

Clean Water Act Compliance Field Review - Grazing Activities – Caribou NF

Allotments: Montpelier-Elk Valley C&H **Forest & District:** Caribou-Targhee NF, Montpelier RD **Date:** September 26, 2007

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Grazing System: Adaptive Management

Unit(s) Reviewed: Giraffe Creek Unit **On Date(s):** 7/1 **Off Date(s)** 9/18

6TH Level Watersheds: 160101020304 – Giraffe Creek **Streams Examined:** Giraffe Creek & Right Hand Fork Giraffe Creek

Geology: Alluvial valley bottom and floodplains. Parent materials are mixed alluvial outwash from a variety of geologic formations such as sandstone, shale, limestone, quartzite, tuff, dolomite (1990 Soil Survey of the Caribou NF).

Soils: Venable Family – Argic Cryaquolls – Coski Family complex, 0 to 5% slopes (1990 Soil Survey of the Caribou NF). Venable Family are Fine-loamy, mixed Cumulic Cryaquolls; Argic Cryaquolls are Fine, mixed; Coski Family are coarse-loamy, mixed Typic Cryoborolls.

Community Types: Wet riparian vegetation interspersed with a big sagebrush-grass vegetative type. Vegetation on the wet soils is comprised willow, geranium, aster, sedge, rush, and bluegrass. The present vegetation on the Coski Family soils is mainly big sagebrush, cinquefoil, lupine, geranium, Idaho fescue, red-top, bluegrass, and wheatgrass (1990 Soil Survey of the Caribou NF).

Review Notes: The review team evaluated two riparian designated monitoring areas (DMAs): one on Giraffe Creek and the second one on the Right Hand Fork Giraffe Creek. The Giraffe Creek DMA is located behind a drift fence (not an enclosure) that is intended to minimize use in the meadow surrounding the confluence of Giraffe and the Right Hand Fork. The DMA on the Right Hand Fork is located between the drift fence and an enclosure on the Right Hand Fork. The group collected the end-season monitoring data using the multiple indicators monitoring (MIM) method (Burton et al. 2007). Also, thanks to those team members who let down the drift fence and enclosure fence.

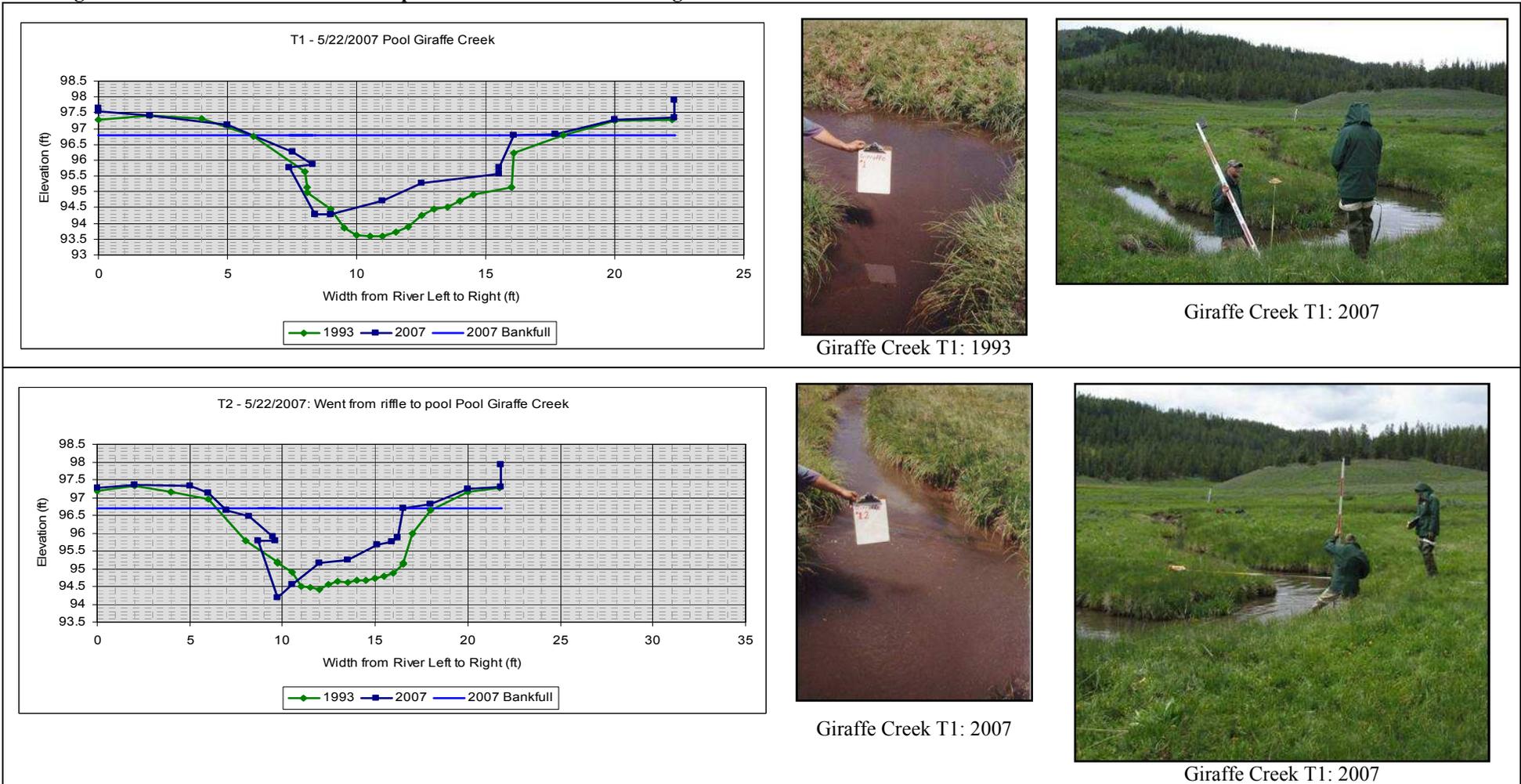
Summary. The Giraffe Creek area received excess use in 2007. Although not much trend data is available, the excess use appears to have slowed, and even reversed, some improvements that may have been occurring. Fortunately, the data does indicate that the right conditions are in place for recovery if future management is improved. The upper Right Hand Fork Giraffe Creek DMA did not receive as much use as meadow did surrounding the confluence area.

