

# **LIVESTOCK ON WILDLIFE AREAS?**

**CMR Community Working Group**

**June 17, 2014**

**Malta, MT**

# LIVESTOCK & WILDLIFE



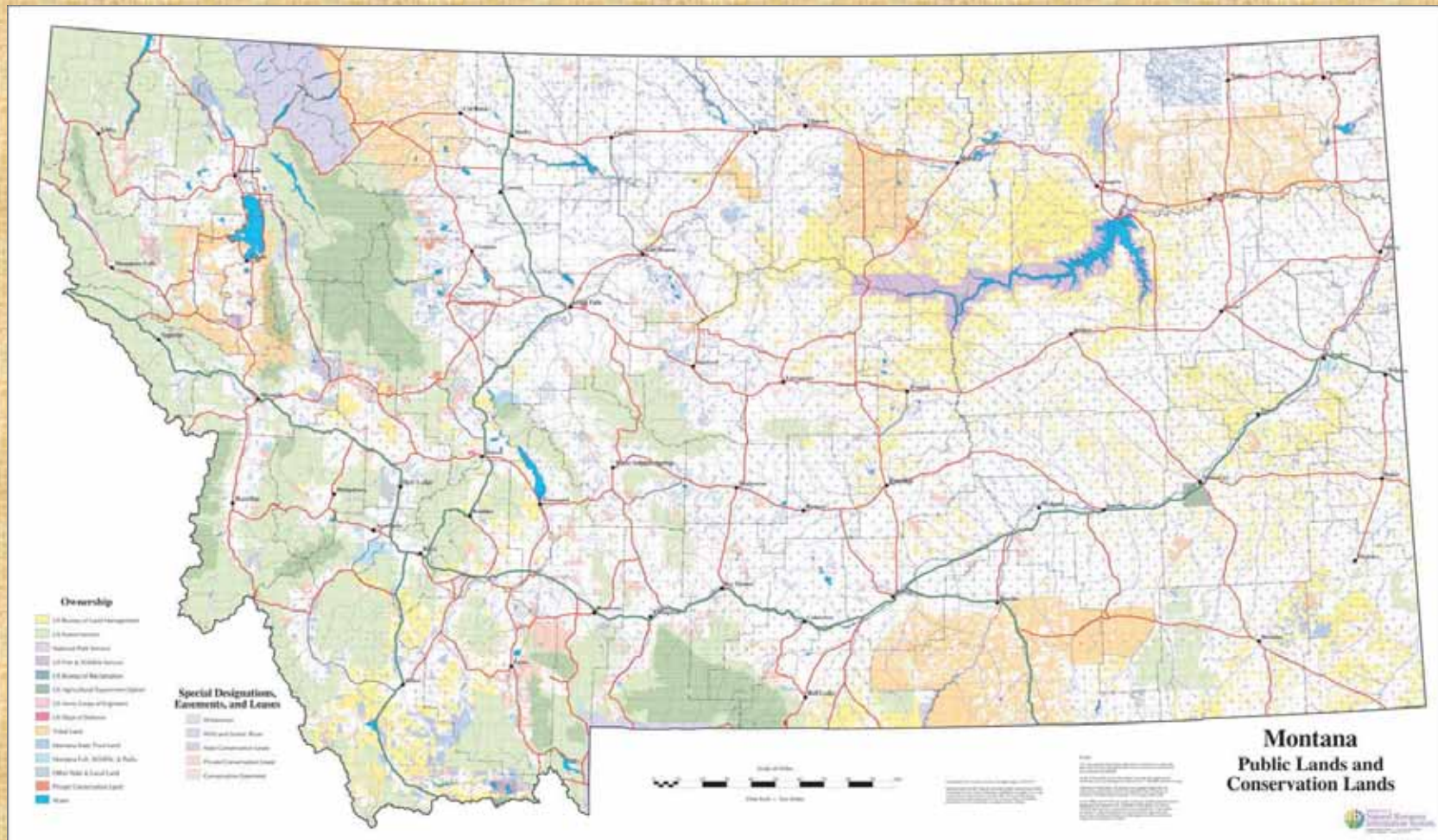
**A Perspective on Habitat Mgt.**

# **A GLOBAL ISSUE**

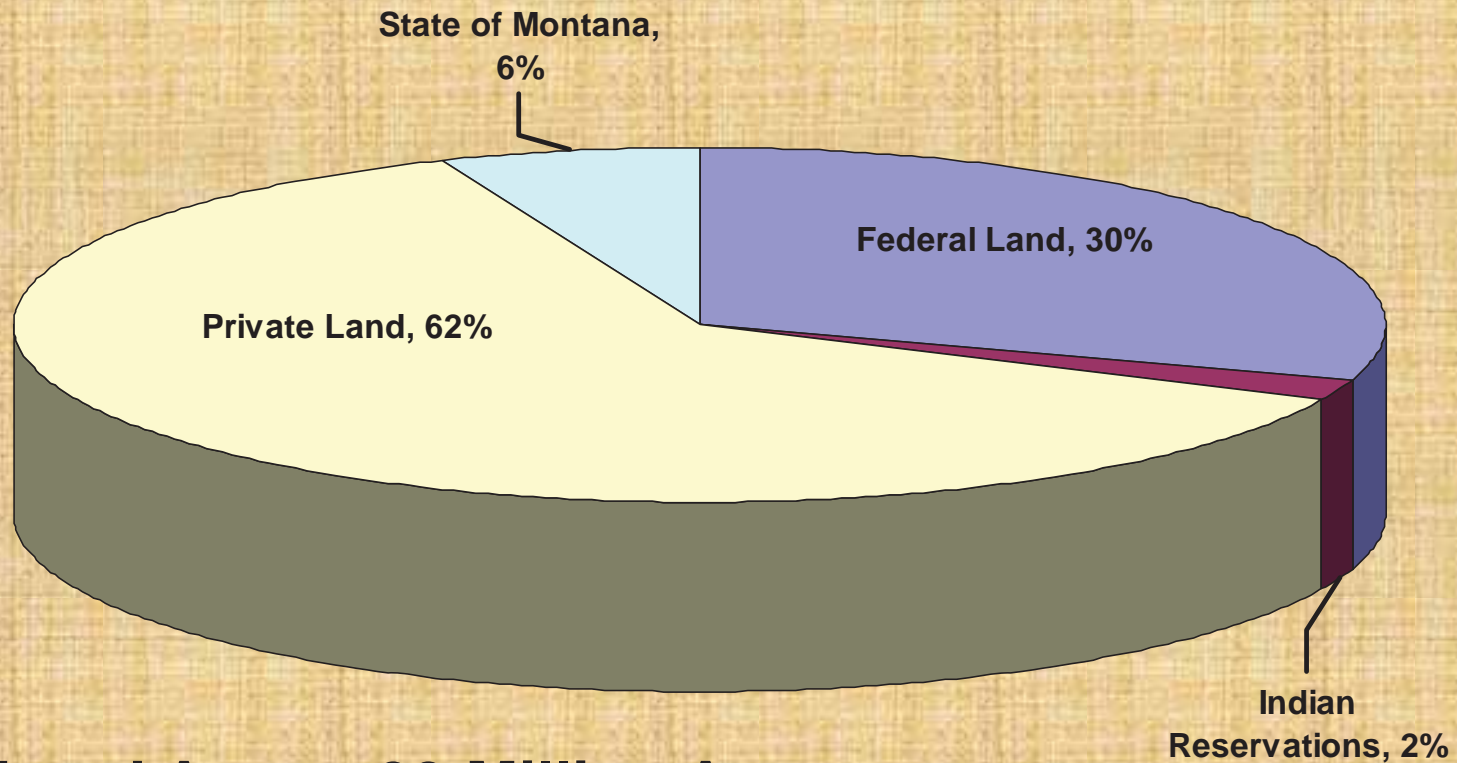
**Most widespread land management practice in the world.**

