Herd Creek Allotment
Grazing Permit Renewal

EA Number: ID-040-9041 Date of Preparation: 10/99

INTRODUCTION

Background:

The 1975 Allotment Management Plan (AMP) coordinated with the Salmon-Challis National Forest (NF) describes management for the Herd Creek Allotment as a three pasture rest rotation grazing system. The system outlines an early use treatment, a late use treatment, and a complete rest treatment through a three year cycle. The three pastures each include intermingled BLM, State of Idaho, and NF lands. Turn-out is in mid to late June. Livestock move upslope onto NF land at upper elevations in each unit as the season progresses and are moved from the late season pasture back to private lands in late October. Requirements of the Endangered Species Act have necessitated changes to management on the allotment to comply with the law and to protect critical fishery habitat. In addition, grazing regulations affecting public lands administered by the BLM require meeting the fundamentals of rangeland health and standards and guidelines for grazing administration (43 CFR subpart 4180).

BLM-administered acreage in the Herd Creek Allotment incorporates approximately 21,502 acres. Approximately 30,000 acres of the Herd Creek Allotment are managed by the Salmon-Challis National Forest, and 2,740 acres are State of Idaho lands. Historically, 990 AUMs have been permitted on the BLM administered land between two permittees. The BLM issues separate permits for use of BLM lands, and the Forest Service does the same for use on NF lands. Both of the BLM grazing permits are expiring in 1999. The Allotment Management Plan (AMP) currently in place for the entire allotment is still in effect through a Memorandum of Understanding between BLM, Forest Service, and the Idaho Dept. of Lands.

A Watershed Analysis was done in 1997 in the Herd Creek watershed, which includes the Herd Creek Allotment (see bibliography in References Appendix). A copy of this analysis is available for review at the Salmon BLM Office.

In 1998 a determination was made on the Herd Creek Allotment in accordance with 43 CFR subpart 4180. The determination indicated achieving or making significant progress towards achieving the standards for rangeland health and conforming with guidelines for livestock grazing management. The assessments leading to this determination were obtained through the watershed analysis, upland ecological site inventories, monitoring data, and riparian habitat surveys.

Applicants: Gary & Jackie Ingram, James Bennetts.

Type of Action: Livestock Grazing Permit renewal for two permittees on the Herd Creek

Allotment.

Purpose and Need: To authorize appropriate livestock grazing management on the Herd Creek Allotment located in Custer County, Idaho, consistent with applicable laws and regulations.

Location of Proposed Action: T. 9 & 10 N., R. 18, 19, & 20 E. Boise Meridian (see attached Map). Herd Creek Allotment is bordered on the north by the East Fork Salmon River and the Road Creek watershed, on the east by the Sage Creek watershed, and on the south and west by the Salmon-Challis National Forest. The allotment is approximately ten miles south of Clayton, Idaho.

Conformance with Applicable LUP: The proposed action is in conformance with the Challis Resource Management Plan (RMP)(July 1999).

Relationship to Statutes, Regulations, or Other Plans: The proposed action is in conformance with the 1975 AMP developed in coordination with the Salmon-Challis National Forest. Permitting requirements for the Clean Water Act have been met and appropriate water rights claims have been filed with the State of Idaho. Consultation in accordance with the Endangered Species Act has been completed with a "may affect, not likely to adversely affect" concurrence from the National Marine Fisheries Service and the U.S. Fish and Wildlife Service.

Consultation under the National Historic Preservation Act of 1966 (as amended) has been conducted in accordance with BLM's National Programmatic Agreement and the implementing protocol agreement between Idaho BLM and the Idaho State Historic Preservation Office.

PROPOSED ACTION (ALTERNATIVE 2) AND ALTERNATIVES:

Alternative 1: **Continuation of Existing Permit Authorization**

Livestock grazing would be permitted from June 16 through October 31 for an active grazing preference of 990 AUMs, distributed among two permittees. Grazing would be authorized in accordance with the 1975 AMP outlining a three pasture rest rotation system that consolidates the Forest, State, and BLM administered lands. Grazing treatments are described as early (before seed ripe), late (after seed ripe) and complete rest. The typical move date from the early use pasture into the late use pasture is between August 10 and 15. The actual move dates between pastures, and moves off of the allotment would be determined by mitigation grazing standards (items 2, 3 and 4 below). These standards would be applied to grazing actions as a result of consultation with the National Marine Fisheries Service, and the Fish and Wildlife Service. The following terms and conditions would apply:

1) This permit incorporates all terms and conditions of the 1975 Herd Creek AMP which are listed below. All grazing use must be in accordance with Annual Operating Instructions developed each year for the Herd Creek Allotment.

2) A minimum 6" stubble height on herbaceous vegetation within the riparian floodplain along BLM portions of Herd Creek and Lake Creek must be maintained at the end of the grazing season.

3) Browsing intensity will be monitored in Lake Creek using frequency of use (number of nipped current year's leaders) on seedling and young age class woody species. A frequency of use of no more than 50% is expected to maintain a normal growth form and promote a diverse age structure.

4) No cattle use along Herd Creek is allowed after August 15, or when spawning salmon are present.

5) As provided in the Code of Federal Regulations (CFR) 4130.3-2(d), the permittee(s) is required to submit an actual use report within 15 days after completion of their annual grazing. Failure to comply could result in the cancellation of the permit in whole or in part.

