

Cooperative Permittee Monitoring Record
Monitoring Study Worksheet A

planning/assessing changed management

This is to be included in Permanent Site Record.

There should be a worksheet prepared and retained for every monitoring site installed.

Permanent Site ID: _____ GPS Location: _____ N. _____ W.

Name of Location: _____ Date Established: _____

Dates written or amended: _____ Date for Review: _____

Individuals writing this objective: _____ , _____

Management Objectives Section	
Common Global Vision/Directive (Multiple statements allowed/encouraged. Example statements: valued for multiple uses; mostly allocated to energy resources; excellent sage grouse habitat; critical to the ranch grazing program; used in compliance with permit conditions)	<i>We believe that this landscape should be/is . . .</i>
Common Assessment of the Resource (Multiple statements should be linked with Global statements Example statements: is in good shape; should provide better grouse nest cover; has too much bare ground)	<i>Further, we believe that this <u>key area</u> . . .</i>
Common Desire for the Resource (Example statements: maintain the current state; decrease bare ground; increase forage production/quality; increase forb diversity)	<i>We have agreed that we want to . . .</i>
Management Strategy Section	
Strategies identified to accomplish desired state (Example statements: heavy spring grazing; rotational grazing; herding; late season grazing)	<i>Some management strategies that the grazing program can employ to accomplish the things we desire are . . .</i>
Predicted outcome of strategy (Example statements: decrease bare ground, increase forb diversity, enhance nesting cover, increase animal performance)	<i>This strategy will . . .</i>
Ecological Logic (explain the linkage between strategy and outcome)	<i>The system will deliver this outcome because . . .</i>
Responsiveness (the timeframe you expect)	<i>We would anticipate seeing results in our data . . .</i>
Monitoring Methodology Section	
Data Requirements (Example statements: photographic comparisons, line transect frequency indicating increased cover, four inch stubble height)	<i>Data results which will monitor for the desired outcome are . . .</i>
Methodology Employed (Example statements: Cover by Lifeform taken early September every three years; USFS Utilization Wheel method on Bottlebrush squirreltail at end of grazing, annually.)	<i>The methodology employed to generate required data, and the time and frequency of data collection will be . . .</i>

Cooperative Permittee Monitoring Record

Monitoring Study Worksheet B – for simpler objectives (status quo)

This is to be included in Permanent Site Record.

There should be a worksheet prepared and retained for every monitoring site installed.

Permanent Site ID: _____ GPS Location: _____ N. _____ W.

Name of Location: _____ Date Established: _____

Dates written or amended: _____ Date for Review: _____

Individuals writing this objective: _____ , _____

Objectives Section	
<p>The reason for this monitoring study Examples of statements refining the statement: . . . document longstanding stewardship. . . . gather baseline information on the resource. . . . gather information documenting compliance with permit terms and conditions . . . gather information assisting in grazing program scheduling.</p>	<p><i>We believe that any issues or concerns that we have for this landscape do not warrant a change in grazing management at this time. Our interest in installing a monitoring study site at this location is to...</i></p>
<p>Threats/hazards/emerging issues Examples of statements refining the statement: . . . perceptions of over use. . . . complaints about streambanks. . . . drought and attendant reductions in stocking rates.</p>	<p><i>Things which could become important to the management of the grazing program on this landscape might include. . .</i></p>
<p>What do you want continue to achieve Examples of statements refining the statement: . . . maintain the current state. . . . assure adequate watershed (erosion) protection. . . . maintain forage production/quality & weight gains.</p>	<p><i>We have agreed that we want to . . .</i></p>
Management Strategy Section	
<p>Current and past management strategies Examples of statements refining the statement: . . . May 1 – July 1 continual grazing 550 pairs. . . . 3 pasture rotational grazing, 250 pairs, June 1 – Aug 15. . . . herding 600 yearlings June 15 – Sept. 15. . . . dormant season grazing.</p>	<p><i>The grazing management strategies that have resulted in the state of this rangeland have been. . .</i></p>
<p>Hazards of the strategy Examples of statements refining the statement: . . . decreased ground cover. . . . non-vegetated point bars. . . . increasing noxious and invasive weeds.</p>	<p><i>If things were to begin to come apart under current grazing management strategies, the first indicator would likely be. . .</i></p>
Monitoring Methodology Section	
<p>Location selection Examples of statements refining the statement: . . . it is an average use area. . . . it is a typical range site within the allotment. . . . it is a reasonable distance from points of concentration.</p>	<p><i>This is a <u>key area</u> because. . .</i></p>
<p>Data Requirements Examples of statements refining the statement: . . . permanent plot photographic comparisons. . . . line transect frequency indicating basal cover. . . . stubble height.</p>	<p><i>The data which will be gathered is . . .</i></p>
<p>Methodology Employed Examples of statements refining the statement: . . . basal cover by lifeform taken early September every three years. . . . USFS Utilization Wheel method on Bottlebrush squirreltail at end of grazing, annually.</p>	<p><i>The methodology employed to generate required data, and the time and frequency of data collection will be. . .</i></p>

SITE INFORMATION FORM

Complete this form when conducting any of the study methods in this booklet to provide an important summary of site information. If no study methods are conducted, completing this form alone will still provide a record of valuable information. **All fields are required unless otherwise indicated with an "opt."** Complete the blanks to the best of your knowledge.

