

NORTH FORK CHEWELAH ALLOTMENT

ALLOTMENT MANAGEMENT PLAN

REVIEWED BY: Walter M. Darnielle DATE: 5/12/2010.
Walter M. and/or Melanie Darnielle, Permittee

REVIEWED BY: Robert J. Darnielle DATE: 5/12/2010.
Robert J. Darnielle, Permittee

REVIEWED BY: Brandon Weinmann DATE: 5/13/2010.
Brandon Weinmann, Rangeland Management Specialist

APPROVED BY: Fred L. Way DATE: 5/14/10.
Fred L. Way, District Ranger

This Allotment Management Plan is hereby made part of the Term Grazing Permit Number 00192B-COL in accordance with Part 2 Item 8 (a) issued to Walter M. and Melanie Darnielle and signed by Charley D. Streuli on March 20, 2003.

This Allotment Management Plan is hereby made part of the Term Grazing Permit Number 00192B-COL in accordance with Part 2 Item 8 (a) issued to Robert J. Darnielle and signed by Charley D. Streuli on March 20, 2003.

North Fork Chewelah Creek Allotment **Allotment Management Plan**

Introduction

The North Fork Chewelah Creek Cattle & Horse (C&H) Allotment is located about 9 miles northeast of Chewelah, Washington. It currently encompasses an area of about 20,663 acres. The North Fork Chewelah Allotment has most recently been managed according to the 1985 Allotment Management Plan and has been modified over time to account for changes.

This Allotment Management Plan (AMP) has been developed to implement the Chewelah Grazing Complex Decision Notice signed by Fred L. Way, District Ranger, on June, 1, 2009. Grazing on the allotment is in compliance with all standards and guides of the Colville National Forest Land and Resource Management Plan (The Forest Plan), as amended by INFISH, as well as all other applicable policies, laws, and regulations.

Desired Future Conditions

The Colville National Forest Land and Resource Management Plan desired future condition for the Forest in ten years states that livestock grazing will be more intensively managed. Livestock use will stay within the established use rates. Permittee control will be at an adequate level and, overall, more intensive management systems will be employed. All allotments will emphasize riparian habitat protection and/or recovery.

Current Conditions and Site Specific Desired Future Conditions

Upland Habitat Types

The North Fork Chewelah Creek allotment is a mix of many habitat types and aspects. There are areas of denser timber on North Facing slopes that provide few foraging areas for livestock. Most livestock foraging areas in the allotment are found in naturally open areas, homestead meadows and open canopy timber stands that provide transitory rangelands. Elevation within the allotment ranges from approximately 2,300 to 5,700 feet.

Most of the allotment is timbered with major tree species being ponderosa pine, lodgepole pine, white pine, Douglas fir, grand fir, western red cedar, engelman spruce, western larch, western hemlock and subalpine fir (see Appendix A of scientific names).

Principle forage species within the allotment include Idaho fescue, Bluebunch wheatgrass, Kentucky bluegrass, redtop, orchard grass, timothy and pinegrass. Shrubs found on the allotment, which appear to furnish browse for livestock and wildlife are; redstem ceanothus, serviceberry, snowberry, ninebark and oceanspray (see Appendix A of scientific names).

The primary rangelands in this allotment are very productive areas and have a mix of native grasses, such as bluebunch wheatgrass and Idaho fescue, and native forbs. Of the

20,617 acres within this allotment 1,788 acres are considered to be primary rangelands. Secondary rangelands, which are slightly less desirable than primary rangelands and productive foraging areas, also exist in the allotment. There are 2,193 acres considered to be Secondary Rangelands. Transitory rangelands also exist in this allotment and are the result of past timber harvest and road construction activities. The number of transitory rangeland acres is continually changing because of the amount of timber harvest and the amount of time that has passed since the timber harvest. Transitory rangelands in the North Fork Chewelah Creek Allotment have not been calculated. Transitory rangelands have been seeded with palatable forage species, such as redtop, orchard grass, timothy and Kentucky bluegrass, which provide additional areas of forage production. These areas, along with the secondary rangelands found in homestead meadows, are where the majority of grazing use takes place on the allotment.

Monitoring

Utilization information has been infrequently collected for the North Fork Chewelah Creek allotment. Below is a table of past utilization measures that have been collected for the allotment. Based in the Colville National Forest Land and Resource Management Plan, utilization limits are 45% in forested areas and 55% in grasslands.