Individual permits would be issued for use as follows:

Permittee	Number/Kind	Season of Use	%PL	Active AUMs	Susp. AUMs	Total Preference
Ingram, Gary & Jackie	206 cattle	06/16 to 10/31	100%	936	216	1152
Bennetts, James R.	30 cattle	06/16 to 10/31	40%	54	- -	54
	BLM	allotment total =		990	216	1206

Although Ingram's current permit reflects only 206 cattle at 100% PL, the permit authorized a maximum of 636 head for the Herd Creek Allotment, which divides the forage base between BLM and F.S. on a 40/60 split respectively. Bennetts permit would authorize 50 head licensed at 40% public lands forage use. State Lands under lease to Gary & Jackie Ingram would also provide 127 AUMs of forage use through an Exchange-of-Use Agreement. Both permittees would be required to combine livestock into one herd, and follow the three pasture rest rotation grazing sequence outlined in the original AMP.

PROPOSED ACTION Alternative 2-- **Modify Permit with Terms and Conditions**

Permit levels of livestock grazing use in the Herd Creek Allotment to coincide with an integrated allotment grazing sequence, where season of use is variable from late spring to early fall, and includes periodic yearlong rest. The allotments involved in the integrated allotment grazing sequence are Warm Springs, Road Creek, Pine Creek, and the Forest Service-administered Herd Creek and Warm Springs Creek allotments. In addition to the current terms and conditions listed in alternative 1, grazing use standards and guidelines would be further applied through incorporation of the following terms and conditions into the

grazing permits:

1. Upland utilization on bluebunch wheatgrass during the critical growth period (boot to flower) would be limited to 40% of current growth. Grazing outside the critical period (usually ending June 20) would not exceed 60% utilization. Prescribed utilization for all other key forage species on this allotment will be 50% *(Challis RMP, Livestock Grazing: Goal 1, #7).*

2. Livestock grazing use within the riparian floodplain along BLM-administered portions of Herd Creek and lower Lake Creek will be managed to assure that a minimum of 6" stubble height on herbaceous vegetation remains along the green line at the end of the growing season. To accomplish this, a minimum 4" median stubble height will be applied to cattle use along the green line during the spring/early summer grazing period (prior to July 10). A minimum 6" median stubble height will be applied to cattle use along the green line during any summer or fall grazing or trailing periods. Manage livestock use on upper Lake Creek above Herd Lake to maintain a 4" median stubble height during the scheduled grazing period. *(Challis RMP, Riparian Areas: Goal 1, 5b, c).*

3. Manage livestock use on Herd Creek and lower Lake Creek so that no more than 10% of the streambank is sheared by livestock hoof action, and manage livestock use on upper Lake Creek above Herd Lake so that no more than 20% of the streambank is sheared by livestock hoof action *(Challis RMP, Riparian Areas: Goal 1, #6).*

4. Manage livestock use so that no more than 50% frequency browsing by livestock, of current year leaders on seedling and young age class woody riparian species occurs along BLM-administered portions of Lake Creek and Herd Creek to protect growth form and age class distribution.

5. No cattle use along Herd Creek is allowed after August 10, or when spawning salmon are present. Late season grazing use elsewhere on the allotment will avoid important spawning reaches through exclusion, non-use, or pushing cattle away from spawning areas within designated critical habitats.

6. The Herd Creek Allotment is subject to the requirements of 43 CFR 4180--Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration. The assessment that was done in 1998 determined that these standards were being met or making significant progress toward being met.

Authorized livestock grazing use for the BLM permit under Alternative 2 would be specified as follows:

Permittee	Livestock number/kind	season of use	%PL	active AUMs	susp. AUMs	total AUMs
Gary and Jackie.	608 cattle	06/15 to 09/30	38%	821	51	872
Ingram	200 cattle	10/01 to 11/15	38%	115	165	280
Jim Bennetts	125 cattle	07/01 to 08/02	40%	54	--	54
		allotment total =		990	216	1206

The percentage public lands (PL) listed above for each permittee reflects the amount of use made on BLM-administered lands: 38% for Ingram, (balance is 60% F.S. and 2% State) and 40% for Bennetts (balance is 60% F.S.). The Forest Service and State will permit for the remainder of forage use within the jointly administered allotment.

The maximum permitted level of use on the BLM portion of the Herd Creek Allotment would remain at 990 AUMs. Herd size and duration of grazing use would vary, depending upon an analysis of resource conditions and recommendations of an interdisciplinary team. These recommendations would be in accordance with prescriptive management described in the Challis RMP, and would detail actions designed to meet the rangeland health standards and/or follow guidelines for livestock grazing management developed for Idaho by the BLM Idaho Resource Advisory Councils. Early/Rest/Late rotational grazing would be employed on the allotment, and would be coordinated with rotation systems employed on other Ingram allotments on an annual basis. Two herds would use separate pastures or use areas. Fall use (after Sept. 30) would be made after weaning, with "dry" cows only, and perennial streams that are occupied habitat for spawning bull trout would not be scheduled for fall grazing.

Public land uses, including livestock grazing as proposed in this alternative, within Wild and Scenic River corridors of river segments present on this allotment would be managed to maintain the level of development that resulted in the segments' tentative classifications, to ensure non-degradation of outstandingly remarkable (OR) values, and to protect free-flowing characteristics.