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Review of Recent Data at the Giraffe Creek DMA:

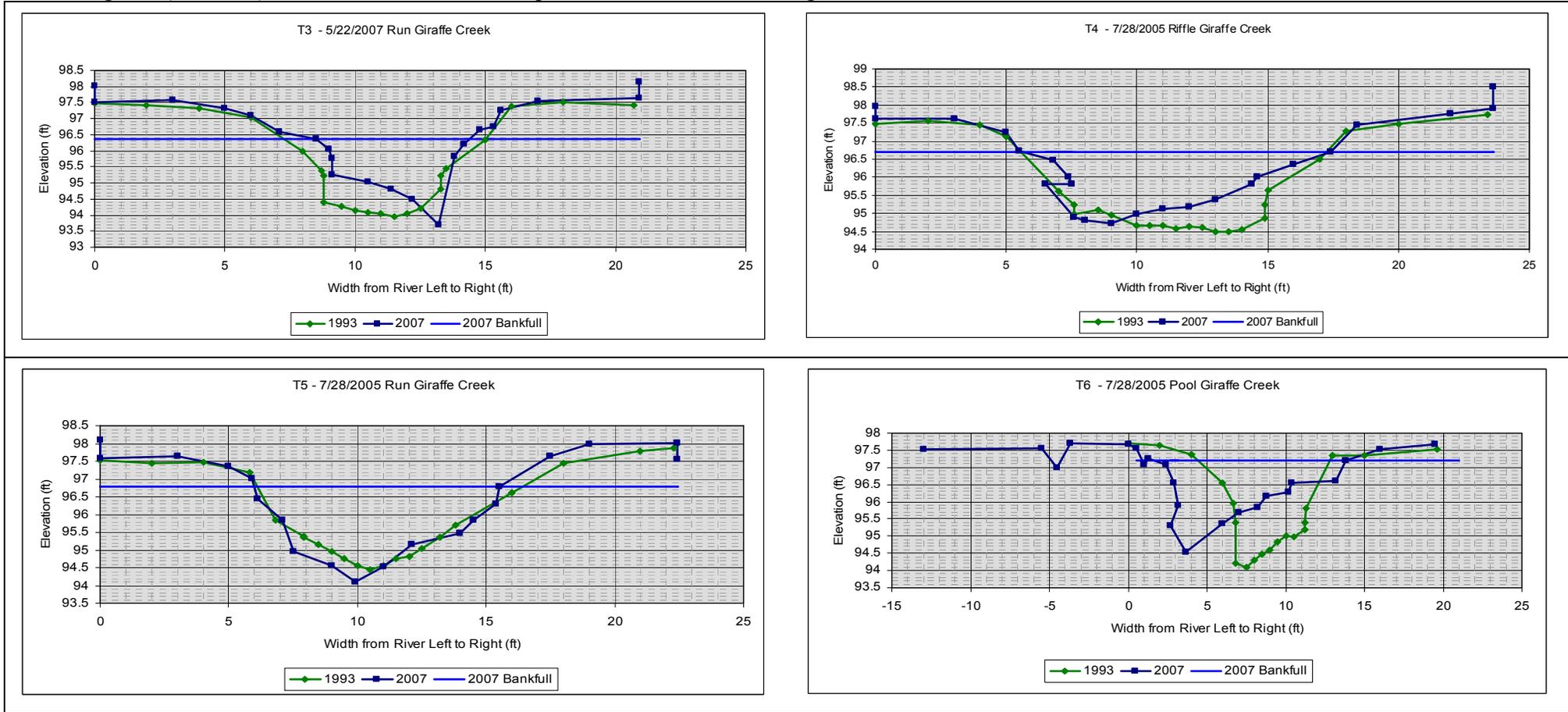
Giraffe Creek Channel Cross Sections. The Forest established six stream channel cross sections on Giraffe Creek near the DMA in 1993. The DMA and cross sections are within the drift fence area. Brad, Heidi, and Jane re-surveyed the cross sections in 2007. It appears that the 1993 surveyors underestimated the bankfull elevation. However, plotting of the cross section data indicates that there have been slight improvements in the channel dimensions (Figure 1). The width/depth ratio (w/d) slightly decreased at three cross sections (T1, T2, & T3); the w/d remained stable at two cross sections (T4 & T5); and the w/d increased slightly at one (T6). A decrease in w/d ratio indicates channel narrowing and deepening, which in this case equates to improved aquatic habitat. The stream channel is being maintained as a Rosgen (1996) stream type “E,” which should be one component of the desired condition for this area.