Year	Pasture				
	Lower Chewelah	Brewer / Phillips	Bingville	Pal Moore	Calispell
1973	0%	47%	60%	70%	41%
1974	72%	45%	72%	70%	30%
1978				80%	53%
1980					20%
1983		50%		60%	13%
1984			90%		25%
1985	20%	60%			
1986			75%		5%
1987					20%
1996	45%	60%	45%	45%	45%
1997					40%
1998	35%	45%	35%		20%
1993	55%	60%		53%	52%
2006		30%	30%	30%	
2007	4%	50%	37%	48%	52%

Monitoring will continue to occur at the existing condition and trends (C&T's) and more C&T's may be established to determine the condition and trend of the resource. Trend will be based on change of plant species composition and/or changes in ground cover. If it is found that a downward trend in vegetation conditions or soil conditions exists (change in species composition or ground cover), modification to livestock or allotment management would occur. Adjustments may include but are not limited to changes in salt location, amount of riding, change in authorized numbers, season, and/or pasture rotation schedule.

Current Riparian Conditions

As a whole, the North Fork Chewelah Creek Watershed is functioning-at-risk and stability is at a downward trend (table 3.5). One of the streams is properly-functioning, four of the streams are functioning-at-risk, and one of the streams is not-functioning within this watershed.

The North Fork Chewelah Creek watershed has been subject to a substantial amount of road building and grazing throughout its management history. In several reaches of North Fork Chewelah Creek there still remain small clearings and old skid trails within close proximity to the riparian area from past logging operations, some of which occurred before the advent of BMPs. Logging practices have since changed and provide for better protection of aquatic resources. The North Fork Chewelah Creek drainage exhibits signs of an impaired watershed. Stream bank stability varies throughout the channel and erosion of banks and sediment transport occur in multiple reaches. If the degradation continues, the system will not be able to accommodate and contain the resulting energy especially if a catastrophic event were to happen (e.g. 100 year flood, stand replacing fire, numerous road and culvert failures). With the implementation of BMPs and other mitigation practices, such as INFISH, grazing can occur, even in impaired watersheds, without detrimentally contributing to the watershed condition. In some instances the use of new management practices can actually improve watershed conditions and aid in the recovery of impaired areas. In the case of the North Fork Chewelah Creek Watershed, the improvements and recovery would come from water developments, hardened crossings, fencing, and meadow retention of the proposed action.

Table 3.5 Summary table showing surveys by stream and corresponding function determination.

Watershed	Stream	# of surveys	Function Determination
Moran Creek	North Fork Chewelah Creek	1*	None Made
North Fork Chewelah Creek	Bayley Creek	4	Functioning-At-Risk
	Butte Creek	1	Functioning
	Drummond Creek	6	Functioning-At-Risk
	Harthill Creek	2	Functioning-At-Risk
	Krumm Creek	3	Not-Properly-Functioning
	NF Chewelah Creek	8	Functioning-At-Risk
South Fork Chewelah Creek	Healey Creek	3	Functioning
	SF Chewelah Creek	4	Functioning-At-Risk
	Sixmile Creek	3	Functioning
	Wilson Creek	5	Functioning-At-Risk
Dry Creek	Deer Mountain Creek	1*	None Made

Qualitative assessment only.

Livestock Management

Permitted Numbers and Season

The term grazing permit will authorize a total of 112 cow/calf pairs with a season-of-use from June 1st to October 15th. Livestock use will not exceed 505 AUMs though seasonal adjustments in timing of use may occur. Depending on allotment conditions range readiness (drought, fire, saturated soil conditions, forage use, etc.), this season of use may be modified or shortened to avoid or reduce unwanted impacts to resources and to maintain consistency with Forest Plan management direction.

Management System

The proposed grazing schedule for the North Fork Chewelah Creek Allotment would be a deferred rotation grazing system where livestock use would begin in the Lower Chewelah Pasture, followed by use in the Bingville and Phillips/Brewer Pastures, then Pal Moore and lastly Calispell. This grazing system is designed to allow for riparian health and recovery. The approximate pasture use periods for the allotment are shown in table 2.5.

Pasture	Approximate number of days*
Lower Chewelah	15 days
Bingville & Phillips/Brewer	31 days
Pal Moore	31 days
Calispell	60 days
Total days	137 days

Number of days may be less during years of low forage production.

