Rangeland Resources & Best Management Practices Review - Targhee NF

Allotments: Ripley Butte C&H Allotment **Forest/District:** Caribou-Targhee NF, Ashton/Island Park RD **Date:** 9/8/2005

Reviewers: Kyle Moore (Range), Walt Grows (Range), Lee Leffert (Hydrology), Brad Higginson (Hydrology), John Lott (Soils). Acting District Ranger Lynn Ballard joined a portion of our office discussion

Grazing System: Deferred Rotation on 3 pastures.

Unit(s) Reviewed:	On Date(s):	Off Date(s)
Toms Creek	7/7/05	8/19/05
Eccles (Used last this year)	8/20/05	9/29/05
Ripley (Used first this year)	6/20/05	7/6/05

6TH Level HUBs:
170402020603 – Buffalo River
170402020602 – Box Canyon
170402020401 – Upper Warm River
170402020502 – Swan Lake

Streams Examined and Stream Type: Toms Creek – C(4 or 5), possible E(4 or 5)
Blue Springs Creek – C(4 or 5), Bc inclusion where downcut.

Geology: Igneous (volcanic) & Outwash Alluvium

Community Types & Soils: EU 1000 – PICO/VASC Islandpark – PSMC/SYAL Potrmound – PICO/ARTRP4 Spliten complex (0-35% slopes). Islandpark – Vitrandic Paleboralfs – coarse-silty, mixed active. Lodgepole/elk sedge, lodgepole/pine grass, and lodgepole/grouse whottleberry. Portrmound – Vitrandic Cryumbrepts – loamy-skeletal, mixed. Quaking aspen-lodgepole/whortleleaf snowberry, Douglas fir/comman snowberry. Spliten – Lithic Cryoborolls – loamy, mixed superactive. Mountain big sagebrush or antelope brush and grass w/ lodgepole.
1228 – PSME/CARU, CARU Nopla (2-15% slopes). Nopla – Cryic Paleborolls – Fine-loamy, mixed, superactive. Lodgepole/blue huckleberry and lodgepole/grouse whortleberry.
2000* - Graminoid Cryaquolls (0-2% slopes). Tufted hairgrass and fowl bluegrass.
2020* - Graminoid Chickcreek – Salix/Graminod Tepete complex (0-1% slopes). Chickcreek – fine-silty over sandy or sandy skeletal, mixed, superactive, nonacid Typic Cryaquents. Fowl bluegrass, tufted hairgrass, and herbaceous dominated by sedge. Salix/Graminod Tepete – loamy, mixed euic Terric - Geyer's and Booth willow/beaked sedge, diamonleaf willow, and beaked sedge.
2040* - PICO Perfa – ABLA/CACA4, CACA4 Bootjack association (0-4% slopes). PICO Perfa – sandy, mixed Oxyaquic Cryochrepts. Lodgepole/pine grass, herbaceous non-native grasses, lodgepole/elk sedge or grouse whortleberry.
*Riparian Units

Office discussion. The permitees (Walker Brothers) received a 15% suspension for failure to control livestock/excess use (e.g. cows in the wrong location) in 2004 (documentation in file). Normally, 460 head were permitted; now only 400 head with the suspension. The permitees have hauled in water for troughs in order to improve distribution. Walt emphasized the need to escape ramps on all troughs. Kyle as made the permitees aware of this requirement. The Forest manages grazing on State land sections within the allotment under a private land grazing permit.

Tom's Creek Unit. The group agreed that a designated monitoring area (DMA) should be installed on Toms Creek for a riparian study. A good location may be just downstream of the State section (section 36) on Forest Service land (**Error! Reference source not found.**). The Fisheries staff has previously voiced concerns with bank alteration by livestock, long term bank stability, and increased width/depth. The majority of concerns appear to be State land, but some do exist on Forest as well. This years grazing was conducted in accordance with standards and guidelines, which has at least maintained riparian/stream conditions. Installation of a DMA will provide long-term trend information. The DMA would also be useful in determination of the proper standards, whether it be stubble height or bank alteration.

Photo 1. Tom's Creek, from Forest looking upstream to State section. The AIZ and HGL residual stubble height was above standards.

The group also discussed the expected rate of improvement along Tom's Creek. Bank alteration could easily be improved through implementation of bank alteration triggers (e.g. if alteration hits 20%, the cattle are moved from the unit). Implementation of such a standard would lead to improvements in bank stability. It's anticipated that width/depth improvements would take some time longer to appear due to the spring fed nature of the creek.

