University of Idaho
College of Natural Resources

SILVOPASTURE AND FORESTLAND GRAZING STRATEGIES

APRIL HULET
EXTENSION RANGE SPECIALIST

1

SILVOPASTURE AND FORESTLAND GRAZING STRATEGIES

fs.usda.gov

https://stevenscountycattlemen.com/2017/06/21/grazing-starts-on-colville-national-forest/

Timber **Livestock**

2

WHY MANAGE FOR BOTH?

Livestock Production
nomic
Aesthetics
st Health
Lower Fire Risk

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

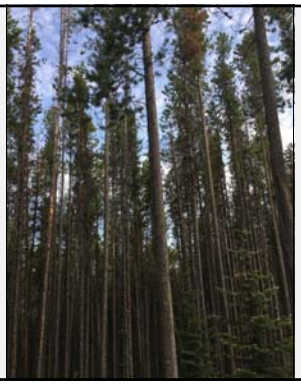
3

HOW? *Adaptive Land Management-Grazing Strategy*

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

4

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



5

DESCRIBE THE LAND: TREE

1. Forest Age
2. Forest Composition
3. Management

- Forest Canopy
- Deciduous vs. Evergreen

6

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

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

7

DESCRIBE THE LAND: FORAGE

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

We want livestock to select herbaceous forage instead of trees.

8

DESCRIBE THE LAND: FORAGE

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

Livestock Species

9

WHAT MANAGEMENT ACTIONS

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

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

10

FOREST MANAGEMENT

Tree Thinning

- Canopy > 50% ⟶ Professional Forester

What understory plants are coming back?

11

FOREST MANAGEMENT

Tree Thinning

↓

May require seeding treatment

Soil seed contact is important!

Wait to Graze

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

12

FOREST MANAGEMENT

Brush Management

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

13

GOAL:

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

Chris Schnepf/University of Idaho Extension

14

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

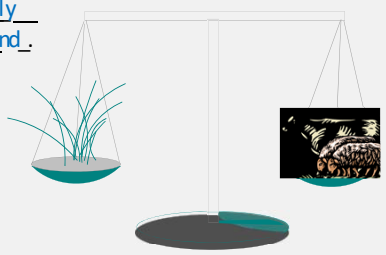
Benefits:

- Reduced Competition
- Reduced Fire Risk
- Economic Benefits

15

APPROPRIATE STOCKING RATE

Balance forage _supply_ with forage _demand_.



16

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.

17

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

18

APPROPRIATE STOCKING RATE

4 step Method

1. Calculate usable forage
   - pounds/acre
   - Is all forage usable?

19

APPROPRIATE STOCKING RATE

4 step Method

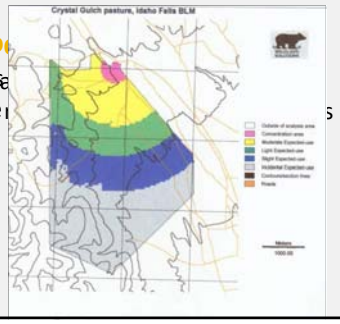
1. Calculate usable forage
2. Adjust for terrain, water, or other constraints
   - Not all forage is available

20

APPROPRIATE STOCKING RATE

4-step Metho

1. Calculate us
2. Adjust for te



21

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

22

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.

23

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

24

DISTRIBUTION AND GRAZING SYSTEMS

Herding, Fencing, Supplements

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

25

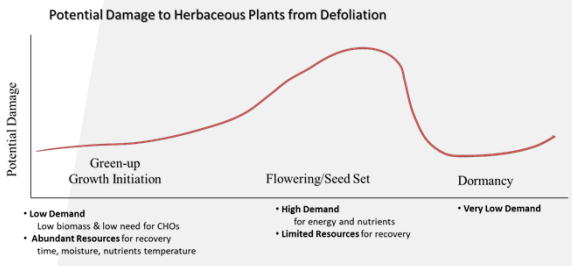
APPROPRIATE STOCKING RATE

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

Grazing System

26

GRAZING SYSTEM



27

GRAZING SYSTEMS

Continuous Grazing:

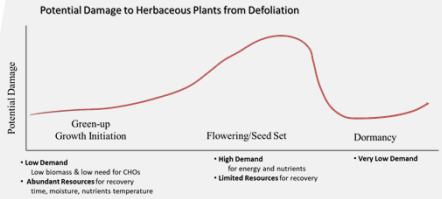
Grazing the whole area for the whole grazing season

28

DEFERRED, ROTATIONAL SYSTEMS

Deferred Grazing:

Wait to graze until after it has seed set.