Annual operation instructions will be issued identifying specific management instructions for that year. This AOI would detail the seasons grazing schedule, maintenance responsibility, range development program, etc. This plan will become an amendment to this AMP and as such, a part of the Term Grazing Permit.

New Rangeland Improvement Projects

Twelve projects were identified to support the proposed grazing reauthorization in the North Fork Chewelah Allotment. These projects are needed to improve water quality, riparian habitat and livestock management. Not all are structural rangeland improvement projects. Descriptions are listed below in table (2.6) and in project notes that follow.

Project Number	Location	Drainage	Treatment	Measure
-----------------------	-----------------	-----------------	------------------	----------------

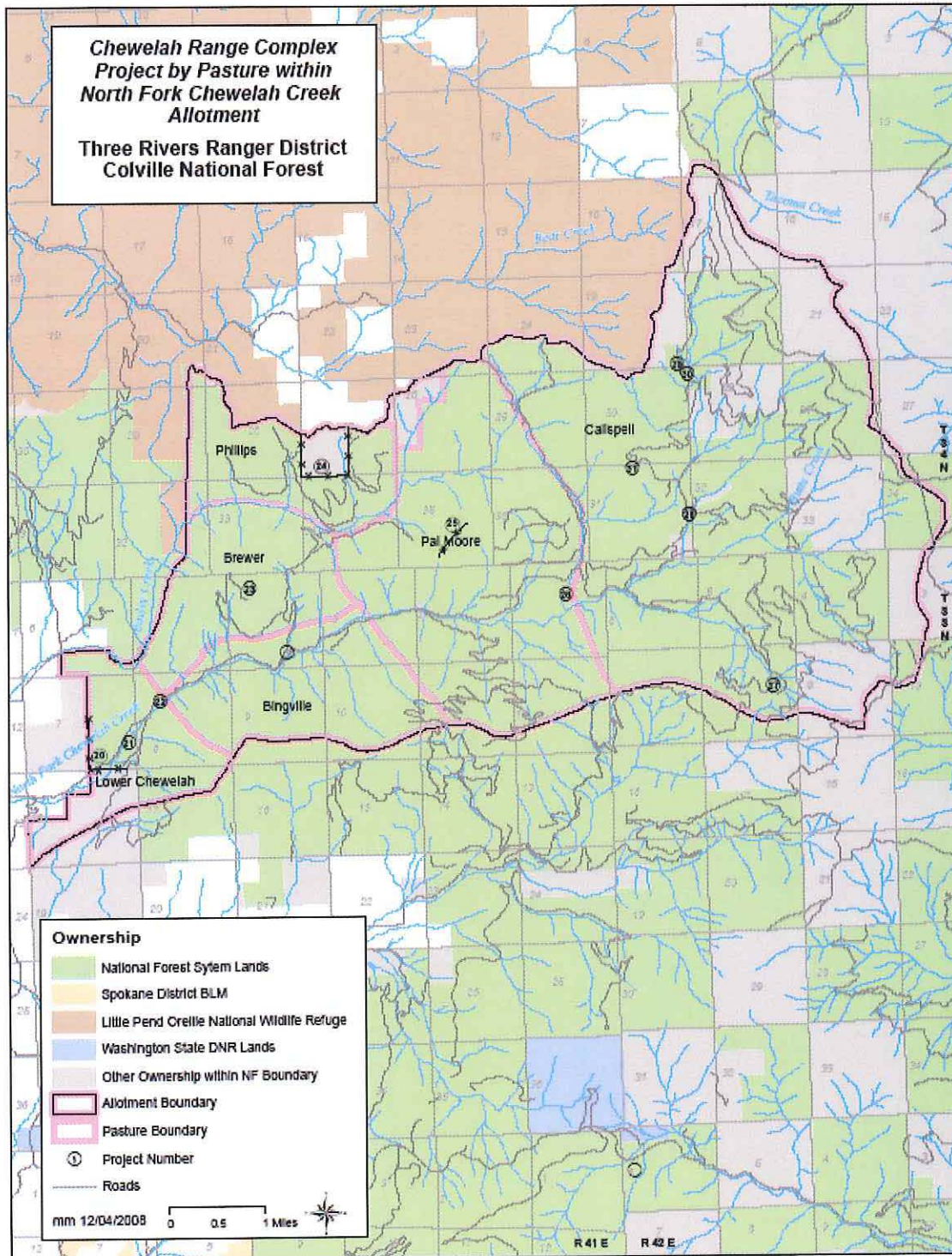
<i>Lower Chewelah Pasture</i>				
1	Forest Boundary	North Fork Chewelah Creek	Fence reconstruction and extension	0.25 miles reconstruction, 0.5 miles construction
2	Lower Chewelah Meadow	North Fork Chewelah Creek	Meadow Retention	13.5 acres
3	North Fork Chewelah Creek	North Fork Chewelah Creek	Hardened Crossing	1 crossing
<i>Phillips/Brewer Pasture</i>				
4	Brewer Meadow	North Fork Chewelah Creek	Meadow Retention	27 acres
5	North edge of Phillips Pasture	Bayley Creek	Boundary Fence construction	1.5 miles
<i>Pal Moore Pasture</i>				
6	Phillips/Brewer and Pal Moore pasture boundary	North Fork Chewelah Creek	Fence construction	0.25 miles
7	Drummond Creek	Drummond Creek	Exclosure	3.9 acres 0.35 miles of fence
<i>Calispell Pasture</i>				
8	Hartill Creek	Hartill Creek	Hardened Crossing	1 crossing
9	Calispell Basin Meadow	North Fork Chewelah Creek	Meadow Retention	33 acres
10	Hidden Meadows	Drummond Creek	Meadow Retention	2.3 acres
11	Hidden Meadows	Drummond Creek	Water Development	1 trough
12	Stock ponds	Unnamed trib to N. Fork Chewelah	Water Development	1 trough