Figure 1. Stream channel cross section plots for Giraffe Creek showing 1993 and 2007 stream channel dimensions.



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Figure 1 (continued). Stream channel cross section plots for Giraffe Creek showing 1993 and 2007 channel dimensions.



2005, 2006, and spring 2007. The drift fence was not put up in 2005 or 2006 and the area was grazed. The district collected MIM data at the Giraffe Creek DMA in 2006 (Table 1). Although the drift fence was intended to limit grazing pressure beyond the applicable standards, the 2006 use was within standard (6 inch stubble height and 25% bank alteration) in lieu of having the drift fence. In addition, the overall condition of the Giraffe Creek DMA was near the Revised Forest Plan Objectives:

- Bank stability was 78% (a common objective is at least 80% stable banks)
- Vegetation was in a late seral state, with 98% hydric, a good erosion resistance, and very good wetland rating.
- The greenline-to-greenline width was 1.85 meters, indicating the appropriate width/depth ration (a Rosgen E channel type).

No willows were detected along the greenline in 2006, but Brad noticed very young willows regenerating throughout the meadow away from the greenline during the spring of 2007. The cross sections, willow regeneration, and visual signals pointed towards improvement.

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Table 1. Multiple indicators monitoring (MIM) data for Giraffe Creek in the drift fence area DMA; collected in 2006.

Median Stubble Height (inches)	Mean Stubble Height (inches)	Bank Alteration (%)	Woody Species Use (%)	Stable Banks (%)	Covered Bank (%)	% Sapling & Young Woody Species	% Mature Woody	% Dead Woody	% Hydric	Erosion Resistance Index
6.00	5.9	16%	No Woody	78%	72%	No woody species detected			98%	7.15 - Good
n =	58	60	0	60	60	0	0	0	60	60
95% Confidence	83.3%	7%		*	*	*	*	*	*	*
Criteria (set by user):										
>or =	> or =	< or =	< or =	> or =	> or =	> or =	> or =	< or =	> or =	> or =
6	6	25%	50%	80%	85%	25%	25%	10%	80%	7
Does not meet criteria:										
			N/A	xxxx	xxxx	xxxx	xxxx			

	Ecological Status	Site Wetland Rating	Greenline-Greenline Width (m)	% Woody Species	% Hydric Herbaceous	Dominate Key Species for SH	Height of Dom. Key Species
Rating	64-Late	95: Very Good	1.85	0%	98%	CAUT	5.63
n=	60	60	60	60	60	48	*
95% CI	*	*	0.18	*		*	*

2007 Review and Data Collection. Members of the review team collected MIM data at the Giraffe Creek (Table 2) DMA.

Table 2. End of season multiple indicators monitoring (MIM) data for Giraffe Creek in the drift fence area DMA; collected on 9/26/2007.