Alternative 3: **Livestock Controlled Timed Grazing**

This alternative would authorize a use area deferment system. The BLM administered portions of the three existing pastures would be divided into numerous (approximately 6) use areas (paddocks) based on topographic features ranging in size from 1000 to 6000 acres. These paddocks would be grazed with the entire herd for a period of 5 to 14 days depending upon the size of the paddock, productivity, season of use, and other resource issues and concerns. Paddock rotations are not cycled in a defined system but rather are developed through an annual operating plan in response to site specific resource needs and conditions. Plan development is through inter-agency, collaborative work group, and interested public coordination.

The short duration grazing provides for extensive rest each year (350+days) with additional rest (periodic, growing season or yearlong) the following year. It provides maximum

flexibility for livestock grazing but necessitates absolute livestock control within and between paddocks through modifying livestock behavior and intensive herding practices.

The Permit information describing seasons of use, numbers of AUMs, terms and conditions indicated as grazing use standards and guidelines, would duplicate that shown in Alternative 2. In addition, actual use reports submitted by each permittee in a timely manner would be a requirement of the permit. These reports must state, at a minimum, the number and type of livestock and the on/off dates for each paddock comprising BLM land.

This Alternative complies with recommendations made in the Herd Creek Watershed Analysis, Step 6 Recommendations, p. 176, which states the following:

> Increase grazing system flexibility within the Herd Creek Allotment by developing more pastures or use areas, fencing, herding, or riding to expand opportunities with adjoining allotments and private land areas to increase grazing system efficiency.
>
> Keep riparian areas in an upward trend by continuing to use 6"median stubble height standards, 50% woody use, and no cattle use along Herd Creek or Lake Creeks after August 10.
>
> Stocking levels and watershed carrying capacity will be determined through utilization pattern mapping indicating success in meeting grazing standards and livestock distribution.
>
> Continue the 50% upland utilization standard on current year production of key forage species.

Alternative 4 - **Emphasis on Conservative Grazing Use**

This alternative focuses on non-commodity uses. While still recognizing livestock grazing as a valid use of public land, grazing would be reduced to emphasize wilderness values, recreation, visual characteristics, wildlife habitat, water quality and to accelerate recovery of riparian condition.

All livestock scheduled use would remain in accordance to the 1975 Allotment Management Plan which specifies a three pasture rest rotation grazing system. The AMP would be further modified under this alternative to include the following:

> Emphasis on non-commodity resources would be provided by reducing livestock herd size, restricting flexibility in the grazing operation, and providing extensive rest periods in the grazing system. Strict livestock use standards would be used to ensure low risk of adverse effects to resources.
>
> The grazing sequence, initial herd size and dates of grazing use would initially be authorized at the lowest levels of stocking used in recent years, averaged with the

numbers used during the drought year of 1994. In 1994, 556 cattle were run on the allotment. In 1996, 110 cattle were run on the allotment (Ingrams took non-use). A subsequent average of 333 head of cattle also coincides with exactly one-half of the original permitted numbers for the allotment. The permittees would still be able to run more than this number on Forest Service-administered portions of the Herd Creek Allotment, up to that agency's permitted numbers.

Grazing prescriptions for use areas or paddocks with perennial streams would be designed to use BLM lands early (6/15 to 7/15) and then rest completely from grazing use the following year. Late grazing use would only be scheduled if cattle could be kept off of perennial streams used by spawning native, and anadromous fish. No cattle use would be authorized on occupied anadromous streams after August 10, and on bulltrout spawning streams after September 15. Only dry cows without calves would be authorized for fall use on BLM pastures after September 15.

Other pastures or paddocks would be under a rest-rotation system that would provide a periodic growing season rest and a yearlong rest one out of four years. The herd would enter the allotment from different directions in alternate years.

Operational and Resource Use Criteria as follows, would be applied:

Livestock herd sizes would be adjusted to fit the estimated AUMs and period of use. This equates to a total herd size of approximately 333 to 556 cow/calf pairs. The herd would be split into smaller units or run as one unit providing the pastures are cleaned of all livestock on schedule. Fall grazing would be made by "dry" cows.

Livestock movement dates would be fixed to provide established dates to recreationists desiring a "livestock free" outdoor experience. Early use pastures would be used from mid- June to mid-July; Mid-summer season pastures would be used from mid-July to mid-August; Late summer season pastures would be scheduled from mid-August to mid-September; and fall use would be scheduled on the remaining pasture from mid-September to the scheduled end of season, on or before October 31. Scheduled use would be closely coordinated with the Forest Service. Areas that may be considered "under utilized" by the off date would be left unallocated for resource protection and enhancement.

Upland Utilization Standards would be the same as described for the proposed action, except that no areas of use would be allowed to exceed the 50% upland utilization level.

Riparian stubble-height standards - Minimum stubble height standard would be 6 inches on all perennial streams. A three inch (3") stubble height would be applied to designated seeps and springs where identified resource values were determined to need additional protection from livestock grazing impacts.

Bank stability standards and woody use standards - Bank stability evaluations would

be performed before, during and after livestock grazing. Livestock would be removed if more than 10% of shearing can be attributed to livestock impacts, regardless of the stubble height or period of use.