# **MONTANA ISSUE**

# MONTANA OWNERSHIP



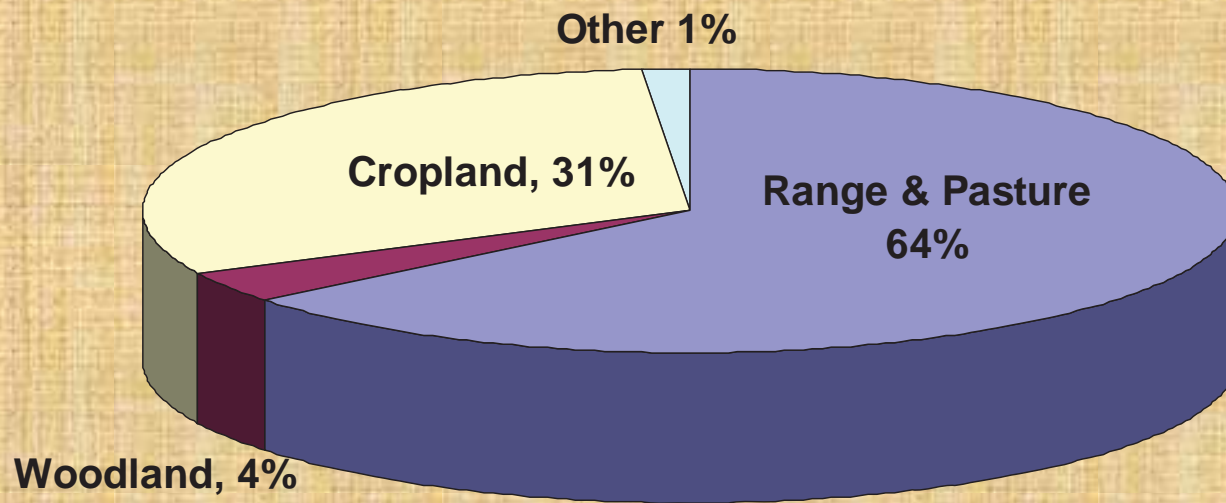
# MONTANA OWNERSHIP



**Total Land Area = 93 Million Acres**

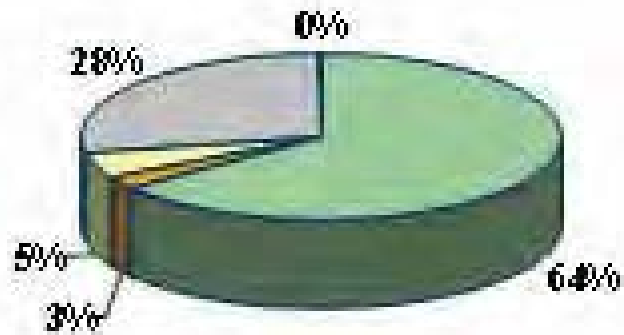
*Montana Agricultural Statistics*

# RANCH & FARM LANDS



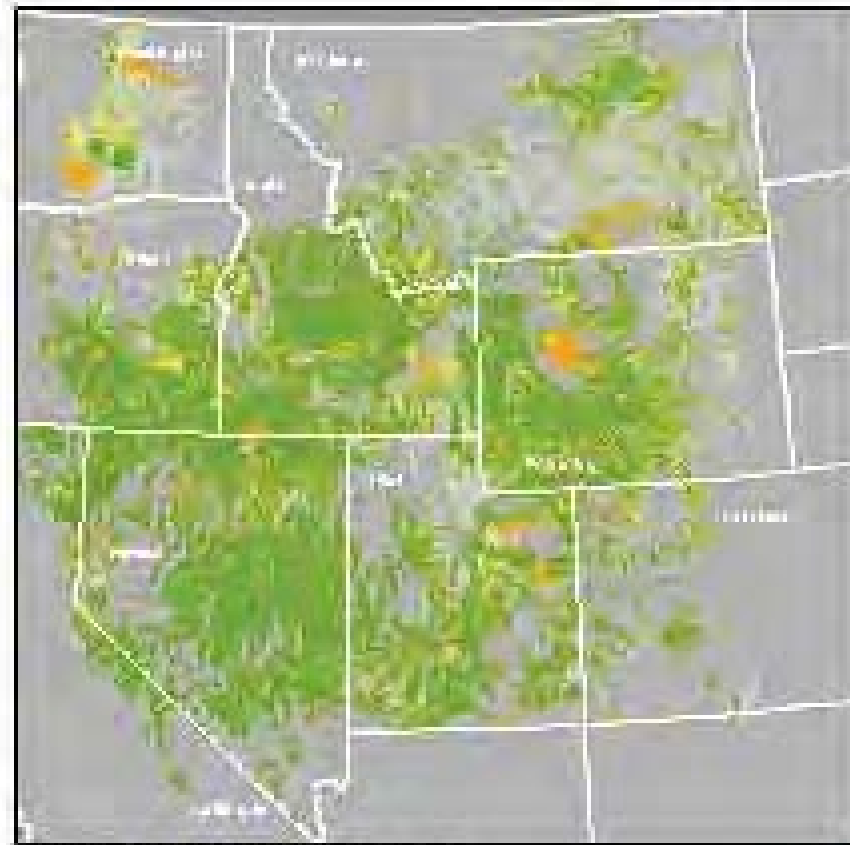
**59,612,403 acres 64%**

# Stewardship of Sagebrush



## Land Steward

-  Native American
-  Federal
-  Private
-  State



(Broad Scale Vegetation Map)



# **IMPORTANCE WILDLIFE HABITAT**

**Grazing affects 70% of the land surface  
in the Western U.S.**

**“The easiest way to overcome the deteriorating effect of premature grazing and overstocking, as well as trampling, would be, of course, to eliminate grazing entirely.”—*Sampson 1914***

*Journal of Agricultural Research Volume 3(2).*

***“Obviously, however, such a procedure would be impracticable from the standpoint of the stock industry. Since this is so, the best means of solving the problem in a scientific manner is to.... study...the natural factors upon which depends the success or failure of the forage crop and its perpetuation...”—  
Sampson (1914)***

**Aldo Leopold defined the central thesis of game management follows:**

***“game can be restored by creative use of the same tools which have heretofore destroyed it—axe, plow, cow, fire and the gun.”***

## **Leopold on grazing:**

***“The situation does not call for a taboo upon grazing, but rather constitutes a challenge to the craftsmanship of our stockmen and the technical skill of grazing experts in devising controls that will work....”***

***“Wholesale exclusion of grazing is neither skill nor administration, and should be used as a last resort.”***

# Examples

- 1. Mount Haggin WMA – elk summer, moose, cranes, mice.**
- 2. Fleecer WMA – elk & mule deer winter, antelope all year**
- 3. Wall Creek WMA – elk winter**
- 4. Warm Springs WMA – water fowl**
- 5. Blackfoort Challenge Community Area – elk, grizzly bears.**