Median Stubble Height (inches)	Mean Stubble Height (inches)	Bank Alteration (%)	Woody Species Use (%)	Stable Banks (%)	Covered Bank (%)	% Sapling & Young Woody Species	% Mature Woody	% Dead Woody	% Hydric	Erosion Resistance Index
4.0	4.6	46%	5.0%	59%	100%	No woody species detected			82%	7.27 - Good
n =	70	80	2	80	80	0	0	0	80	80
95% Confidence	59.5%	7%		*	*	*	*	*	*	*
Criteria (set by user):										
>or =	> or =	< or =	< or =	> or =	> or =	> or =	> or =	< or =	> or =	> or =
6	6	25%	50%	80%	85%	25%	25%	10%	80%	7
Does not meet criteria:										
		xxxx		xxxx		xxxx	xxxx			

	Ecological Status	Site Wetland Rating	Greenline-Greenline Width (m)	Variation Index (SD/mean depth)	Width to Depth Ratio	% Woody Species	% Hydric Herbaceous	Dominate Key Species for SH	Height of Dom. Key Species
Rating	57 – Mid	92-Very Good	1.97	0.29	6.57	0%	82%	CAUT	4.56
n=	80	80	80	80	80	80	80	63	*
95% CI	*	*	0.15	0.02	0.08	*		*	*

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Giraffe Creek Discussion. The drift fence was put up in 2007, but it did not work as intended. Rather than decreasing use, several cattle got around the fence and were entrapped within the meadow. Excess use occurred in the Giraffe Creek area during 2007 (Table 2):

- The greenline and riparian stubble height were both 4-inches, which is slightly below the-6 inch standard without the drift fence and considerably below the expected use with the drift fence in place.
- Bank alteration was 46%, which greatly exceeds the 25% standard.

Some conditions at the DMA appear to be in decline. Although the cross section data indicates a slight improvement in channel width and with/depth ratios from 1993, the 2007 excess use greatly influenced the trend of other indicators. It is troublesome to analyze trend over only two years, but comparison of the 2006 and 2007 MIM data indicates a large decline for at least three long-term indicators:

- The percent stable streambanks decreased from 78% to 59% (a decrease of 19%).
- The ecological status declined from late-seral to mid-seral status.
- The percent hydric species declined from 98% to 82%.

Other long-term indicators did not suffer from the excess use of 2007:

- The percent covered streambanks increased from 72% to 100%.
- The erosion resistance index remained at good.
- The wetland site rating remained at very good.
- Greenline to greenline width did not significantly change (within the 95% confidence interval).

The group discussed whether to remove the drift fence, enlarge it into an enclosure, or make it work as is. Marv stated that the area was not cleaned out as much as was intended due to other pressing needs on the allotment. As a result, overuse of the meadow occurred. Marv and Lanny thought that the permittees could do a better job of keeping the area cleaned out in 2008.

Right Hand Fork Giraffe Creek Discussion. Members of the review team collected MIM data at the Right Hand Fork Giraffe Creek (Table 3) DMA. The riparian area stubble height was also measured at 4 inches near the DMA on 9/26/2007.

Table 3. End of season MIM data for Right Hand Fork Giraffe Creek in between the drift fence and enclosure area; collected on 9/26/2007.

Median Stubble Height (inches)	Mean Stubble Height (inches)	Bank Alteration (%)	Woody Species Use (%)	Stable Banks (%)	Covered Bank (%)	% Sapling & Young Woody Species	% Mature Woody	% Dead Woody	% Hydric	Erosion Resistance Index
5.00	5.1	19%	No Woody	25%	30%	No woody species detected			54%	6.14
n=	31	40	0	40	40	0	0	0	41	41
95% conf	54.3%	6%		*	*	*	*	*	*	*
Criteria (set by user):										
> or =	> or =	< or =	< or =	> or =	> or =	> or =	> or =	< or =	> or =	> or =
4.00	4.00	25%	50%	80%	85%	25%	25%	10%	80%	7
Does not meet criteria										
				xxxx	xxxx	xxxx	xxxx		xxxx	xxxx

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Table continued on next page.

Table 3 (continued)

	Ecological Status	Site Wetland Rating	Greenline-Greenline Width (m)	Variation Index (depth)	Width to Depth Ratio	% Woody Species	% Hydric Herbaceous	Dominant Key Species for SH	Height of Dom. Key Species
Rating	44 - Mid	80-Good	1.30	0.48	8.05	18%	54%	JUBA	5.14
n=	41	41	40	40	40	40	40	29	*
95% CI	*	*	0.30	*	0.09	*		*	*

Photo 1. The downstream edge of the Right Hand Fork Giraffe Creek enclosure.