Frequency of woody nipping would be measured during any late seasons of use, and would be limited to no more than 30% frequency of browsing on all new leader growth. If nipping by livestock is noticed to be affecting the growth structure of hydric woody species, more stringent frequency of nipping standards would be applied prior to the next grazing period.

Range administration would be the same as for the proposed action, except:

The grazing permits would authorize a total variable herd size on the BLM portion of the Herd Creek allotment from 333 to 556 cattle, for a period from 6/15 to 10/31, for a forage use of up to 990 AUMs on BLM.

Annual adjustments of herd size would lean towards the conservative side of "no risk" to the resources. Flexibility in livestock moving dates would not be considered to provide established dates to recreationists desiring a "livestock free" outdoor experience. Areas that may be considered "under utilized" by the off date would be left unallocated for resource protection and enhancement.

No permanent structural projects would be developed within the wilderness study areas. Temporary electric fences may be utilized while livestock are within the affected area but must be removed within one week of livestock removal. Temporary water hauling troughs must also be removed within one week. Fencing to create riparian pastures would be analyzed in a separate environmental assessment, and if built, would be incorporated into a grazing schedule only after vegetative conditions have improved sufficiently to allow for livestock grazing. Upland seeps and springs in all pastures would not be fenced or otherwise developed.

Alternatives considered but not analyzed in detail:
A No Grazing alternative was considered but not analyzed in this environmental assessment. Resolution of any present issues or resource conflicts would continue to be obtained through properly managed livestock grazing in accordance with direction given in the Challis RMP, without total livestock exclusion.

AFFECTED ENVIRONMENT

General Description

The allotment generally faces northerly, sloping towards the East Fork Salmon River with the Lake Creek drainage flowing from east to west into Herd Creek, creating dissected upland foothills with north and south aspects. Herd Creek and McDonald Creek watersheds flow northerly into the East Fork, thus creating east and west facing aspects. The public land portion of the allotment occupies sagebrush steppe foothills from approximately 6000

feet to 10010 feet at the summit of Jerry Peak. Slopes range from nearly flat on creek bottoms and low benches to very steep (over 60%) on mountain hillsides and canyons.

Mean annual precipitation for Herd Creek ranges from near 10 inches at the lowest elevations, to over 30 inches on the highest mountain ridges.

CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT

Some of the following elements of the human environment are subject to requirements specified in statute, regulation, executive order, or policy and must be considered in all environmental assessments. Others have been added to the following list because of their importance in assessing impacts. All the following elements have been analyzed. However, elements denoted by an "X" are not affected by the proposed action and will receive no further consideration.

X	Air Quality	____	Areas of Critical Environmental Concern
____	Cultural Resources	X	Farm Lands (prime or unique)
____	Floodplains	X	Native American Religious Concerns
X	Threatened/Endangered Animals	____	T/E and Sensitive Plants
____	Threatened/Endangered Fish	X	Wastes, Hazardous or Solid
____	Water Quality	____	Wetlands
____	Wild & Scenic Rivers	____	Wilderness
X	Availability of Access/ Need to Reserve Access	____	Soils
X	Wild Horse and Burro Designated Herd Management Areas	X	Mineral Resources
____	Vegetation types, communities; vegetative permits and sales; Rangeland resources	____	Riparian Zones
____	Wildlife	X	Forest Resources
X	Economic Feasibility of Agricultural Entry	X	Paleontological Resources
X	Indian Trust Resources	X	Tribal Treaty Rights
____	Recreation Use, Existing and Potential	X	Visual Resources
X	Existing and Potential Land Uses	____	Economic & Social Values
X	Environmental Justice (EO 12989) (minority and low-income populations)	____	Fisheries

X No chemical or chemicals from the EPA's Consolidated List of Chemicals Subject to Reporting Under Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, (10,000 pounds or more), will be used, produced, stored, transported, or disposed of in implementing the proposed action.

No extremely hazardous substances, as defined in 40 CFR 355, will be used, produced, stored, transported, or disposed of in implementing the proposed action.

Affected Resources: Elements which are present and are likely to be affected are discussed below.

Threatened/Endangered Fish; Native Fisheries: The following table describes the miles, acres, and percent of stream ownership within the Herd Creek watershed:

Table 1. Ownership within the Herd Creek Watershed

Stream	Miles/Percent of Stream Ownership				Drainage Area * (acres)			
	BLM	Private	State	F.S.	BLM	Private	State	F.S.
Herd Creek ownership in miles	3.6	2.5	0	13.8	20,105	641	2,348	55,813
Herd Creek ownership percent	18.1%	12.7%	0	69.2%	26	1	3	71
Lake Creek ownership miles	3.4	0	1.0	0	9,993	8	1,265	0
Lake Creek ownership percent	77.3	0	22.7	0	89	<1	11	0

* The drainage area characterized in the Table above includes acreage outside the BLM Herd Creek Allotment.

Salmonid species currently inhabiting the Herd Creek watershed include chinook salmon, steelhead and resident rainbow trout, bull trout, westslope cutthroat trout, and mountain whitefish. Sculpin are also found in most reaches of the watershed. Table 2 describes fish abundance by reach groups that are within, or immediately adjacent to BLM lands within the Herd Creek Allotment.