# **1. Mount Haggin WMA**

**Purchased in 1976**

**First FWP WMA to maintain a grazing system.**





# Grazing Treatments



**Grazing**



**Seedripe**

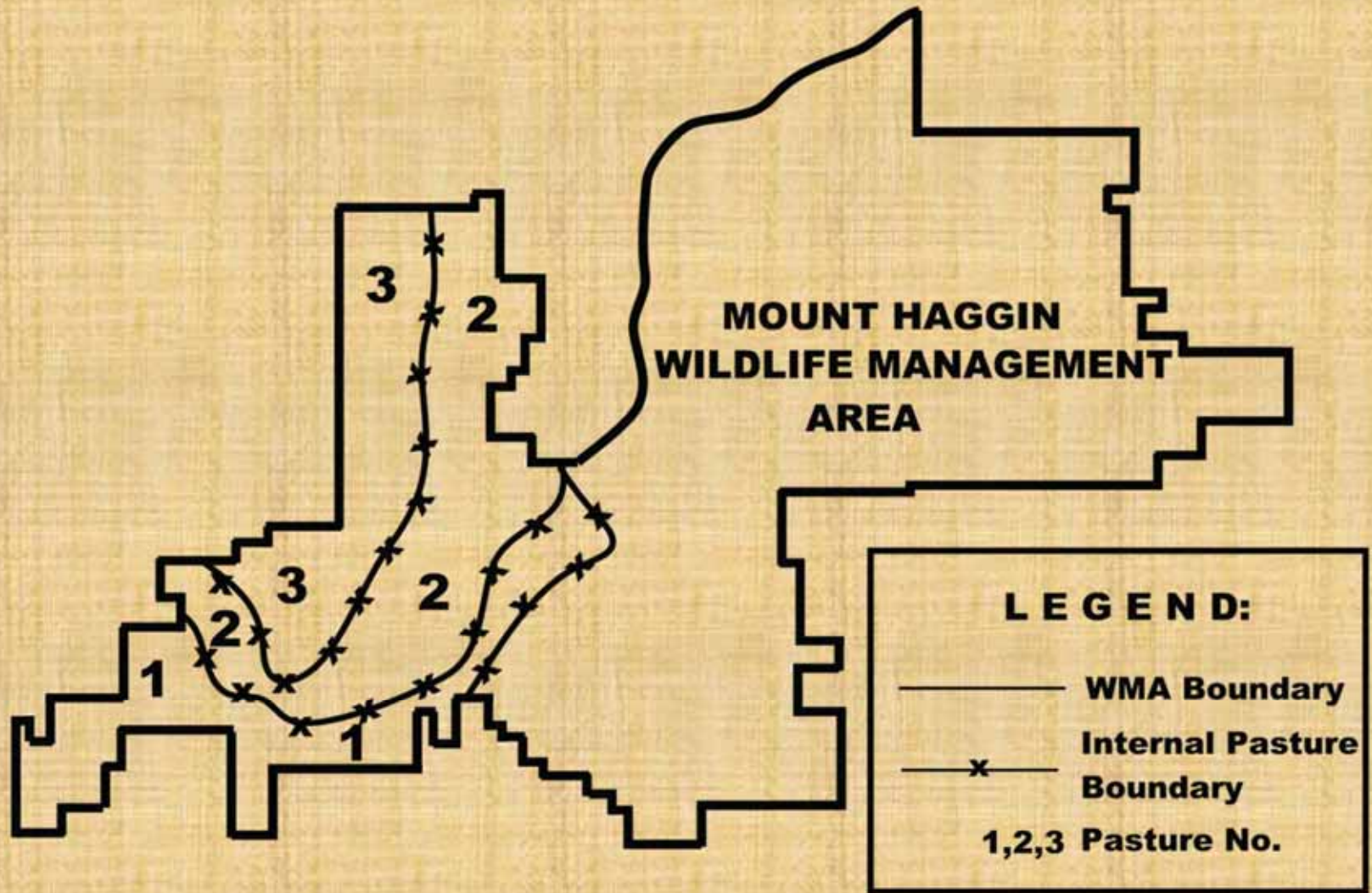


**Rest**

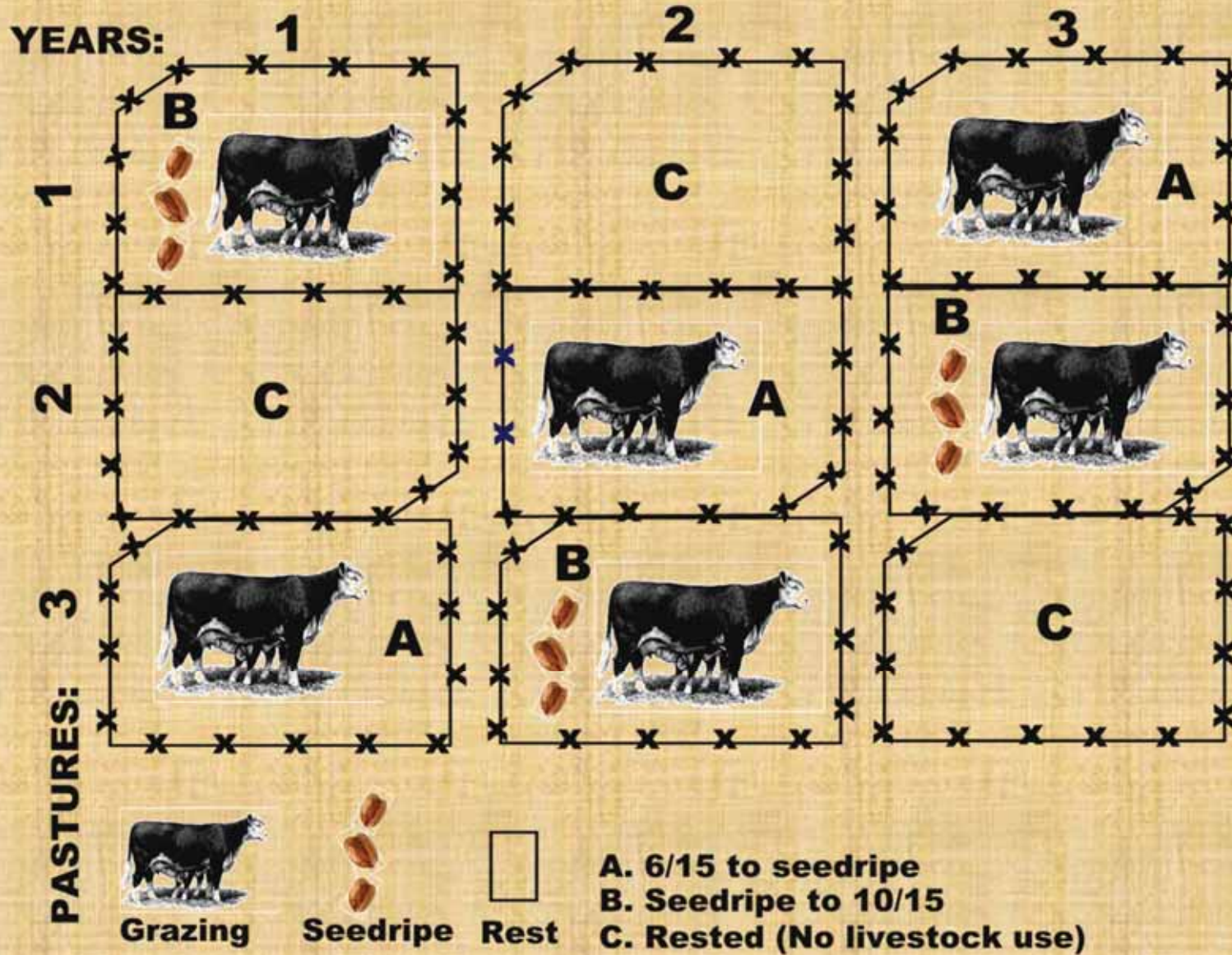
**A. 6/15 to seedripe**

**B. Seedripe to 10/15**

**C. Rested (No livestock use)**



# Grazing Formula







**Within context of a managed system.**

## **2. Mount Fleecer WMA**

**Followed in 1980 with Mount Fleecer WMA.**

**First elk winter range FWP for which FWP developed a grazing system.**

# **Mount Fleecer WMA**

**Elk & mule deer winter range, antelope yearlong.**

**Video**





AGSPIC

Fleecer

5/13/83





Fleecer WMA 5/21/08



5/21/08  
FLEECER



Fleecer WMA 7/14/08

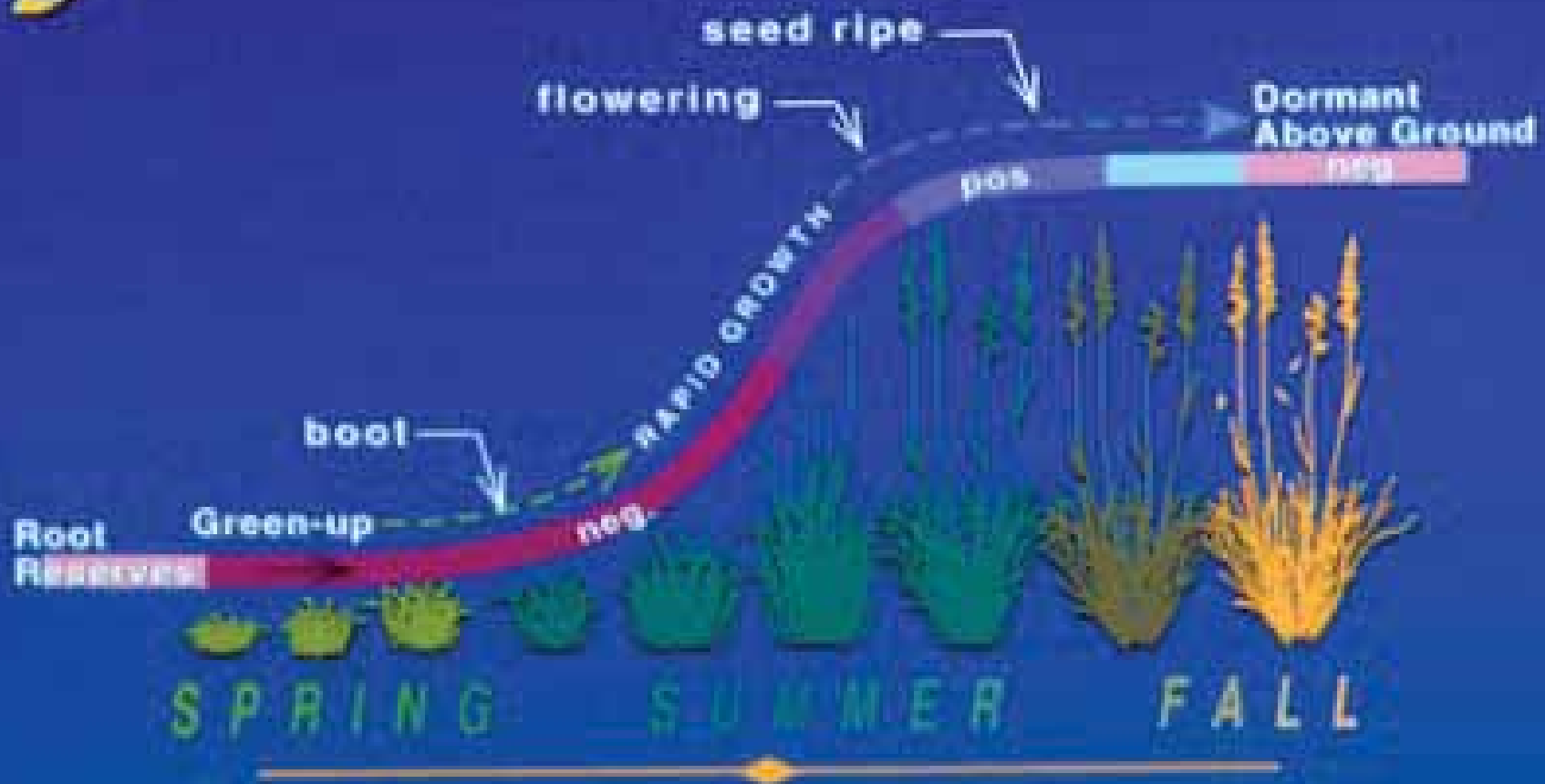


5/21/08  
FLEECER



7/14/08  
Fleecer WMA

# Growth Physiology



# **3. Wall Creek WMA**

## **Elk Winter Range**

### 3. Wall Creek WMA

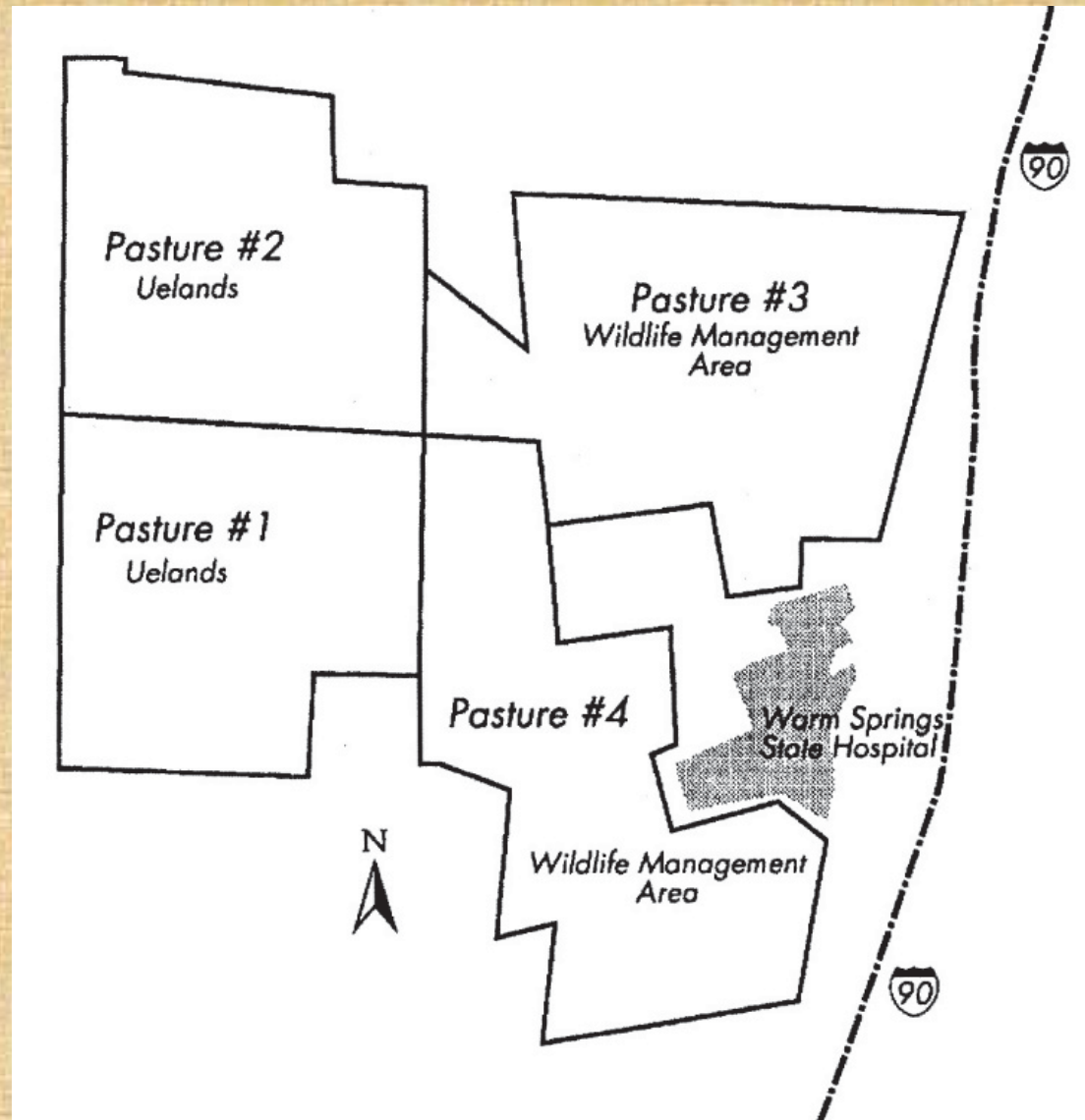




# **4. Warm Springs WMA**

## **Water Fowl Production**

# 4. Warm Springs WMA



# 5. Blackfoot Comm. Area

Table 1. A summary of grazing treatments and their influence on vegetation, wildlife habitat ecology, and livestock management on the Blackfoot Challenge Community Conservation Area. October 2008.