Project Notes

1. North Fork Chewelah Boundary Fence Reconstruction and Extension – This fence will be reconstructed by Forest crews to Forest Service standards so that the pasture can be utilized without risk of livestock drifting off of the allotment. A need may exist to extend this fence approximately 0.5 miles south of County Road 2998 depending on the effectiveness of adjoining private fences and natural barriers.

2. Lower Chewelah Meadow Retention – Meadow retention would be located north of County Road 2998 and south of North Fork Chewelah Creek.
3. Lower Chewelah Hardened Crossing – This project would consist of the construction of a hardened crossing on North Fork Chewelah Creek above the culvert on the 9521015 road to allow livestock an armored place to access the creek for watering while protecting stream banks.
4. Brewer Meadow Retention - No additional project notes.
5. North Phillips Allotment Boundary Fence – This project would consist of the construction of additional fencing in T. 34 North, R. 41 East, Section 27, near the Cook Homestead, to keep livestock from drifting off of the North Fork Chewelah Creek Allotment and on to the Little Pend Oreille National Wildlife Refuge. There may be a need for approximately 1.5 miles of new fencing depending on existing natural boundaries. Final construction may be less.
6. Phillips-Pal Moore Fence – This project would be construction of an effective physical pasture boundary between the Phillips/Brewer and Pal Moore pastures. The existing natural boundary has been breached due to Forest Service timber sales and unauthorized vehicle routes.
7. Drummond Creek Exclosure – A barbed wire exclosure would start on the south side of county road 2998 at the Pal Moore-Calispell fence, cross Drummond Creek, travel south near Drummond Creek to a location just above a dispersed recreation site (approximately 1000 feet), then cross Drummond Creek again and terminate where it would rejoin the Pal Moore-Calispell fence.
8. Hartill Creek Hardened Crossing – This project would be located on Hartill Creek adjacent to the culvert crossing Hartill Creek near the Hartill Homestead site.
9. Calispell Basin Meadow Retention - No additional project notes.
10. Hidden Meadows Retention - No additional project notes.
11. Hidden Meadows Water Development –The source for the water trough would be Drummond Creek. The areas around this water development would be armored as soils are particularly susceptible to compaction.
12. Stock Ponds Water Development – This project would consist of constructing a water development near T. 34 North, R. 42 East, NE ¼ Section 31. Currently there are two man-made reservoirs that livestock are using for water. Water flow would be redirected into the natural stream channel and the stream used to supply water to a new trough. The areas around this water development would be armored as necessary and the reservoirs rehabilitated.

Proposed Projects in the North Fork Chewelah Allotment.