Recommendations:

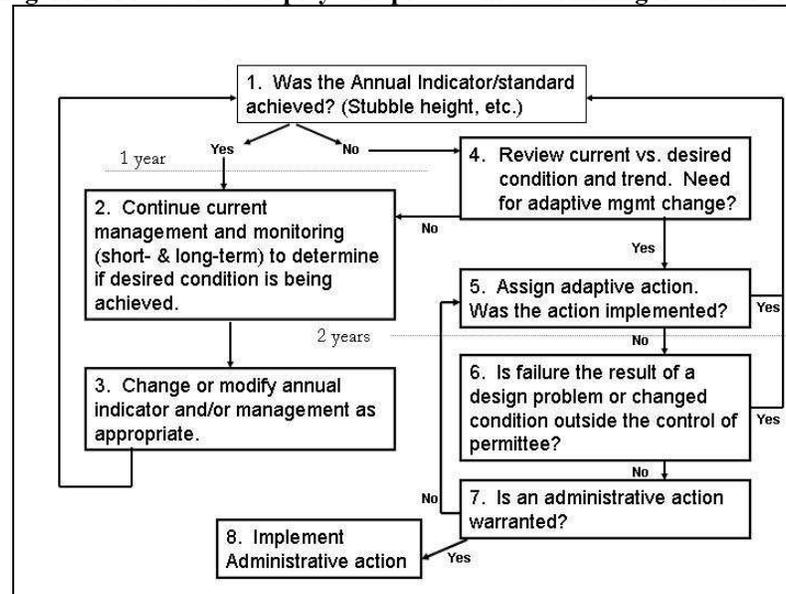
1. Continue the annual in-season and end-of season monitoring of riparian stubble height.
2. To determine trend, continue to collect MIM data at the DMAs at least every three to five years. It is outstanding that the permittees are actively participating. If MIM data can be collected more frequently, it would be beneficial in determining the rate of change. Several DMAs are located this allotment. The DMAs should be prioritized to identify where monitoring efforts should be focused. Interdisciplinary participation should occur during the development of key monitoring areas and standards to be included in AOI.
3. An interdisciplinary team should review the objectives found in the 1993 AMP. The objective(s) should state the component, what is to

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be accomplished, the amount of change, the location, and a timeframe (USDOI 2006). Possible objectives for the Giraffe Creek DMA include:

- The amount of stable streambanks at the DMA should reach 70% by 2012 and 90% by 2017.
 - The percent woody species should move from the present 0% to 20% by 2012.
 - The ecological status should return to late by 2012 and PNC by 2015.
4. Annual grazing indicator was not achieved. The permittees should strive for proper use. The District will manage the allotment through existing administrative procedures. Letters to permit holders are pending (see Figure 1).

Figure 2. Adaptive Management Flow Chart displays the process in determining if administrative action is warranted.



5. The adaptive management adjustments for next season (2008) should include the following:
- The Forest will put both the drift fence and exclosure fence up. The permittees should increase the number of times cleanout of the Giraffe Creek area occurs to remove entrapped cattle within the drift fence area.
 - Efforts should be made to run livestock across the allotment as one large herd so that the grazing system is truly high intensity – short duration. It appears that livestock were scattered widely across the allotment during 2007. That is, several units had stock on them and/or stragglers were left in several units. The straggler-effect comprised the intent of a high intensity-short duration grazing system.
 - Due to the continued use that occurs during “clean-up” of the unit, the permittees may want to begin moving livestock prior to hitting 6-inches. For example, start moving livestock at 8-inches to ensure all cattle are removed before the unit reaches 6-inches. Some members believe this language should be in the AOI.
6. Future adaptive management considerations:

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- An interdisciplinary team should continue to monitor use within the drift fence area. Presently, it appears that the drift fence will work properly if the permittees ride/herd the area and promptly remove livestock from behind the fence. If frequent riding is not possible or does not work, consider extending the drift fence into an enclosure, replacing it with a smaller enclosure, or removing it entirely. Removal of the fence would still require regular riding to ensure the area is grazed within annual use standards.
 - Compile a log of adaptive management changes with supporting data to document successes and failures. This may be existing range files.
7. Key monitoring locations are in the AMP and in the AOI. Critical winter range/winter range and management prescriptions (Land Use) were delineated in the Revised Forest Plan (2003) and available at http://www.fs.fed.us/r4/caribou-targhee/projects/caribou_plan/index.shtml. Rangeland Monitoring methods are described in the FSH 2209.13. District Rangers are responsible for validation of data collected and any analysis done by non-agency parties (FSM 2200 R4 Supplement 2200-97-1).
 8. Develop long-term and short-term monitoring rotations for all fish bearing streams on every ranger district; incorporate interdisciplinary team members and utilize the MIM protocol.