<u>Grazing Treatment</u>	<u>Vegetation</u>	<u>Wildlife Habitat Ecology</u>	<u>Livestock Management</u>
<p>Growing season grazing. June 15 to about August 1 (seed-ripe on slower maturing grasses). See <b>A</b> treatment in rotation Figures 1, 2 &amp; 3.</p>	<p>Grazed or trampled herbaceous plants experience interrupted photosynthesis, plant growth, and seed production. Periodic grazing of vegetation for at least some taxa may improve palatability and forage quality (Rasmussen 1941, McNaughton 1976 &amp; 1979, Pitt 1986, Gordon 1988, Frisina 1992a, Alt et al. 1992, Wambolt et al. 1997).</p>	<p>Reduced herbaceous cover height, may be less suitable for wild species seeking taller herbaceous cover. The next year is an attractant to large ungulates during spring.</p>	<p>Provides summer forage for livestock (a mix of residual vegetation with current year's growth).</p>
<p>Grazing Deferment Grazing from about August 1 (seed-ripe) to end of grazing season (October 1) See <b>B</b> treatment in rotation Figures 1, 2, &amp; 3.</p>	<p>Allows perennial grasses and forbs in an entire pasture to fully produce foliage, grow roots, store carbohydrates, and produce seed for reproduction prior to livestock grazing (Hormay 1970, Frisina 1991, Frisina 1992, Frisina