Allotment Management

In order to achieve desired conditions and to be in compliance with the Forest Plan, the North Fork Chewelah Creek Allotment Decision Notice, Biological Assessments/Opinions, and other laws and policies, the following requirements are to be followed and may be modified over time to be compliant/consistent with changes in or additional laws and policies:

General Management

- 1) It is the permittee's responsibility to conduct scheduled livestock moves, provide field inspections to assure compliance with the term grazing permit, the AMP, or other instructions, assure livestock are in the appropriate location, and track utilization. All livestock will be moved to the next pasture in rotation or removed from the allotment by the scheduled move date or before management standards (such as proper utilization, stubble height or bank trampling standards) are exceeded.
- 2) Range Readiness and Turn On: Livestock entry on to the allotment or into a specific unit will not be permitted until such time as plant species are ready to graze and soils are dry enough to withstand grazing. See appendix B for the range readiness indicators.
- 3) Pasture Move Dates: Actual move dates will be determined, to the extent practical, by on the ground inspection. The permittee will plan on having the pasture move completed by the scheduled date or by the time that the allowable use level is reached, whichever comes first. Livestock movement between pastures will not take more than five days.
- 4) It is the permittees responsibility to maintain a current knowledge of the status of the allotment with regard to utilization levels, and either plan on moving early if needed or request an extension. Livestock remaining on the pasture after the scheduled off date or beyond the period in which the permittee was instructed to move these livestock the permittee may be billed for excess use at the unauthorized use and/or action may be taken against the term grazing permit. If the permittee believes that the additional time in the pasture is justified, the Forest Officer must be notified at least 10 days in advance to permit an adequate inspection and determination. Approval will be obtained in writing prior to extensions and may be denied for reasons other than resource concerns.
- 5) Allotment Exit: The off date is October 15th. Livestock may be required to move off the allotment early if utilization standards are met or if an event occurs that causes the Forest Service to require the permittee to move off early.
- 6) Livestock: Livestock will be only cow/calf pairs. Any deviation in use will need approval in advance by the District Ranger (example: yearlings). Any deviation in use must be requested by the permittee on the Annual Application so that the

billing for that season can be prepared accordingly. Total numbers must be at least 90% of those permitted, unless non-use is requested and approved in advance. Any livestock found on the allotment that are not owned by the permittee are to be reported to the Forest Service immediately. Excess use by the permittee or unauthorized use by others is subject to administrative or civil action.

- 7) Non-use in Part or in Whole: Unless non-use is applied for in writing and approved in writing in advance, the permittee must place 90% or more of the permitted numbers on the allotment. Non-use applies only to numbers and not to seasons. Approval of non use is not automatic. Personal convenience non-use cannot be authorized more than three consecutive years or four years in a ten year period. If personal convenience non-use is taken, a permit cannot be waived based on sale of permitted livestock.
- 8) Salting: All salt will be placed away from key areas and available water. Salt will be placed in areas where livestock use is usually light. In no case will salt be placed closer than 1/4 mile to streams or other wetlands without prior approval. Salt should be placed in areas such as old road beds or bare rock sites which are not visible from open roads. Salt will not be placed within tree plantations where the smallest trees are less than 3 feet tall. Salting will not be located within 100 meters of any known heritage resource site.
- 9) Riding and Herding: Depending on the pasture, the permittee should plan on spending as much time as necessary in moving the livestock away from the meadows, riparian areas and other key areas. This is entirely to the benefit of the permittee as reaching of the allowable use standard on key areas before the scheduled move date will result in early livestock removal from a unit or off of the Forest. Actual use records are required by permittees at end of season.
- 10) Dead livestock located on Forest Service administered lands and within 300 feet from any water source or designated roads, trails, or recreation sites will promptly removed and properly disposed by the permittee.

Invasive Species

- 11) Noxious Weed: The Forest Service is committed to aggressive control and eradication of new noxious weed infestations. This commitment must be shared with all those who participate on land management activities on National Forest System lands for weed control to be effective. The Forest Service is requesting permittee cooperation in the following standards to prevent the introduction and spread of noxious weeds:
 - Locations of infestations shall be discussed with the permittee during Annual Operating meetings to prevent spread of these sites.
 - The permittee should inform the Forest Service of infestations on the allotment.

- Vehicles used in managing livestock on the allotment shall be cleaned of any weed transporting material such as hay, mud, or seeds.
- All hay used on USFS land shall be certified noxious weed free.