References

- Burton, T.A., E.R. Cowley, S.J. Smith. 2007. Monitoring stream channels and riparian vegetation – multiple indicators, version 3.0. Idaho State Office, BLM and Intermountain Region, US Forest Service. BLM/ID/GI-07/001+1150.
- U.S. Department of the Interior. 2006. Riparian area management: Grazing management processes and strategies for riparian-wetland areas. Technical Reference 1737-20. BLM/ST/ST-06/002+1737. Bureau of Land Management, National Science and Technology Center, Denver, CO. 105 pp.
- Rosgen, D. 1996. Applied river morphology. Illustrated by H.L. Silvey. Wildland Hydrology, Fort Collins, CO. www.wildlandhydrology.com
- Winward, A.H. 2000. Monitoring the vegetation resources in riparian areas. Gen. Tech. Rep. RMRS-GTR-47. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

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Use the Following Rating Guide and Definitions to Score Each Practice

Implemented	Score
Exceeds objective of practice	5
Meets objective of practice	4
Minor departure from practice	3
Major departure from practice	2
Gross neglect of practice	1

Effective	Score
Improved protection of soil and water over pre-project conditions	5
Adequate protection of soil and water	4
Minor and temporary impacts on soil and water	3
Major and temporary, or minor and prolonged impacts on soil and water	2
Major and prolonged impacts on soil and water	1

Term	Definition
Adequate	Small amount of material eroded; material does not reach ephemeral draws, intermittent and perennial streams, or wetlands
Minor	Erosion and delivery of material to ephemeral draws but not intermittent and perennial streams, or wetlands
Major	Erosion and subsequent delivery of sediment to ephemeral draws, intermittent and perennial streams, or wetlands
Temporary	Impacts expected to last one year or less or no more than one runoff season
Prolonged	Impacts expected to last more than one year or one runoff season

Applicable Caribou NF Revised Forest Plan Standard and Guidelines

Element	Standards and Guidelines	Implemented	Effective	Notes
Soils – All Ecosystems	Suitability for resource management activities shall be disclosed in the site-specific analysis. (S)	4	4	
Soils – All Ecosystems	Resource developments and utilization should be restricted to lands identified in the Soil Resource Inventory as being capable of sustaining such impacts. (G)	4	4	
Soils – All Ecosystems	Maintain ground cover, microbiotic crusts, and fine organic matter that would protect the soil from erosion in excess of soil loss tolerance limits and provide nutrient cycling. (G)	4-Uplands 3-Riparian	4-Uplands 3-Riparian	
Soils – All Ecosystems	Detrimental soil disturbance such as compaction, erosion, puddling, displacement, and severely burned soils caused by management should be limited or mitigated to meet long-term soil productivity goals. (G)	4-Uplands 3-Riparian	4-Uplands 3-Riparian	
Watershed and Riparian Resources	Not more than 30% of any of the principal watersheds and their subwatersheds (6 th HUC) should be in a hydrologically disturbed condition at any one time. (G)	4	4	This guideline is more applicable to timber and fuels treatment projects.
Watershed and Riparian Resources	Proposed actions analyzed under NEPA should adhere to the State Nonpoint Source Management Plan to best achieve consistency with both Sections 313 and 319 of the Federal Water Pollution Control Act. (G)	4	4	BMP implementation and effectiveness monitoring is guiding adaptive management decisions. Idaho DEQ has identified Giraffe Creek as fully supporting the beneficial use of coldwater aquatic life (2002/2003 integrated report).
Grazing Management – Range Resources	Livestock grazing shall be restricted following prescribe or natural fire and/or rangeland planting or seeding before seed set of the 2 nd growing season, or until the objectives of the treatment are achieved. (S)	N/A	N/A	

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Applicable Caribou NF Revised Forest Plan Standard and Guidelines

Element	Standards and Guidelines	Implemented	Effective	Notes						
Grazing Management – Range Resources	Stock driveways should be eliminated as opportunities occur. (G)	N/A	N/A							
Grazing Management – Range Resources	Where water is developed at springs and seeps, return water to point of origin after livestock leave unit, if possible. (G)	N/A	N/A	The review team did not evaluate any water developments. Most water developments observed on the drive in were stock ponds.						
Grazing Management – Range Resources	Seeding or establishment of monocultures should be avoided, and efforts should be made to establish and/or maintain a variety of desirable grass, forbs, and shrub species.	N/A	N/A							
Grazing Management – Forage Utilization	<p>Apply upland forage utilization levels to all allotments as shown below, unless determined through development of site-specific standards in the allotment management planning process. These guidelines apply to native and desirable non-native key plant species as recorded at the end of the growing season. (G)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Vegetation Component</th> <th style="text-align: center;">Allowable % Utilization</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Grasses & Herbaceous Species (% dry weight)</td> <td style="text-align: center;">35-55%</td> </tr> <tr> <td style="text-align: center;">Shrubs (% annual leader growth)</td> <td style="text-align: center;">25-35%</td> </tr> </tbody> </table>	Vegetation Component	Allowable % Utilization	Grasses & Herbaceous Species (% dry weight)	35-55%	Shrubs (% annual leader growth)	25-35%	N/A	N/A	The team did not monitor use on uplands areas.
Vegetation Component	Allowable % Utilization									
Grasses & Herbaceous Species (% dry weight)	35-55%									
Shrubs (% annual leader growth)	25-35%									
Grazing Management – Livestock Grazing Permits	Permittees may be allowed motorized access to maintain or develop range improvements assigned in their grazing permits or for other authorized administrative activities. AMPs and AOIs should include direction to comply; travel permits should be issued to authorize this use. (G)	4	4	The review team did not observe any problem areas.						
Aquatic Influence Zone (AIZ) – General Riparian Area Management	Use herbicides, pesticides, and other toxicants and chemicals only as needed to maintain desired AIZ attributes. (G)	4	4	Very little treatment occurs in the AIZ/riparian area. When treatment does occur, it is to treat noxious and invasive weeds. Increases in Canada thistle were noted in the Right Hand Fork Giraffe Creek enclosure.						