and Keigley 2004). Deferment allows perennial herbaceous vegetation to more effectively fill vacant niches (Frisina and Keigley 2004) making the native habitat less vulnerable to invasion by non-native species (Anderson and Inouye 2001) Allows plants time to recover from growing season grazing treatment</p>	<p>Allows growth of herbaceous vegetation to its full potential. Standing herbaceous vegetation provides hiding cover, nesting cover, and forbs for food for a diversity of birds. Also cover for small mammals. A greater abundance and diversity of insects for food (Rambo and Faeth 1999, Kruess and Tschardtke 2001, Sutter and Ritchison 2005)</p>	<p>Provides mid-summer through fall forage for livestock (at time grazing begins livestock are provided with maximum production of forage in the pasture)</p>
<p>Rest yearlong from livestock grazing. See <b>C</b> treatment in rotation Figures 1, 2, &amp; 3.</p>	<p>Allows perennial grasses and forbs in an entire pasture to fully produce foliage, grow roots, store carbohydrates, and produce seed for reproduction (Hormay 1970, Frisina 1991, Frisina 1992, Frisina and Keigley 2004). Rest allows perennial herbaceous vegetation to more effectively fill vacant niches (Frisina and Keigley 2004) making the native habitat less vulnerable to invasion by non-native species (Anderson and Inouye 2001) Allows plants time to recover from growing season grazing treatment.