Cultural Resources

12) Archaeological surveys will be conducted before any ground is disturbed through the implementation of this plan, and if sites are encountered, site specific mitigation may be developed. Projects in this plan that would need to be reviewed prior to work beginning include:

- New trough installation
- Meadow retention with hand-piling and burning of slash
- Hardened crossing installation
- Exclosure construction

13) The permittee shall notify the Forest Service immediately by telephone and with written confirmation, the discover of human remains of funerary objects, sacred objects of cultural patrimony pursuant to regulation Section 10.4(b), of the Native American Graves Protection and Repatriation Act.

Implementation Monitoring

1) Monitoring Implementation Standards

Allowable Use – The following forage allocation is designed to meet the Colville National Forest Land and Resource Management Plan (The Forest Plan) Range Goals. The forage allocation listed is the maximum allowable utilization on the allotment in any specific area. Maximum utilization levels listed here are consistent with Forest Plan standards and guidelines and applicable Biological Assessments or Biological Opinions. The prescribed utilization levels were developed to address specific resource objectives for the allotment and are expressed as percent utilization. Percent utilization measurements are taken as a point in time.

Range Resource Level (FSH 2209,21 R6)	Maximum annual utilization (percent) 2/					
	Forest		Grassland		Shrublands	
	Satisfactory Condition 3/	Unsatisfactory Condition 4/	Satisfactory Condition 3/	Unsatisfactory Condition 4/	Satisfactory Condition 3/	Unsatisfactory Condition 4/
C – Livestock managed to achieve full utilization of allocated forage. Management systems designed to obtain distribution and maintain plant vigor include fencing and water development.	45	0-35	55	0-35	45	0-30

There are currently no areas classified as unsatisfactory. If future monitoring indicates that unsatisfactory situation exists, the location will be mapped, appropriate standards applied and permittee notified as to management changes.

2) General Allotment Monitoring

Forest Service Range Staff will visit the allotment as needed throughout the grazing season to monitor for compliance with grazing permit terms and conditions (i.e., improvements, maintenance, adherence to Forest Service issued written instruction, etc.).

- A) Utilization monitoring indicates the amount of forage that remains to be harvested. Utilization of the available forage resource will look at both upland and meadow grass to determine the levels of use. Allotments will be administered based on the Colville National Forest Land and Resource Management Plan. Utilization limits are 45% in forested areas and 55% in grasslands. Landscape appearance forms are used to collect information from strategic locations and homestead meadows on the Forest Service allotments. Forest Service Range Staff compile utilization levels based on a height to weight curve of specific grass species. This is done by running transects across the landscape in different locations.

- B) Compliance monitoring will insure proper management and use. Permitted allotments are periodically inspected during the grazing season to look for the specific number, kind, class of livestock, period of use and rotation of pastures. Range improvements will also be inspected for routine maintenance and proper function.

3) Stream Channel Morphology Monitoring

Permanent hydrology cross-section sites will be established to evaluate the effects and determine trends of adaptive management on the stream channel.

Improvements

There are a total of five structural range improvements proposed for construction on the North Fork Chewelah allotment, which include three fences and two water developments. Maintenance responsibilities for these improvements, once constructed, will be assigned to the permittee through term permit modification or reissuance.

Maintenance responsibilities are shown on individual term grazing permits. Permittees will maintain all range improvements to Forest Service standards. All assigned improvements are to be maintained annually whether grazing occurs or not. Maintenance of the exterior fences must be completed prior to the turn on of either the North Fork Chewelah livestock or the adjacent permittee(s). Interior fences must be maintained prior to turn-on into the affected unit unless otherwise specified in the AOI.

Water developments must be maintained prior to turn-on into the affected unit.

Improvements that have met their planned life expectancy shall be scheduled for replacement under a permit modification. Scheduling may be dependent upon funding, timing, and the ability to obtain the appropriate clearances. See Appendix A for a complete list of improvements and the maintenance schedule.