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Applicable Caribou NF Revised Forest Plan Standard and Guidelines

Element	Standards and Guidelines	Implemented	Effective	Notes																		
AIZ – Grazing Management	<p>Use the AIZ grazing standards below until more site-specific standards are implemented using the Caribou Riparian Grazing Implementation Guide. If current AOIs have more stringent requirements they shall be used however. Generally, the factor most critical for maintaining riparian and stream channel characteristics shall be used. . These guidelines apply to native and desirable non-native key plant species as recorded at the end of the growing season. (S)</p> <table border="1" style="margin-left: 40px;"> <thead> <tr> <th style="text-align: center;">Parameter</th> <th style="text-align: center;">Location Measured</th> <th style="text-align: center;">Giraffe Creek: Functioning at Risk</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">% Herb. Species Utiliz</td> <td style="text-align: center;">Greenline</td> <td style="text-align: center;">35%</td> </tr> <tr> <td style="text-align: center;">% Woody Spp Utiliz.</td> <td style="text-align: center;">AIZ</td> <td style="text-align: center;">45%</td> </tr> <tr> <td style="text-align: center;">Stubble Height</td> <td style="text-align: center;">-</td> <td style="text-align: center;">40%</td> </tr> <tr> <td style="text-align: center;">% Bank Disturbance</td> <td style="text-align: center;">Greenline</td> <td style="text-align: center;">6 in.</td> </tr> <tr> <td></td> <td style="text-align: center;">Cumulative</td> <td style="text-align: center;">25%</td> </tr> </tbody> </table>	Parameter	Location Measured	Giraffe Creek: Functioning at Risk	% Herb. Species Utiliz	Greenline	35%	% Woody Spp Utiliz.	AIZ	45%	Stubble Height	-	40%	% Bank Disturbance	Greenline	6 in.		Cumulative	25%	<p>2 – Giraffe Creek DMA</p> <p>3 – Right Fork Giraffe Creek DMA</p>	<p>2 – Giraffe Creek DMA</p> <p>3 – Right Fork Giraffe Creek DMA</p>	<p>Giraffe Creek: End of season greenline and riparian stubble height was 4-inches. Bank alteration was 46%. The percent stable streambanks decreased from 78% to 59%. The ecological status declined from late-seral to mid-seral status. The percent hydric species declined from 98% to 82%.</p> <p>Right Fork Giraffe Creek: End of season greenline stubble height 5-inches; riparian stubble height was 4-inches. Bank alteration was only 19%. This will have temporary minor impacts.</p>
Parameter	Location Measured	Giraffe Creek: Functioning at Risk																				
% Herb. Species Utiliz	Greenline	35%																				
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Stubble Height	-	40%																				
% Bank Disturbance	Greenline	6 in.																				
	Cumulative	25%																				
AIZ – Grazing Management	The most current version of the Caribou Riparian Grazing Implementation Guide (GIG) shall be used for the primary source of direction for grazing in Forest riparian areas and shall be incorporated during allotment management planning. (S)	4	4	The GIG is currently being implemented with an adaptive management approach.																		
AIZ – Grazing Management	Where feasible, relocate or close existing livestock handling facilities that will not maintain progress towards desired AIZ attributes. (G)	N/A	N/A																			