Table 2. Fish abundance in the Herd Creek watershed, August-September, 1994 and 1996 (derived from Herd Creek Watershed Analysis, Table 19, October 1997).

Reach Group	Fish Species (numbers/100 m^2)					
	Chinook	Steelhead/ Rainbow	Bull Trout	Westslope Cutthroat	Whitefish	Sculpin
HC-1	no data	no data	no data	no data	no data	no data
HC-2	0	0.53	0	0	0	10.70
HC-3 (pvt)	0	5.90	0.20	0	0.82	4.90
HC-4 (BLM exclos.)	0	0.34	0	0	0	8.70
HC-5 (F.S.)	0	0.38	0.19	0	0	16.10
LC-7	8.69	1.10	0	0.07	0	0

Reach Groups listed in the above table are described as follows: HC-1: private lands below the Herd Creek Allotment; HC-2: BLM portion of lower Herd Creek between private lands; HC-3: Bennetts private property, Herd Creek; HC-4: BLM exclosure upstream of private and below the Forest boundary; HC-5: Forest Service portion above boundary to confluence of main fork; LC-7: BLM portion of Lake Creek below Herd Lake; LC-8: BLM portion of Lake Creek above Herd Lake. During the Herd Creek watershed analysis, the watershed was divided into 37 survey reaches. Survey reaches were combined into 19 reach groups. Reach groups had similar channel types, steam widths, fish accessibility, ownership and/or land management.

Priority reaches for key species were established using the following: data from annual spawning ground counts; juvenile fish sampling, reach types and habitat condition; scientific literature; biologist's observations; and description of suitable habitat areas based on environmental parameters. The BLM portions of the watershed are used by priority species during different life stages (see description of life history characteristics presented in the Biological Assessments listed in the Reference Appendix). Priority reaches for chinook salmon were generally in lower mainstem Herd on BLM portions of the watershed. Bull trout are present both above, and below BLM-managed reaches of Herd Creek. Westslope cutthroat trout were suspected to occur throughout the watershed, but they have only been recently observed in lower Herd Creek and lower Lake Creek. Lower reaches are especially important for chinook salmon, steelhead, and fluvial bull trout production. All perennial and intermittent streams (except those above Herd Lake on Lake Creek) are designated (under the Endangered Species Act) as critical habitat for chinook salmon.

Habitat variables measured using the R1/R4 standard habitat inventory procedures (Overton and others 1997) have been compared to regional objectives described in PACFISH (USDA & USDI, 1995), and are depicted in table 3 below.

Table 3. Current mean values of aquatic habitat variables compared to PACFISH Riparian Management Objectives (RMO's) by reach group in the Herd Creek watershed, 1992-1996 (derived from Herd Creek Watershed Analysis, Tables 25, 26, 27, 28, and 30, October 1997).

Reach	Wetted channel width in feet	Pool frequency #/mile, (PS)	Pool-width/ max. depth ratio (PS <10)	Percent Stable streambank (PS >80)	Percent Undercut banks (PS >75)	Percent Surface fines	LWD frequency #/mile, (PS)
HC-1(pvt)	17	32 (56)	5.3 (<10)	79 (>80)	ND*	45	ND
HC-2 BLM	24	37 (50)	2.3 (<10)	78 (>80)	17 (>75)	18	53 (>20)
HC-3 (pvt)	21	31 (56)	7.1 (<10)	62 (>80)	7 (>75)	22	13 (>20)
HC-4 BLM exclos.	21	45 (56)	6.2 (<10)	88 (>80)	43 (>75)	18	23 (>20)
HC-5 F.S.	20	47 (56)	6.7 (<10)	87 (>80)	22 (>75)	8	23 (>20)
LC-7	7	85 (96)	5.6 (<10)	71 (>80)	16 (>75)	39	45 (>20)
LC-8	ND	ND	ND	ND	ND	ND	ND

* ND = No data * *NA = Not applicable PS = PACFISH standard

The current minimum riparian and aquatic habitat conditions applied to all streams in the Challis Resource Area are described in *Attachment 15* of the Challis Resource Management Plan (July, 1999). Riparian Management Objectives (RMO's) for PACFISH streams are incorporated in this attachment. Revised RMO's were recommended as a result of the 1997 Herd Creek Watershed Analysis, and are listed on page 178 of that document. In summary, fisheries habitat conditions on BLM lands within the Herd Creek watershed are in an upward trend that is approaching the recommended habitat conditions for this watershed.

Vegetation Types and Rangeland Resources: The dominant vegetation types on the BLM administered portions of the allotment are sagebrush/grass communities commonly dominated by three varieties of sagebrush species *(Artemisia tridentata)* with cool-season bunchgrass understories comprised of bluebunch wheatgrass *(Agropyron spicatum)*, Idaho fescue *(Festuca idahoensis)*, Indian ricegrass *(Oryzopsis hymenoides)*, needle-and-thread *(Stipa comata)*, squirreltail *(Sitanion hystrix)*, and bluegrasses *(Poa spp.)*. Common forbs include *Astragalus spp., Lupinus spp., Crepis spp., and Phlox spp.*. Mountain sagebrush with Idaho fescue and mountain mahogany stands are present on the higher elevation mountain slopes.