</p>	<p>Winter forage for large ungulates. Allows growth of herbaceous vegetation to full potential, benefitting birds and small mammals (ie. cover, nesting cover, food, etc.) Allows for maximum potential perennial forb composition and diversity (Wheiham 2008). Un-grazed herbaceous vegetation promotes insect diversity and abundance. Insects are important food source for birds and some small mammals. Winter forage for large ungulates.</p>	<p>Livestock excluded (the following year, residual vegetation in this pasture will be available to livestock along with the current year's growth)</p>

# 5. Blackfoot Comm. Area

YEAR	PASTURE 1	PASTURE 2	PASTURE 3
1	A	B	C
2	B	C	A
3	C	A	B
4	A	B	C

A=graze 6/15-8/1, B=graze8/1-Oct 1, C=yearlong rest

Figure 1. A 3-pasture rest-rotation grazing formula for the Blackfoot Challenge Community Conservation Area.

YEAR	PASTURE 1	PASTURE 2	PASTURE 3	PASTURE 4
1	A	B	B	C
2	B	B	C	A
3	B	C	A	B
4	C	A	B	B
5	A	B	B	C

A=graze 6/15-8/1, B=graze8/1-Oct 1, C=yearlong rest

Figure 2. A 4-pasture rest-rotation grazing formula for the Blackfoot Challenge Community Conservation Area.