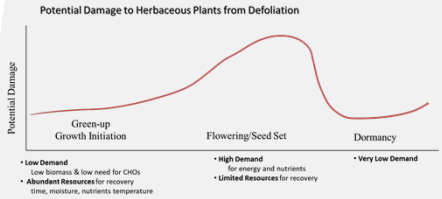


29

DEFERRED, ROTATIONAL SYSTEMS

Deferred Rotational Grazing:

Rotate the deferred grazing area among all areas over years.

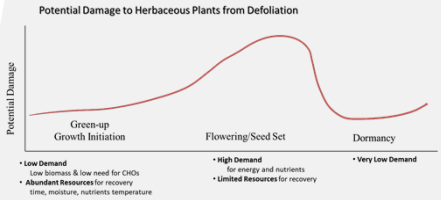


30

REST, ROTATIONAL SYSTEMS

Rest Grazing:

Do not graze for at least one whole year.



31

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.

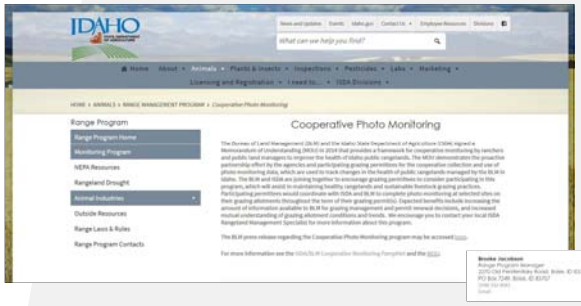
32

HOW? *Adaptive Land Management-Grazing Strategy*

Monitor Carefully

33

MONITORING



34

Photo Monitoring with Survey123

https://youtu.be/545adonP-gg

35

WHY MANAGE FOR BOTH?

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

36

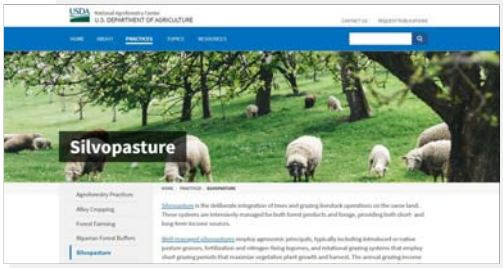
QUESTIONS?

April Hulet, aprilh@uidaho.edu

Chris Schnepf/University of Idaho Extension

37

RESOURCES



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

38

University of Idaho
College of Natural Resources

GRAZING STRATEGIES FOR CONTROLLING ANNUAL GRASSES AND STAR THISTLE IN CANYONLANDS

April Hulet
Extension Range Specialist

39

OUTLINE

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

40

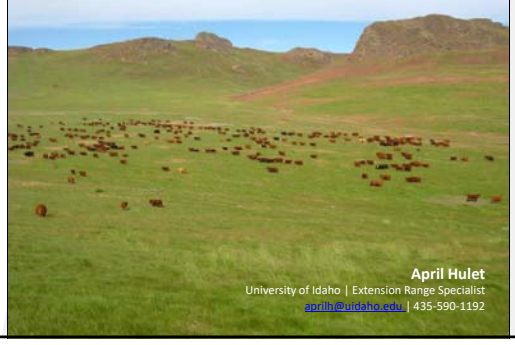
TARGETED GRAZING

Dr. Karen Launchbaugh
klaunchb@uidaho.edu

https://youtu.be/UKy1WR9dz48

41

Using Targeted Grazing to Manage Annual Grasses



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

42

Management Objectives:

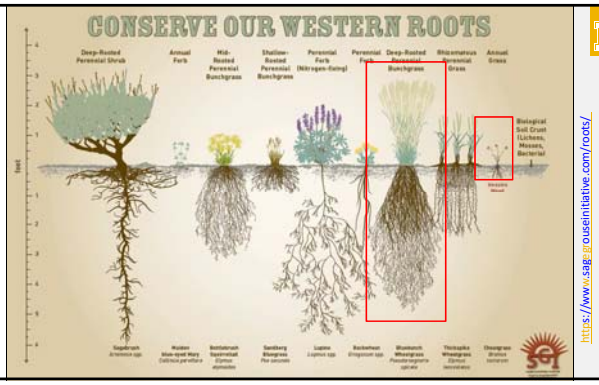
1. Where are we at currently?
2. Where do we want to be?
3. How do we get there?
4. How will we know what and when adjustments will be needed?
5. How will we know we've gotten there or are making progress towards getting there?

