs
• **Abundant Resources** for recovery
time, moisture, nutrients temperature

• **High Demand**
for energy and nutrients
• **Limited Resources** for recovery

• **Very Low Demand**

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GRAZING SYSTEMS



Continuous Grazing:

Grazing the whole area for the whole grazing season

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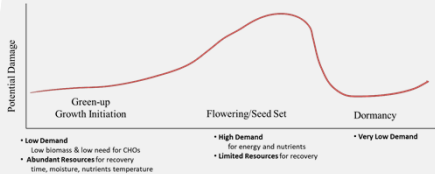
DEFERRED, ROTATIONAL SYSTEMS



Deferred Grazing:

Wait to graze until after it has seed set.

Potential Damage to Herbaceous Plants from Defoliation



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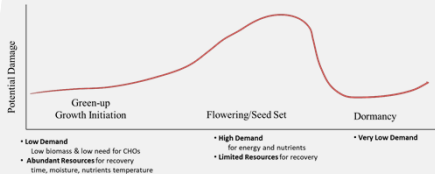
DEFERRED, ROTATIONAL SYSTEMS



Deferred Rotational Grazing:

Rotate the deferred grazing area among all areas over years.

Potential Damage to Herbaceous Plants from Defoliation



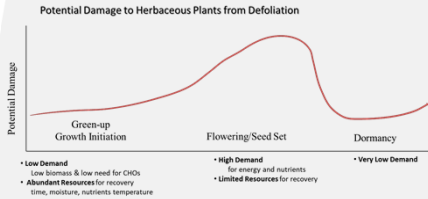
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REST, ROTATIONAL SYSTEMS



Rest Grazing:

Do not graze for at least one whole year.



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GRAZING SYSTEMS



- There is no “silver bullet” system that will work everywhere.
- There are thousands of variations on a theme...
- All systems need to be flexible to manage unexpected disturbance such as fire or weed invasions.

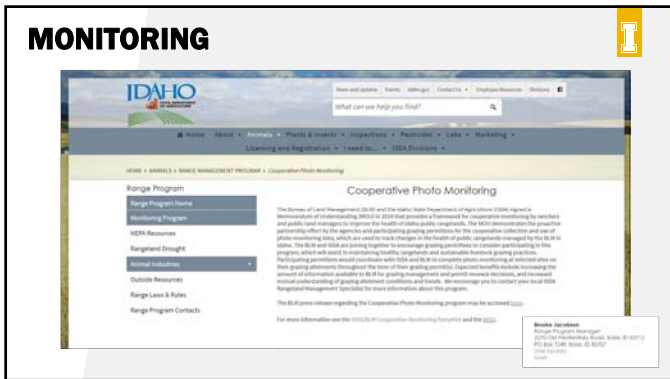
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HOW? Adaptive Land Management-Grazing Strategy



Monitor Carefully

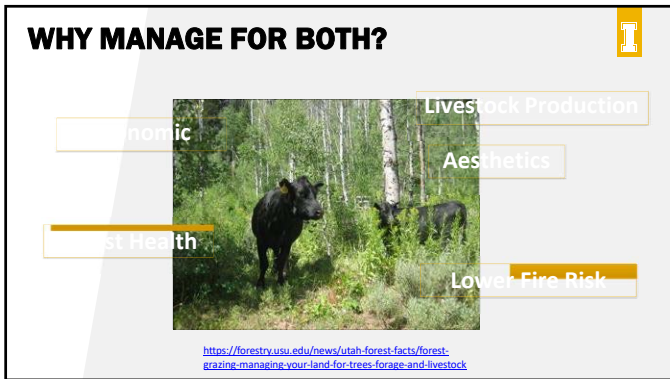
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QUESTIONS?




Chris Schnepf/University of Idaho Extension

April Hulet, aprih@uidaho.edu

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RESOURCES



<https://www.fs.usda.gov/nac/practices/silvopasture.php>

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GRAZING STRATEGIES FOR CONTROLLING ANNUAL GRASSES AND STAR THISTLE IN CANYONLANDS

April Hulet
Extension Range Specialist

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OUTLINE



- Targeted Grazing: Theory and Techniques (Dr. Karen Launchbaugh)
- Highlight annual grasses studies in Southern Idaho
- Discussion/Questions

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TARGETED GRAZING



Dr. Karen Launchbaugh
klaunchb@uidaho.edu

<https://youtu.be/UKy1WR9dz48>

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Using Targeted Grazing to Manage Annual Grasses



April Hulet
 University of Idaho | Extension Range Specialist
ahulet@uidaho.edu | 435-590-1192

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Management Objectives:

1. Where are we at currently?
2. Where do we want to be?
3. How do we get there?
4. How will we know what and when adjustments will be needed?
5. How will we know we've gotten there or are making progress towards getting there?