The group visited a Parker transect in an upland area where Kyle recently placed a nested frequency study over the Parker. Ground cover in this area appears to be stable (85% in 1953, 77% in 1958, 98% in 1979 and 85% again in 2005).

The photographs in the file from 1958 illustrated the previous bug infestations in the lodgepole stands surrounding the meadow.

Photo 2. Parker transect with new nested frequency study in the Tom's Creek Unit.

Photo 3. Upper Blue Spring Creek area. Note dead willow in foreground and bare banks in background.

Eccles Unit - Blue Spring Creek. The Blue Spring Creek area has been a "trouble area" for some time. The majority of this area is located on the State land section (section 16) near Last Chance. The team suggested spring grazing in this unit next season (it was grazed in September this year). Willows appear to have been more abundant along the creek in the past (Photo 3). There are remnant beaver dams in some locations (Photo 4). Willows are now more limited immediately adjacent to the stream and those that are there receive heavy browse. Willow regeneration near the stream is limited. Away from the stream however, willows are abundant.

Residual stubble height was above standards on Forest and just met standards on State land. The group also suggested that the upper portion of the creek on Forest, be examined for possible watershed improvement projects.

Stubble height standards were exceeded in another meadow located near the end of the power line road north of the State section. This meadow also showed evidence of past beaver activity.

Photo 4. Blue Spring Creek, looking downstream toward Last Chance. Note beaver dam remnant in left of photograph. Located on State land.

Photo 5. Blue Spring Creek. Note excessive width/depth and moderate to high bank trampling. Located on State land.

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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

Targhee National Forest Revised Forest Plan Standard and Guidelines

Element	Standards and Guidelines	Implemented	Effective	Notes
Soils Quality/Forested Ecosystems[1]	Strive to maintain fine organic matter (FOM) over at least 50% of the area. The preference is for FOM to be undisturbed, but if disturbed, it should be of sufficient quantity and quality to avoid detrimental nutrient cycle deficits. If the soil and potential natural community are not capable of producing FOM over 50% of the area, adjust minimum amounts to reflect potential soil and vegetation capability. (G)	N/A	N/A	Did not look at many forested ecosystems, but grazing does not appear to be influencing FOM levels in those areas.
Watershed, General	Not more than 30% of any of the principal watersheds and their subwatersheds should be in a hydrologically disturbed condition at any one time. (G)	N/A	N/A	N/A - Grazing activities are not resulting in excessive hydrologically disturbed areas.
Range – Upland Forage Utilization	Apply upland forage utilization levels to all allotments and/or management areas as shown below, unless determined otherwise through the IDT process. These guidelines apply to native and desirable non-native vegetation as recorded at the end of the growing season. (G) Season-Long Grazing: Unsatisfact. Range / Satisfact. Range; Rotation Grazing: Unsatisfact. Range / Satisfact. Range Grass Herb: 35% / 45% / 45% / 55% Shrubs: 25% / 35% / 35% / 35%	4	4	Upland utilizations were met across the allotment. Riparian standards appear to be the limiting factor in these units.
Range - Riparian Forage Utilization - Woody Plant Utilization	Not more than 30% use on riparian woody plant species (current year's growth) is allowed. 30% is the maximum allowed use as recorded at the end of the grazing period. (S)	4 – Toms Cr. 3 – Blue Springs Creek	4 – Tom's Cr. 3 – Blue Springs Cr.	Although willows immediately adjacent to Blue Springs Creek appear to be sparse, use on those willows was high. Away from the creek, use was light.

[1] Timber related guideline. Determine if this guideline is appropriate for the allotment.