Initial Annual

Unit Name _____ Pasture Name _____

Study Site (# or name) _____ Date _____ Observer _____

Monitoring Method(s) _____ Date Study Established _____

Study Located N S E W of _____

_____ 1/4 of _____ 1/4 of Section _____ Twnshp _____ Range _____

Access (*opt.*) _____

Ownership (*opt.*) _____ GPS Coordinates
(as available) _____

Site Characteristics

Landform (*opt.*) _____

Elevation (*opt.*) _____ % Slope (*opt.*) _____ Average Annual Precipitation (*opt.*) _____

Range Site	Current Growing Conditions	Exposure (<i>opt.</i>)	Soil (<i>opt.</i>)
<input type="checkbox"/> Upland (U)	<input type="checkbox"/> Above average (1)	<input type="checkbox"/> N <input type="checkbox"/> S	<input type="checkbox"/> Sand (1)
<input type="checkbox"/> Riparian (R)	<input type="checkbox"/> Average (2)	<input type="checkbox"/> NE <input type="checkbox"/> SW	<input type="checkbox"/> Silt (2)
	<input type="checkbox"/> Below average (3)	<input type="checkbox"/> E <input type="checkbox"/> W	<input type="checkbox"/> Clay (3)
		<input type="checkbox"/> SE <input type="checkbox"/> NW	<input type="checkbox"/> Loam (4)

Other Climatic Information (*opt.* snow depth/persistence, temperatures, storms/flooding, etc.)

Unit/Pasture Use Information

Kind & Class of Animal _____ Season of Use _____ to _____

Number _____ Grazing System _____

Current Year Grazing Management _____

Other Notes (*opt.* for example, growth stage of plants at time of use) _____

SITE LOCATION MAP

Show witness mark location, study site, or other information to aid in locating site.

SITE LOCATION PHOTOGRAPH

Show **Photo Information Sheet** in all photos if possible.

PHOTO INFORMATION SHEET

UNIT NAME:

PASTURE NAME:

STUDY SITE:

OBSERVER:

DATE:

LANDSCAPE APPEARANCE METHOD (Herbaceous)

Unit Name _____ Pasture Name _____

Transect ID _____ Date _____ Observer _____

Animal Kind/Class _____ Season of Use _____ to _____ Sample Interval _____

Class (Midpoint)	Dot Tally	(#) Count	# x Midpoint	Description of Landscape Appearance
0-5% (2.5%)				The rangeland shows evidence of no grazing, or of negligible use.
6-20% (13.0%)				The rangeland has the appearance of very light grazing. The herbaceous forage plants may be topped or slightly used. Few current seedstalks and young plants are grazed.
21-40% (30.0%)				The rangeland may be topped, skimmed, or grazed in patches. The low value herbaceous plants are ungrazed and 60-80% of the number of current seedstalks of herbaceous plants remain intact. Fewer than 50% of the young plants are grazed.
41-60% (50.0%)				The rangeland appears entirely covered as uniformly as natural features and facilities will allow. 15-25% of the number of current seedstalks of herbaceous species remain intact. No more than 10% of the number of low-value herbaceous forage plants have been utilized.
61-80% (70.0%)				The rangeland has the appearance of complete search. Herbaceous species are almost completely utilized, with less than 10% of the current seedstalks remaining. Shoots of rhizomatous grasses are missing. More than 10% of the number of low-value herbaceous forage plants have been utilized.
81-94% (88.0%)				The rangeland has a mown appearance and there are indications of repeated coverage. There is no evidence of reproduction or current seedstalks of herbaceous species. Herbaceous forage species are completely utilized. The remaining stubble of preferred grasses is grazed to the soil surface.
95-100% (97.5%)				The rangeland appears to have been completely utilized. More than 50% of the low-value herbaceous plants have been utilized.
	Totals	A	B	
Average Utilization = $\frac{B}{A}$			%	

LANDSCAPE APPEARANCE METHOD (Browse)