Surveys in 1995 identified six to 12 plant species at lower elevations and 12 to 20 species in higher elevations. The Ecological Site Inventory of rangeland (1995 survey) indicated that 79% of the shrub/grassland types on public land are currently in Late Seral or Potential Natural Condition (PNC). Current range condition inventories show that uplands in Herd Creek are; 53% in late seral (good), 26% at PNC (excellent), and 21% unclassified (rockland and forested). Most of the uplands on public land show little sheet or concentrated erosion, evidenced by the lack of litter movement, pedestals, rills or active gullies. Spacing, vigor, and productivity of plants indicate, for the most part, healthy, stable, and functioning uplands.

Uplands on federal land are generally not contributing to riparian degradation. Upland trend study plots show a static or slightly upward trend.

A variety of state listed noxious weeds occupy the allotment. Principle species include spotted knapweed, and black henbane. Occupation and establishment has primarily been along roadways, however, small infestations may also be present in roadless areas associated with ephemeral drainages. Although known sites are being treated through chemical, manual, and biological methods, and are generally not expanding, new sites are being discovered requiring expanded treatment efforts. Avenues of weed expansion have been linked to birds, rodents, grazing animals (i.e. elk, deer, and livestock) and humans.

Threatened/Endangered/Sensitive Plants: Seven Special status plants are known to occur on the allotment: Wavy-leaf thelypodium *(Thelypodium repandum)*, Challis milkvetch *(Astragalus amblytopis)*, Lemhi milkvetch *(Astragalus aquilonius)*, Park milkvetch *(Astragalus leptaleus)*, Challis crazyweed *(Oxytropis besseyi var. salmonensis)*, White eatonella *(Eatonella nivea)*, and Yellowstone draba *(Draba incerta)*.

Soils: Twenty-seven soil map units, combined into three soil complexes, were mapped and described for public lands in Herd Creek. Soil Groups are described as follows (derived

from the Custer/Lemhi Soil Survey General Soils Map, Order 3 Soil Survey, Natural Resource Conservation Service):

> Zeebar-Friedman-Donkeyhill Complex; Well-drained Cryoborolls, shallow to deep gravelly loamy and gravelly clayey, well drained soils on mountains and foothills derived from extrusive igneous rocks. Water erosion hazard is moderate on these soils, and they are subject to compaction.
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> Orthids-Dawtonia-Cronks Complex; Orthids, Haplargids and Argixerolls that are gravelly loamy, hilly to extremely steep, shallow to very deep, well drained soils on mountains and foothills derived dominantly from extrusive igneous rocks and quartzite. Water erosion hazard is slight to moderate on these soils, and they are subject to compaction.
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> Cryoborolls-Cryochrepts-Koffgo: Cryoborolls and Cryocrepts, well-drained gravelly loams, shallow through very deep, on steep to extremely steep mountains derived primarily from quartzite and extrusive igneous rocks, with a moderate to severe erosion hazard.

Wilderness: The allotment is within both the Jerry Peak wilderness study area (WSA), and the Jerry Peak West WSA. Areas recommended to Congress for wilderness designation include 26,750 acres within the Jerry Peak WSA.

Water Quality: Herd Creek is designated a secondary contact recreational use (IDPA 16.01. 02. 101.). Existing uses include cold water biota, salmonid spawning, agricultural water supply, and secondary recreation. Current water temperatures in Herd Creek vary by season and elevation and in the lower stream reaches range from 32 degrees F in the winter to 72 degrees F in the summer (unpublished data, BLM/Shoshone-Bannock, 1993-96). Potential pollutants in Herd Creek are coliform bacteria, effluent from pastures, fertilizer, oil, and gasoline. In Herd Creek, dissolved material, nutrients, organic debris, ions, and trace minerals are often present in low amounts, well within the range that supports aquatic life. The pH of Herd Creek is mildly basic, typical of mountain streams in the Upper Salmon River Basin. Calcium carbonate is the primary mineral component in Herd Creek.

Sediment bedload and fines at depth have increased from reference to current due to changes in riparian vegetation and soil condition from past uses. The response channel (mostly located on private land) cannot move the large amount of bedload introduced to the reach. The amount of sediment is now decreasing, but until every channel reach can move contributed sediment out of the system, the stream will remain out of balance. The gradual decrease in the amounts of bedload and fine sediment will result in an improved stream channel.

Recreation Use: Diverse recreational activities are provided on the allotment in the form of hunting, hiking, fishing, scenic travel, wildlife viewing, antler gathering, rockhounding, backpacking, dispersed camping and non-technical mountain and rock climbing. Herd Creek is part of the Challis Extensive Recreation Management Area (ERMA). Herd Lake and the

Herd Lake Overlook are Challis ERMA-designated Recreation and Roadless Area Sites. Parts of the Jerry Peak Wilderness Study Area (WSA) and the Boulder-White Clouds WSA are located on, or immediately adjacent to the allotment. Three developed sites are contiguous to the Jerry Peak WSA: the Herd Lake Overlook, Herd Lake Campground, and Upper Lake Creek Campground (closed to vehicle access since the 1983 Mackay earthquake).