43

Using Targeted Grazing to Manage Annual Grasses

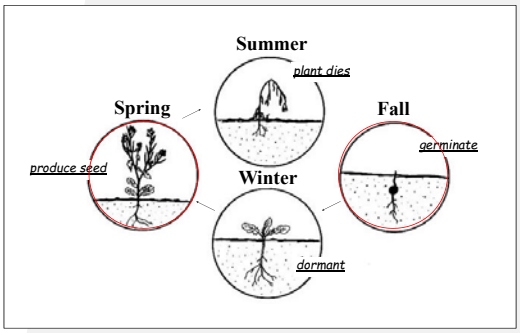
Perennial bunchgrass is key to **preventing** exotic annual grass invasion

44



45

Winter Annuals



46

FINE FUELS MANAGEMENT TO IMPROVE WYOMING BIG SAGEBRUSH PLANT COMMUNITIES

USING DORMANT SEASON GRAZING

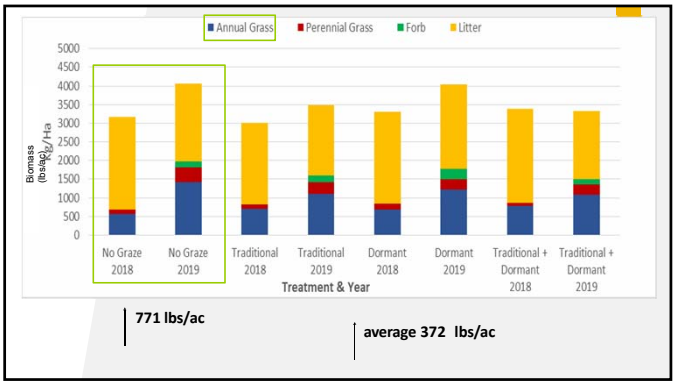
47

48

- Vale District BLM
  - Michele McDaniel
  - Jake Ferguson
  - Don Rotell
  - Pat Ryan
  - Don Gonzalez
- University of Idaho
  - April Hulet
  - Scott Jensen
  - Jim Sprinkle
  - William Price
  - Nav Ghimire
- Grazing Operators
  - Sean Cunningham
  - Mark Mackenzie
  - Mike Greeley
  - Sam Mackenzie
  - Andy Allison
- Boise State University
  - Nancy Glenn
- Oregon State University
  - **Sergio Arispe**
  - Leticia Henderson
  - Dustin Johnson
- University of Nevada-Reno
  - Barry Perryman
  - Brad Schultz
- USDA-ARS, Burns
  - Chad Boyd
  - Kirk Davies

49

49

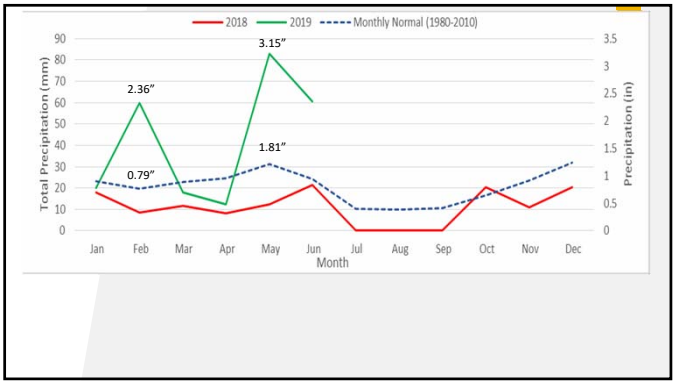


771 lbs/ac

average 372 lbs/ac

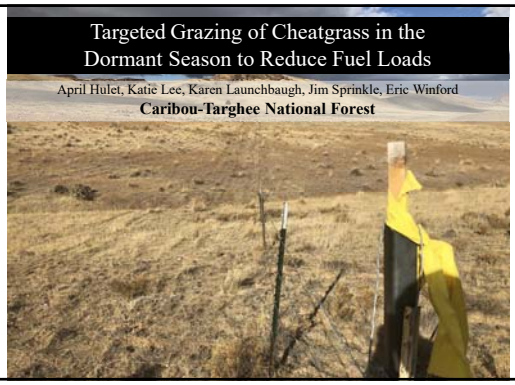
50

50



51

51



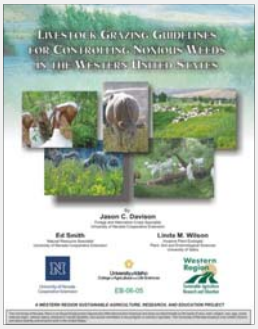
52

RESOURCES

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

53

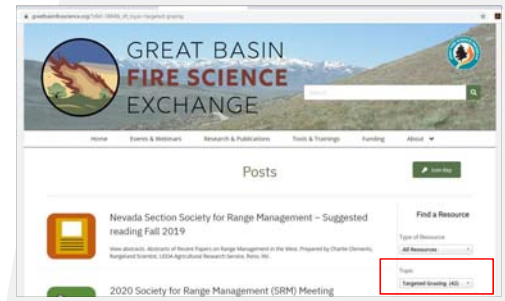
RESOURCES



https://www.webpages.uidaho.edu/rx-grazing/Livestock_Graizng_Guidelines(Davison_et_al.%202007).pdf

54

RESOURCES



55

Questions

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

56