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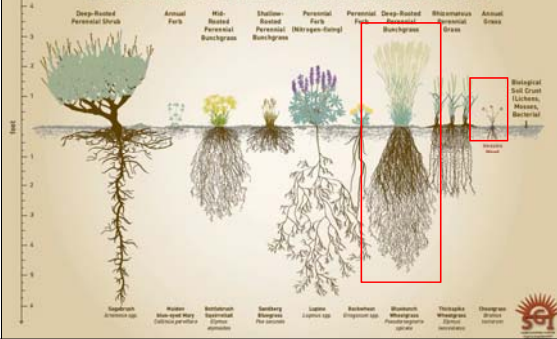
Using Targeted Grazing to Manage Annual Grasses



Perennial bunchgrass is key to preventing exotic annual grass invasion

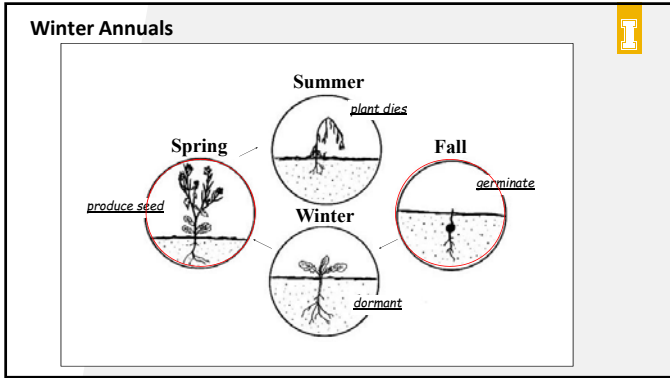
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CONSERVE OUR WESTERN ROOTS



<https://www.sage.oregonstate.edu/rootz/>

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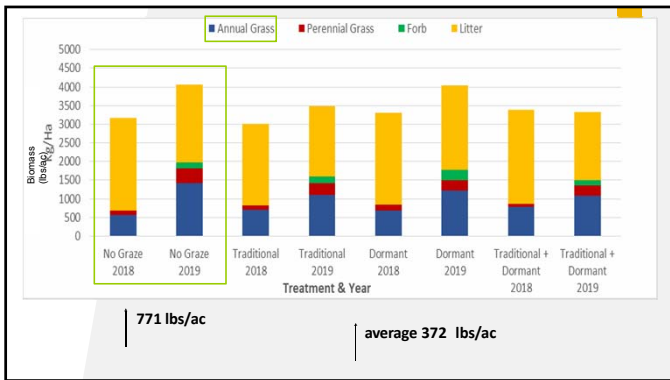
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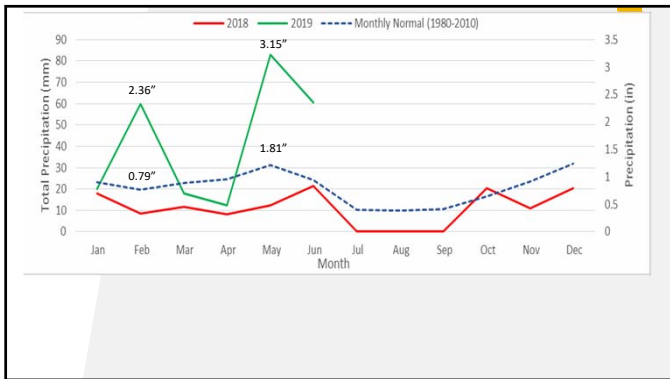
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<ul style="list-style-type: none"> Vale District BLM <ul style="list-style-type: none"> Michele McDaniel Jake Ferguson Don Rotell Pat Ryan Don Gonzalez University of Idaho <ul style="list-style-type: none"> April Hulet Scott Jensen Jim Sprinkle William Price Nav Ghimire 	<ul style="list-style-type: none"> Grazing Operators <ul style="list-style-type: none"> Sean Cunningham Mark Mackenzie Mike Greeley Sam Mackenzie Andy Allison Boise State University <ul style="list-style-type: none"> Nancy Glenn 	<ul style="list-style-type: none"> Oregon State University <ul style="list-style-type: none"> Sergio Arispe Leticia Henderson Dustin Johnson University of Nevada-Reno <ul style="list-style-type: none"> Barry Perryman Brad Schultz USDA-ARS, Burns <ul style="list-style-type: none"> Chad Boyd Kirk Davies
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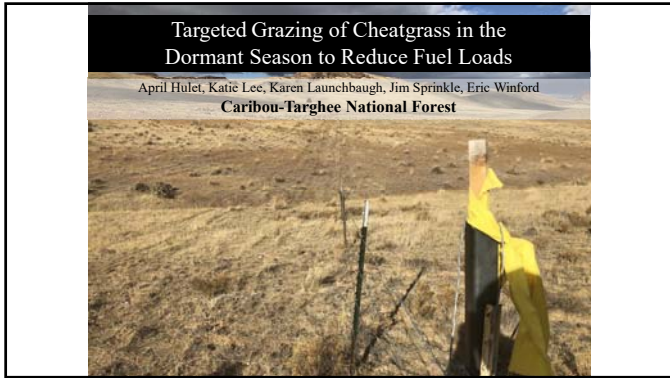
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RESOURCES