YEAR	PASTURE 1	PASTURE 2	PASTURE 3	PASTURE 4
1	A	B	C	C
2	B	C	C	A
3	C	C	A	B
4	C	A	B	C
5	A	B	C	C

A=graze 6/15-8/1, B=graze8/1-Oct 1, C=yearlong rest

Figure 2. A an alternative 4-pasture rest-rotation grazing formula for the Blackfoot Challenge Community Conservation Area.

# What Works ?



# Common Themes

- 1. Rotate livestock through pastures via a planned rotation – balance wildlife habitat needs.**
- 2. Allow for specific habitat needs of key species in rotation.**
- 3. Coordinate management system with ranch cycle and viability needs.**
- 4. All parties, respect the objectives that vary by land ownership.**

# Wall Creek Grazing System



# Common Themes

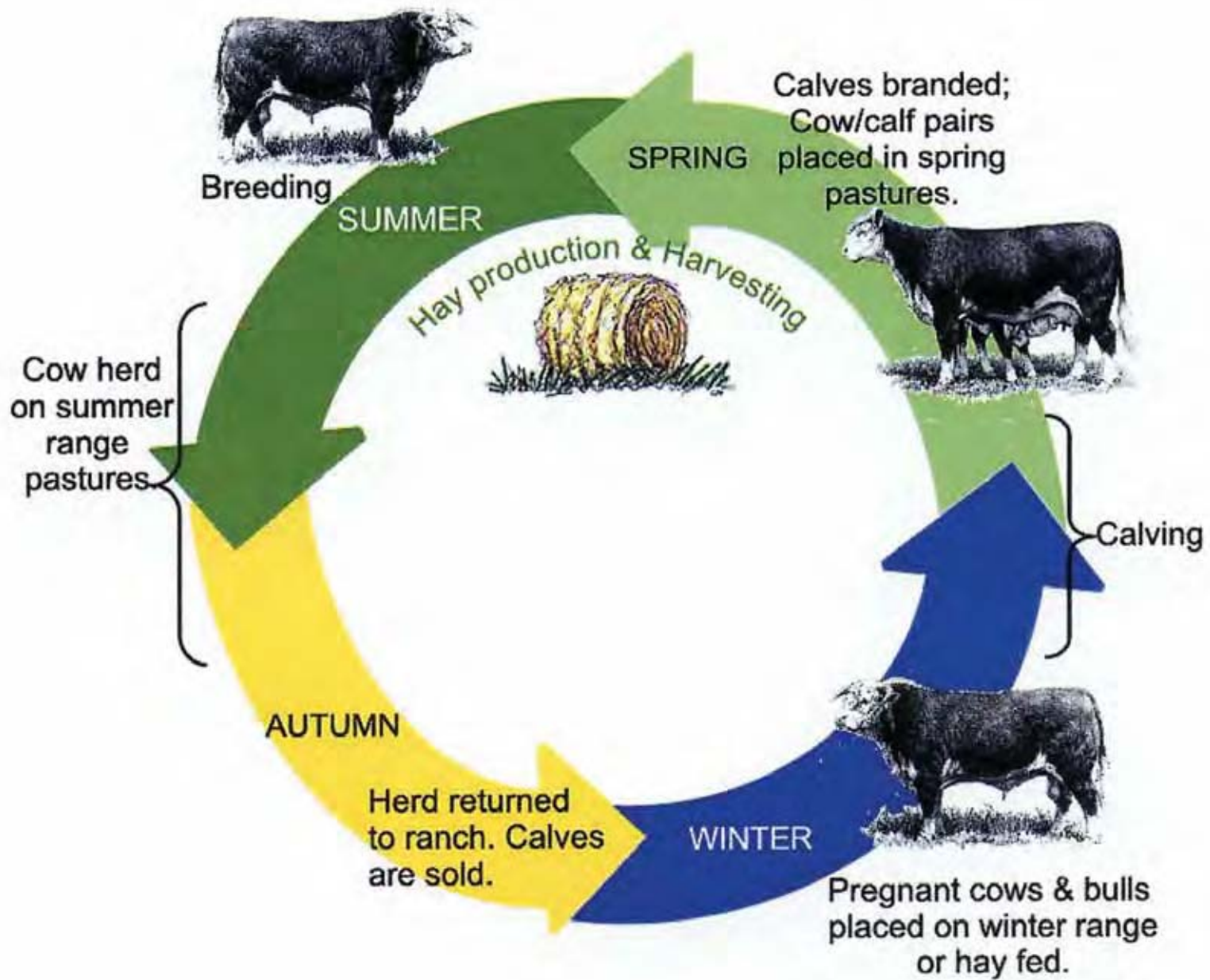
**2. Allow for specific habitat needs of key species in rotation.**