APPENDIX A: MAINTENANCE RESPONSIBILITY AND SCHEDULE

NUMBER	NAME	TYPE	CONDITION RATING	MAINTENANCE RESPONSIBILITY
100001	NORTH LOWER CHEWELAH	FENCE	POOR	NATIONAL FOREST (FS)
100002	PAL MOORE-BREWER-PHILLIPS	FENCE	SATISFACTORY	NATIONAL FOREST (FS)
100003	BREWER-PHILLIPS-BINGVILLE	FENCE	SATISFACTORY	NATIONAL FOREST (FS)
100004	PAL MOORE-CALISPEL	FENCE	SATISFACTORY	NATIONAL FOREST (FS)
100005	SOUTH FORK-NORTH FORK BOUNDARY FENCE	FENCE	GOOD	NATIONAL FOREST (FS)
100006	N FK CHEWELAH BOUNDARY	FENCE	POOR	NATIONAL FOREST (FS)
100007	SOUTH LOWER CHEWELAH	FENCE	SATISFACTORY	NATIONAL FOREST (FS)
100013	NFK CHEWELAH CAMPGROUND EXCLOSURE	FENCE	REMOVAL	NATIONAL FOREST (FS)
100014	PHILLIPS LAKE	FENCE	SATISFACTORY	NATIONAL FOREST (FS)
100008SP	PAL MOORE	SPRING	SATISFACTORY	NATIONAL FOREST (FS)
100008T	PAL MOORE	TROUGH	SATISFACTORY	NATIONAL FOREST (FS)
100009SP	BREWER MOUNTAIN	SPRING	GOOD	NATIONAL FOREST (FS)
100009T	BREWER MOUNTAIN	TROUGH	GOOD	NATIONAL FOREST (FS)
100011SP	PHILLIPS LAKE ROAD	SPRING	POOR	NATIONAL FOREST (FS)
100011T	PHILLIPS LAKE ROAD	TROUGH	POOR	NATIONAL FOREST (FS)
100012SP	LOWER BREWER MOUNTAIN	SPRING	SATISFACTORY	NATIONAL FOREST (FS)
100012T	LOWER BREWER MOUNTAIN	TROUGH	SATISFACTORY	NATIONAL FOREST (FS)

APPENDIX B: RANGE READINESS

RANGE READINESS INDICATORS

Record of Range Readiness Checks

Allotment _____ Forest _____ Name of Observer _____
Observation Location (Vegetation type, zone or elevation, area) _____

Date	Species or Indicator	Vegetation Development Stage (Record plant height and development stage)	Soil Condition (Firm, Soft, Muddy)
Conclusions and recommendations:			

Note: Record key species or as many indicator plants as needed. Sheet may serve for several checks in one year or checks in several years.

Indicators of Range Readiness

Grasses

Wheatgrass	Agropyron app.	About 6 inches in height
Green Fescue	Festuca viridula	Leaves 5 inches in height, seed heads showing
Idaho Fescus	Festuca idahoensis	Leaves about 3 inches in height, seed heads showing
Prairie Junegrass	Koeleria cristata	Leaves about 3 inches in height, seed heads showing
Sandberg bluegrass	Poa secunda	Plants maturing, seed heads conspicuous
Pinegrass	Calamagrostis	Foliage 3-4 inches in height
Tufted hairgrass	Deschampsis cespitosa	4 inches or more in height, heads conspicuous

Grasslike

Elk sedge	Carex geyeri	Leaves 3 inches in height
------------------	---------------------	----------------------------------

Forbs

Western yarrow	Achillea lanulosa	Flower stocks beginning to show
Arrowleaf balsamroot	Balsamorhiza app.	Leafage about ½ developed
Geranium	Geranium app.	Leafage about 4 inches high, flower in bloom
Groundsel	Senecio app.	Leafage ¾ mature
Dandelion	Taraxacum officinale	Leafage developed, full bloom

Shrubs

Serviceberry	Amelanchier app.	Part of blossoms out
Antelope bitterbrush	Purshia tridentate	Flower buds conspicuously swollen
Snowberry	Symphoricorpus app.	7 to 8 pairs of leaves unfolded from each bud

Soils

Normally dry sites should be fairly dry and firm. Wet meadows, unless lightly stocked, should have most of the area dry enough to carry stock without breaking the sod and destroying the cover. Both soil and forage indicators must be considered in determining range readiness.

Indicators of Range Not Ready to Use

	<u>When in Flower</u>	<u>Soils</u>
Spring Beauty	Claytonia	Soils are wet, loose and subject to excessive compaction or damage from trampling
Lambtongue favcily	Erythronium	
Fritillary	Fritillaria	
Waterleaf	Hydrophyllum	
Sagebrush buttercup	Ranunculus	