Targeted Grazing
A natural approach to rangeland management

HOME

- Research
- Field Experiences
- Guidelines

HANDBOOKS:
 Grazing Guidelines
 Cheatgrass Guidelines

ON-LINE MODULES:
 Grazing Guide
 Grazing Guidelines
 Grazing Guidelines

RELATED TOPICS:
 About Grazing
 About Rangelands

Contact Us
 Dr. Karen Launchbaugh
 Rangeland Ecologist
 University of Idaho

Targeted Grazing in the carefully controlled grazing of livestock to accomplish specific vegetation management objectives. Unlike conventional grazing management, livestock are used as a tool for improving land health by performing weed control, reducing wildfire risk, and aiding in restoration projects.

Research & Information
 Reports, scientific articles, literature reviews, and extension bulletins

Grazing Prescriptions for Specific Plants
 Detailed guidelines for when to graze specific plants and what species of livestock to use to accomplish vegetation management goals.

Prescribed Grazing in Action
 Cheatgrass? What is using the livestock? Where is it happening? What are they doing?

Guidelines Handbook Now Available for Download
 Cheatgrass, Grazing Guidelines for Control Noxious Weeds in the Western United States

Targeted Grazing Committee
 Society for Rangeland Management

University of Idaho
 Rangeland Center

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<https://www.webpages.uidaho.edu/rx-grazing/index.htm>

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RESOURCES

LIVESTOCK GRAZING GUIDELINES FOR CONTROLLING NOXIOUS WEEDS IN THE WESTERN UNITED STATES

Jason C. Dawson
 Professor, Rangeland Ecology and Management
 University of Idaho

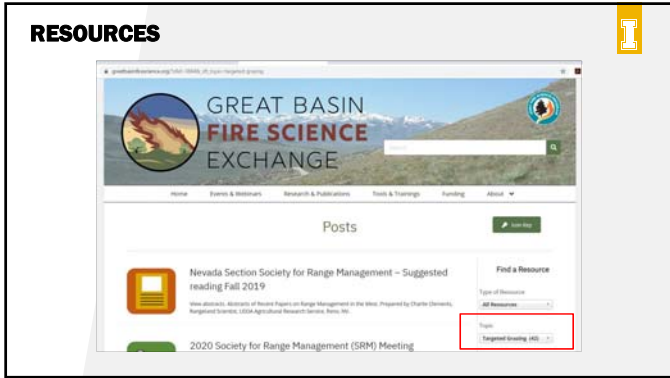
Linda M. Wilson
 Professor, Rangeland Ecology and Management
 University of Idaho

Ed Smith
 Professor, Rangeland Ecology and Management
 University of Idaho

Western Regional
 Extension Program
 EB-08-05

https://www.webpages.uidaho.edu/rx-grazing/Livestock_Grazing_GuidelinesDawson_et_al_02020073.pdf

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