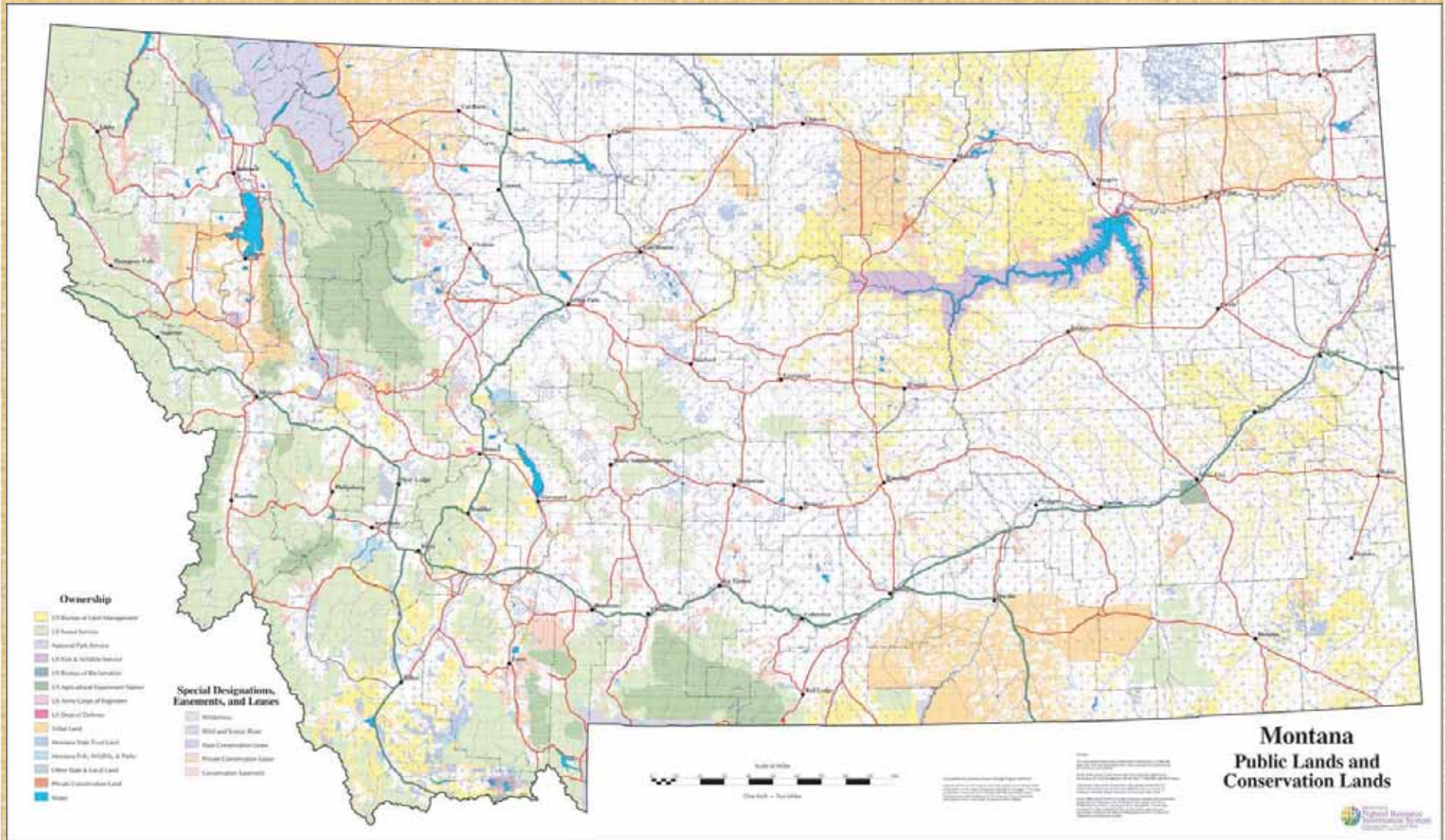
# Common Themes

**3. Coordinate management system with ranch cycle.**



# Common Themes

**3. Respect objectives that vary by land ownership.**



# Monitoring

- **Population Goals**
- **Compliance**
- **Habitat Maintenance**

# PHOTO MONITORING



## **MOUNT HAGGIN WMA**

**1977**

## **MANAGEMENT CHANGE 1984**



**1990**





1977



1990



**1991 Rested until Seed-Ripe**



1990



**July 14, 2009 Rested**



1990



**July 14, 2009 Rested**



1977





**July 14, 2009 Rested**



1977



**2009 Rested**

# 10 Mile Creek



**1980**

**Management  
Change 1984**



**1991**



1980



**1991**

## **CALIFORNIA CREEK**



**1991**

**Summer Grazing  
Treatment Both  
Years**



**1994**



**1991**

64





**1994**



**1979**

## **DEEP CREEK**

**Management  
Change 1984**



**1990**



1979



1990

## **SALT RIDGE**



**1979**

**Management  
Change 1984**



**1990**



**1979**

70



**1990**



**Aerial photographs document changes in willow distribution. Arrows in the 2000 photograph (right) indicate areas in which willow has expanded compared to the same areas shown in the 1981 photograph (left). Several factors appear to have influenced the increase in willow distribution that has occurred over the past two decades, including stream migration, an increase in the beaver population, browsing by moose, and the cessation of season long livestock grazing.**



**Table 23.** Comparison of riparian health scores from Blacktail WMA, Robb/Ledford WMA, and Mount Haggin WMA (Mule Ranch) (health score values given as percent ratings, where 100 percent is perfect health)

Location and Year of Sampling and Number of Polygons Sampled	Total Miles of Stream	Health Rating (weighted average)			Overall Health Category <sup>1</sup>
		Vegetation	Soil/Hydr.	Overall	
<b>Blacktail WMA</b>					
East Fork Blacktail Deer Creek - 2010 (N = 5)	3.52	70%	92%	81%	PFC
Floodplain Hay Meadows - 2010 (N = 2)	1.00	61%	84%	68%	FAR
Total Lotic Sites Combined - 2010 (N = 7)	4.52	68%	90%	77%	FAR
<b>Robb/Ledford WMA</b>					
Dry Hollow - 2010 (N = 8)	6.15	67%	70%	68%	FAR
Ledford Creek - 2010 (N = 7)	3.93	69%	80%	75%	FAR
Taylor Creek - 2007 (N = 3)	1.72	66%	96%	82%	PFC
Rock Creek - 2006 (N = 6)	4.85	76%	52%	63%	FAR
Swamp Creek - 2006 (N = 5)	3.37	63%	64%	63%	FAR
Robb Creek - 2005 (N = 5)	2.90	61%	77%	69%	FAR
Total Lotic Sites Combined (N = 35)	22.92	65%	77%	71%	FAR
<b>Mount Haggin WMA (Mule Ranch)</b>					
Total Lotic Sites Combined - 2008 (N = 8)	2.35	78%	73%	75%	FAR

<sup>1</sup>Health Categories:

PFC (Proper Functioning Condition [Healthy]) = score rating from 80 to 100 percent

FAR (Functional—At Risk [Healthy, but with problems]) = score rating from 60 to 80 percent

NF (Nonfunctional [Unhealthy]) = score rating below 60 percent