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Element	Standards and Guidelines	Implemented	Effective	Notes
Range - Riparian Forage Utilization – Riparian Vegetation Stubble Height Standard	1. At the hydric green-line (HGL), there will be at least 4 inches of stubble height remaining on key species at the end of the grazing period, unless determined otherwise through the IDT process. This standard applies to key species of native and desirable non-native hydric vegetation. (S) 2. Away from the HGL, at least 3 inches of stubble height will be left on the remainder of the key riparian species at the end of the grazing period, unless determined otherwise through the IDT process. (S)	4 – majority of allotment 3- Small meadow in T12N, R43E, Sec. 9	4 – Tom's Creek 3 - Blue Springs Creek	Residual stubble height was above standard for over most of the allotment. Bank trampling/alteration appears to be the limiting factor and a more appropriate trigger for these stream types. Bank alteration should be considered to maintain long-term bank stability standards.
Range – Allotment Management Planning (AMP)	Salt should be placed greater than a ¼ mile from water, or as far from water as practicable. Salting should be designed to avoid conflicts with aspen regeneration, conifer plantations, and system trails. (G)	4	4	
Range – (AMP)	Allow no livestock grazing before seed set of the second growing season after prescribe or natural fires and rangeland planting or seeding. (G)	N/A	N/A	
Range – (AMP)	Permitees are allowed motorized access to maintain facilities. AMPs and AOIs will include direction that motorized access must be less than 2 vehicles per week (This permitted access is not included in the OROMTRD). (S)	4	4	
Range – (AMP) and Fisheries & Other Aquatic Resources	Within subwatersheds occupied by native cutthroat trout or designated as vital to meeting recovery goals, identify areas where livestock grazing is causing fisheries habitat conditions to fall below or retard the rate of recovery toward the values described in the "Expected values for healthy fish habitat conditions" (listed below). Include specific remedial actions in the AMP or AOI. Progress toward meeting these expected values should be monitored and grazing systems adjusted, as necessary. (G) Expected Values for Healthy Fish Habitat Conditions: • Pool frequency – at least 1 pool per length of stream equal to 5-7 times the channel width. • Water Temp. – 13º C or less with a max daily average no greater than 9 in spawning habitats or 16º C with a max daily average no greater than 12 in adult holding habitats. • LWD – Greater than 20 pieces/mile. • Bank stability – Greater than 80% Lower bank angle (non-forested systems) – Greater than 75% of banks with less than 90º angle. Width/depth ratio – suitable for Rosgen stream type.	4 – Tom's Creek 3 – Blue Springs Creek	4 – Tom's Creek 3 – Blue Springs Creek	Bank alteration appears to be a more appropriate trigger than stubble height for these stream types. Bank alteration should be considered to maintain long-term bank stability standard of 80%. Bankfull width/depth ratio is excessive in Blue Spring Creek and Tom's Creek on State land. Tom's Creek width/depth ratio is more appropriate for the expected stream type on Forest. Installation of a long-term
Aquatic Influence Zone (AIZ) – Range	Incorporate into AMPs, objectives for attainment of desired vegetation conditions for riparian plant community seral stage development and stream channel condition. (G)	N/A	N/A	NEPA will be completed on this allotment in FY 2006.
Aquatic Influence Zone (AIZ) – Range	Proposed livestock watering facilities, corrals, and holding pastures within these lands are allowed only if appropriate mitigation measures are implemented to reduce negative effects. (S) Existing livestock watering facilities, corrals, and holding pastures within these lands are allowed at permit issuance only if mitigation measures are implemented to reduce negative effects. (G)	5	4	Permitees hauled in water to troughs in order to improve distribution.

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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	To maintain and protect soil and water resources through sustained forage production and managed multiple use of range forage. Implementation: • 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 permitee does not comply with permit conditions designed to protect soil and water resources.	5	4	NEPA will be completed on this allotment is FY-2006. See comments under "office discussion" on page one.
17.02 – Controlling Livestock Numbers and Season of Use	To maintain and protect soil and water resources through management of livestock numbers and season of use. Implementation: • 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.	5	4	See comments under "office discussion" on page one.
17.03 – Controlling Livestock Distribution	To maintain and protect soil and water resources, including riparian areas though controlling livestock distribution. Implementation: Proper techniques are used to reduce the impact on sensitive or naturally overused areas. Techniques may include: • 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. Direction is incorporated into the AMP and AOI. The AOI reflects current allotment conditions and vegetative trends.	5	4	Permitees hauled in water to troughs in order to improve distribution.

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Practice	Objective and Implementation	Implemented	Effective	Notes
17.04 – Rangeland Improvements	To maintain and protect soil and water resources the use of rangeland improvements. Implementation: 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: • 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 • ID teams provide consultation on improvements and they are constructed in manner that protects surface and ground water quality	4	4	Group discussed need to implement annual indicator monitoring (riparian grazing) and look at upper Blue Spring Creek and Tom's Creek for watershed improvement opportunities.

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

Practice	Objective and Implementation	Implemented	Effective	Notes
Detrimental Soil Disturbance[2]	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	Grazing activities are managed to minimize disturbance.
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	Majority of allotment is in great condition. Bare banks were identified in the Blue Spring Creek area (Photo 3).

[2] 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."