Unit Name _____ Pasture Name _____

Transect ID _____ Date _____ Observer _____

Animal Kind/Class _____ Season of Use _____ to _____ Sample Interval _____

Class (Midpoint)	Dot Tally	(#) Count	# x Midpoint	Description of Landscape Appearance
0-5% (2.5%)				Browse plants show no evidence of use; or browse plants have the appearance of negligible use.
6-20% (13.0%)				The available leaders of palatable browse plants have the appearance of very light use.
21-40% (30.0%)				There is obvious evidence of leader use. The available leaders appear cropped or browsed in patches and 60-80% of the available leader growth of the palatable browse plants remains intact.
41-60% (50.0%)				Browse plants appear rather uniformly utilized and 40-60% of the available leader growth of the palatable browse plants remains intact.
61-80% (70.0%)				The use of the browse gives the appearance of complete search. The preferred browse plants are hedged and some plant clumps may be slightly broken. Nearly all available leaders are used and few terminal buds remain on palatable browse plants. Between 20-40% of the available leader growth of the palatable browse plants remains intact.
81-94% (88.0%)				There are indications of repeated coverage. There is no evidence of terminal buds and usually less than 20% of available leader growth on the palatable browse plants remains intact. Some patches of 2 nd and 3 rd year's growth may be utilized. Hedging is readily apparent and the browse plants are more frequently broken. Repeated use at this level will produce a definitely hedged or armored growth form.
95-100% (97.5%)				Less than 5% of the available leader growth on browsed plants remains intact. Some, and often much, of the more accessible 2 nd and 3 rd year's growth of the browse plants has been utilized. All browse plants have major portions broken.
	Totals	A	B	
Average Utilization = $\frac{B}{A}$			%	

COVER BY LIFEFORM TRANSECT

Unit Name _____ Pasture Name _____

Transect ID _____ Date _____ Observer _____

Litter includes everything but soil, moss and lichen, rock, or live plants.

You may record dot counts optionally for separate species (e.g., perennial vs. annual species, desirable vs. undesirable species, or noxious weeds vs. native forbs) if doing so will help meet objectives. "Other" categories below may be used for specific species or groupings of interest.

	Grasses	Forbs	Shrubs	Litter	Moss/ Lichen	Rock	Bare Ground
Perennial							
Annual							
Noxious							
Other:							
Other:							
Other:							
Total (= 100)							

STUBBLE HEIGHT

Unit Name _____ Pasture Name _____

Transect ID _____ Date _____ Observer _____

Animal Kind/Class _____ Season of Use _____ to _____ Sample Interval _____

Record at least 36 stubble heights for each species or species group. More readings can be taken if desired.

Species (Group)				Species (Group)				Species (Group)			
Column A		Column B		Column A		Column B		Column A		Column B	
1		26		1		26		1		26	
2		27		2		27		2		27	
3		28		3		28		3		28	
4		29		4		29		4		29	
5		30		5		30		5		30	
6		31		6		31		6		31	
7		32		7		32		7		32	
8		33		8		33		8		33	
9		34		9		34		9		34	
10		35		10		35		10		35	
11		36		11		36		11		36	
12		37		12		37		12		37	
13		38		13		38		13		38	
14		39		14		39		14		39	
15		40		15		40		15		40	
16		41		16		41		16		41	
17		42		17		42		17		42	
18		43		18		43		18		43	
19		44		19		44		19		44	
20		45		20		45		20		45	
21		46		21		46		21		46	
22		47		22		47		22		47	
23		48		23		48		23		48	
24		49		24		49		24		49	
25		50		25		50		25		50	
Sub		Sub		Sub		Sub		Sub		Sub	
Grand Total				Grand Total				Grand Total			
Average Height (Tot/#)				Average Height (Tot/#)				Average Height (Tot/#)			

GREENLINE STABILITY

Unit Name _____ Pasture Name _____

Transect ID _____ Date _____ Observer _____

Existing Community Type	Value	Dot Tally	Count	Rating
Anchored rock/logs	10			
Trees (coniferous & deciduous)	7			
Willows	8			
Other shrubs (sagebrush, cinquefoil, etc.)	5			
Wet sedges & rushes	9			
Other sedges	4			
Wet grasses (for example, hairgrass, canarygrass, reedgrass, cordgrass)	8			
Other grasses (for example, bluegrass, redtop, bentgrass, barley, muhly)	3			
Sandbars, loose rock, bare soil (unvegetated areas)	1			
		Total		
		Numerical Rating		

Multiply the **value** for each community type by the number of tally points (**count**) to get the **rating**. Sum all the **ratings** and divide by the **total count** (number of paces) to get the **numerical rating**. Use the table below to determine the overall **stability rating** for the riparian/stream reach sampled.

Numerical Rating	Stability Rating
9-10	Excellent (very high)
7-8	Good (high)
5-6	Moderate
3-4	Poor (low)
0-2	Very Poor (very low)

PERMANENT PHOTO-POINT TRANSECT

Unit Name _____ Pasture Name _____

Study Site (# or name) _____ Date _____ Observer _____

Grazing System _____ Season of Use _____ to _____

Study Located N S E W of _____

_____ 1/4 of _____ 1/4 of Section _____ Twnsp _____ Range _____

Photo Direction _____

Photo Subject(s) _____

Photo Purpose _____

Camera _____ Lens _____ Film Speed _____