ACEC: All BLM lands within the Herd Creek watershed are designated as an Area of Critical Concern (ACEC) through the Challis Resource Management Plan (1999). In addition, a portion of the upper Lake Creek watershed from Jerry Peak along the divide to Lake Creek, west to section 30, T.9N., R20E., south along section 31 to the T.9N., and T.10N. line, and eastward to Jerry Peak is designated as a Research Natural Area. There are 17,943 acres designated as ACEC, of which 1,060 acres are designated as an RNA. Values which accommodated the ACEC designation are the great variety of range and forest plant communities found at high elevations; presence of rare plants; riparian recovery and demonstration area; known spawning and rearing habitat for special status steelhead trout, bull trout, and chinook salmon; roadless/primitive and scenic values. Plant communities are mountain big sagebrush/grasslands and mixed conifer forests with patches of mountain mahogany.

Cultural Resources: Approximately 17 % of the BLM lands within the allotment have been inventoried for cultural resources. Many areas exist within the allotment that have not been inventoried for cultural resources but appear to have a high probability for containing sites. As a result of the inventories, 18 sites and one isolated find have been recorded. The site types include 15 lithic scatters, one talus pit site, and two rock shelter sites.

In general lithic scatters represent the most frequent known site type found within the allotment. Most sites appear to be situated near riparian areas (including seeps and spring sources) and in areas which may have supported water and riparian vegetation at one time.

Economic/Social Values: Each of the two permittees operate full time livestock/agriculture businesses and employ permanent and seasonal workers which support local economies in the Clayton/Challis area. They are dependent upon both public and NF lands for their overall operation.

Floodplains/Wetlands/Riparian Zones: The allotment contains approximately 8 miles of riparian stream habitat on BLM. Principal streams are briefly described in the table below. This information is summarized from data obtained through contracted riparian inventories, habitat surveys, and monitoring during the period 1994 through 1998.

Table 4. Riparian Function, Trend and Vegetation Type by Stream, Length, and Reach

Stream	Reach	Length (miles)	Functionality/ Trend	Vegetation Types
Herd Creek	HC-001	1.1	PFC	Willow/sedge-mixed grass Alder/mixed grass

	HC-002	.9	PFC	Willow/sedge-mixed grass
	HC-003	.7	PFC	Willow/sedge-mixed grass
	HC-004	.7	PFC	Willow/sedge-mixed grass
Lake Creek	LKC-001	.5	FAR/upward	Willow/sedge-mixed grass
	LKC-002	.5	FAR/NT	Willow/sedge-mixed grass
	LKC-003	1.5	FAR/upward	Willow/sedge-mixed grass
	LKC-004	.2	FAR/NT	Cottonwood/dogwood
	LKC-005	1.0	PFC	Willow/sedge-mixed grass
	LKC-006	.9	FAR/upward	Willow/sedge-mixed grass Aspen/dogwood
	LKC-007	1.6	FAR/upward	Willow sedge/mixed grass Aspen/dogwood
Sheep Creek	not	assessed		
McDonald Cr	not	assessed		

PFC = Proper Functioning Condition; FAR = Functional-at-Risk; NF = Non-functional
DN = Downward trend; NT = No trend; UP = Upward trend

There are also numerous springs and seeps scattered throughout the BLM administered public land within the allotment. Some springs that supported reliable water were developed and piped into stockwater troughs dating back to the 1940s through the 1970s under authorization through project development permits. These spring sites support a variety of hydric and upland shrubs with mixed herbaceous grasses dominated by bluegrass species. Site disturbance from project maintenance activities and concentrated wild ungulate and/or livestock grazing is common.

Wildlife: Elk, mule deer, antelope, sage grouse, blue grouse, and chukar partridge are some of the more common wildlife species found on this allotment. A variety of non-game birds, reptiles, amphibians, and mammals are also present. Riparian habitats along intermittent and perennial streams are some of the most important sites for nongame wildlife. Mule deer and elk winter range is present and the allotment also provides habitat for elk calving and mule deer fawning. Antelope fawning and sage grouse nesting may occur on the allotment, but no specific fawning or nesting areas have been identified. Big game winter ranges have generally been identified and mapped on the allotment, but no other special or unique habitats are known to be present.

Wild and Scenic Rivers: The East Fork of the Salmon River is eligible for further study to determine potential for inclusion in a National rivers system, with a suitability finding deferred until further coordination with other agencies is completed. Outstandingly remarkable (OR) values on the East Fork of the Salmon River are recreational, fisheries, and scenic with a recreational tentative classification. Herd Creek has been found to be suitable for Wild and Scenic designation with outstandingly remarkable values for fisheries and

cultural with a recreational classification. Most of Herd Creek is classified as semi-primitive non-motorized (57%) and semi-primitive motorized (25%) within the Recreational Opportunity Spectrum.

ENVIRONMENTAL IMPACTS

Environmental impacts to each affected resource are presented in the following table for each alternative and the proposed action. Direct, indirect and cumulative impacts are discussed.

Affected Resource (underlined)

Alternative 1: Continuation of Existing Permit Authorization

Threatened and Endangered Species: Fish; Native Fisheries
Livestock grazing periods and durations described in the original AMP of 1975 have been modified with the addition of stubble height and woody use standards in riparian areas, to meet the mitigation requirements of the 1993 Biological Assessment (Biological Evaluation for East Fork East, ongoing action # R39, January, 1993). Possible risks of adverse effects to fish habitat remain, if conditions post-grazing use do not meet the requirement of 6" stubble at the end of the grazing season. Extensive growing season rest periods would be provided after the livestock were removed to re-vegetate and stabilize impacted stream banks and revitalize grazed plant communities.