R1/R4 FSH 2509.22, Chapter10 - Soil and Water Conservation Practices

Practice	Objective and Implementation	Implemented	Effective	Notes
17.01 – Range Analysis, Allotment Management Plan, Grazing Permit System, and Permittee Operating Plan	<p>To maintain and protect soil and water resources through sustained forage production and managed multiple use of range forage.</p> <p><u>Implementation:</u></p> <ul style="list-style-type: none"> • Allotment is NEPA sufficient (if yes, give date) and AMP is sufficient (if yes, give date) • Preparation and approval of AMP • Revise AMP as needed • AOI prepared or revised (as needed) annually to adjust for current allotment conditions and trends and to incorporate special instructions • Permittee carries out the plan • Corrective action is taken if permittee does not comply with permit conditions designed to protect soil and water resources. 	<p>4 – overall</p> <p>2 – Giraffe Creek</p> <p>3 – Right Fork Giraffe Creek</p>	<p>4 – overall</p> <p>2 – Giraffe Creek</p> <p>3 – Right Fork</p>	<p>NEPA, AOI, and monitoring.</p> <p>Giraffe Creek: End of season greenline and riparian stubble height was 4-inches. Bank alteration was 46%. The percent stable streambanks decreased from 78% to 59%. The ecological status declined from late-seral to mid-seral status. The percent hydric species declined from 98% to 82%.</p> <p>Right Fork Giraffe Creek: End of season greenline stubble height 5-inches; riparian stubble height was 4-inches. Bank alteration was only 19%. This will have temporary minor impacts.</p>

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R1/R4 FSH 2509.22, Chapter10 - Soil and Water Conservation Practices

Practice	Objective and Implementation	Implemented	Effective	Notes
17.02 – Controlling Livestock Numbers and Season of Use	<p>To maintain and protect soil and water resources through management of livestock numbers and season of use.</p> <p><u>Implementation:</u></p> <ul style="list-style-type: none"> • Proper stocking rates and season of use specified in the grazing permit. • Annual field checks are made to identify needed adjustments: range readiness evaluations, livestock counts, forage & browse utilization, and periodic assessments of rangelands (soil and veg. trends) • Permit is modified, cancelled, or suspended if needed. 	4	4	District range personnel make annual inspections to several of the allotments numerous DMAs.
17.03 – Controlling Livestock Distribution	<p>To maintain and protect soil and water resources, including riparian areas though controlling livestock distribution.</p> <p><u>Implementation:</u></p> <p>Proper techniques are used to reduce the impact on sensitive or naturally overused areas. Techniques may include:</p> <ul style="list-style-type: none"> • Fence construction and use of seasonal or pasture system management • Water developments in areas that receive little use and closures of water developments when proper use is achieved. • Other Range improvements. • Riding & herding to shift livestock locations • Placing salt or supplements away from water in forage areas with light grazing use to attract livestock • Moving livestock when prescribed utilization levels are reached. • Goats and sheep – open herding, limited trailing, and use of new bed grounds nightly. <p>Direction is incorporated into the AMP and AOI. The AOI reflects current allotment conditions and vegetative trends.</p>	4 – overall	4 – overall	See previous comments on this years use.
		2 – Giraffe Creek 3 – Right Fork Giraffe Creek	2 – Giraffe Creek 3 – Right Fork	

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R1/R4 FSH 2509.22, Chapter10 - Soil and Water Conservation Practices

Practice	Objective and Implementation	Implemented	Effective	Notes
17.04 – Rangeland Improvements	<p>To maintain and protect soil and water resources the use of rangeland improvements.</p> <p><u>Implementation:</u> Improvements are recognized in the allotment planning process. Improvements are used to improve management and restore or improve forage quality, quantity, or availability. Improvements may include:</p> <ul style="list-style-type: none"> • Rest and/or deferment through rotation grazing, fencing, or lighter grazing use by changing the grazing season, kind, class, or permitted number of livestock. • Stream stabilization projects • Reseeding, fertilization, and/or other non-structural improvements • Water developments • Interdisciplinary teams provide consultation on improvements and they are constructed in manner that protects surface and ground water quality 	4	4	Interdisciplinary team has been involved in adaptive management recommendations.

R4 Soil Management Handbook, FSH 2509.18 – Chapter 2 – Soil Quality Monitoring

Practice	Objective and Implementation	Implemented	Effective	Notes
Detrimental Soil Disturbance ¹	No more than 15% of an activity area should have detrimentally disturbed soil after the completion of all management activities. In other words, at least 85% of an activity area should be in a non-detrimentally disturbed condition.	4	4	
Effective Ground Cover	The minimum effective ground cover, following the cessation of disturbance in an activity area, should be sufficient to prevent detrimental erosion. Detrimental erosion includes erosion rates that cause long-term productivity losses from an activity area or soil losses that are beyond those acceptable for the activity area. Minimum amounts of ground cover necessary to protect a soil from erosion are a function of soil properties, slope gradient and length, and erosivity (precipitation factor).	4	4	

¹ Discuss the proper scale of the activity area (e.g. allotment, pasture, riparian areas). Activity Area is define in the handbooks as “an area impacted by a land management activity, excluding specified transportation facilities, dedicated trails, and mining excavations and dumps. Activity areas include such areas as: harvest units within timber sale areas and prescribed burn areas. Riparian and other environmentally sensitive areas may be monitored and evaluated as individual activity areas within larger management areas. It is recommended to describe the Activity Area for soil resources within planning and project implementation documents.”