Spawning habitat, including redds, could be affected by both direct, and indirect impacts of livestock use. The incidence of occurrence of livestock impacts is expected to be low or infrequent along Herd Creek, as a grazing exclusion date of 8/15 is in place under this alternative, and/or livestock exclusion is required when spawning salmon are present. Late periods of use (after mid-September) could impact some localized non-anadromous fishery systems, including bull trout and west slope cutthroat trout habitats, through bank trampling, grazing and browsing.

Vegetation Types and Rangeland Resources
Upland plant communities would be maintained or may slightly decline from current conditions under this alternative. Areas subject to heavy grazing pressure such as around water troughs, salting areas and unfenced upland springs would continue to have impacts such as reduced key forage plant cover and composition, and soil compaction, due to growing season grazing without use standards. Most at risk are the bluebunch wheatgrass plant communities associated with the low to mid elevation ranges. The threat for weed expansion and establishment is greater under this alternative than management proposed in other alternatives, due to continued site disturbance and seed dispersal potential by livestock.

Threatened/Endangered/Sensitive Plants
TES plants and their habitats are expected to be maintained under this alternative. These plants do not provide forage value to livestock and are therefor not grazed at any significant level. With the increased grazing pressure provided by this alternative, trampling of individual plants is more likely than for Alternative 2, however not at a significant level.

Soils

Soil cover and soil stability is expected to be maintained under this alternative. Areas subject to heavy grazing pressure may experience a loss of cover, compaction and increased soil erosion in localized areas, however accelerated soil erosion off the affected area is not likely and has not been observed in the past. Areas with moderate soil erosion hazards are typically not available to livestock grazing due to naturally fragmented forage plant spacing and steep slopes.

Water Quality

Possible risks of adverse effects to water quality would likely exist under this alternative. Longer periods of use in low elevation stream systems would provide little opportunity for recovery or improvement even though deferment and rest is scheduled. Slow recovery would be expected along functional-at-risk segments of perennial streams. The lack of shrub shading and stable banks on some stream systems would continue, while those reaches with good shrub cover and stable banks would likely be maintained due to their limited accessibility to livestock impacts.

Wilderness Study Area (WSA)

Under this alternative, naturalness and opportunities for solitude within the Jerry Peak and Jerry Peak West WSAs would be maintained (Challis Wilderness EIS, 1983).

Recreation

Recreational values under this alternative would be maintained and adverse impacts to recreational activities would be minimal. The incidence of occurrence of conflicts from interactions between recreationists and livestock and/or livestock-related impacts is expected to continue to be low to moderate. A defined grazing schedule as-described in other alternatives could possibly reduce undesirable interactions to an infrequent level of occurrence.

Cultural Resources

Cultural sites associated with upland wetland spring areas are expected to be maintained under this alternative. Sites associated with stream systems may experience adverse impacts with livestock grazing defined with this alternative due to trampling. Those stream systems that are not functioning properly and which may be experiencing livestock induced bank sloughing may also impact cultural sites lying within the active floodplain. Therefore, grazing impacts associated with riparian areas may have a direct effect to cultural sites.

Economic/Social Values

This alternative would maintain the current ranch economies with stable AUM levels and livestock handling requirements limited to those necessary to meet stubble requirements by the end of the grazing season.

Floodplains/Wetlands/Riparian Zones

Floodplains, wetlands and riparian zones would have a low to moderate risk of receiving adverse impacts. Livestock grazing for the scheduled periods of use may impact riparian, floodplain, and wetland vegetation through grazing, browsing, and trampling, by increasing

potential for sedimentation of perennial creeks from bank impacts, even though mitigation standards for end of grazing season residual stubble would be applied. Stream systems currently in functional-at-risk would slowly improve, but would still be at risk of becoming non-functional after significant high flow events. The opportunity for improvement is limited under the three pasture rest rotation system, as indicated by the current conditions. Wetlands associated with upland springs and seeps would likely be maintained in their current condition with no additional adverse impacts or opportunities for improvement.

Wildlife

It is expected that viable and productive wildlife populations would continue to be supported on the allotment as a result of requirements to maintain soil, water and vegetative resources and ecological processes. However, Alternative 1 would result in some competition with wildlife for food, cover and water, and may limit the productivity and reproductive success of some wildlife populations or groups of species. Herbaceous vegetation is an important yearlong cover and forage component of wildlife habitat that is particularly critical during the spring when calving, fawning, nesting and rearing of young occur. On some parts of the allotment, depending on the distribution and period of livestock use, grazing of herbaceous vegetation would reduce hiding cover for newborn big game animals and other ground-dwelling species (e.g. sage grouse), and would reduce the availability of winter forage for elk and other wild ungulates. However, under current management, pastures on the allotment would not be grazed by livestock until after most of the critical spring reproductive period is over, and sufficient herbaceous cover would be provided to support populations of wildlife that are dependent on herbaceous vegetation. Light livestock grazing on some areas of big game spring range may also improve the accessibility of succulent green growth for big game animals. Competition between livestock and wildlife for forage and herbaceous cover would occur primarily on sites that are close to water sources and sites that are easily accessible to livestock (e.g. areas of gentle terrain). On ridgetops, steep slopes and other sites where livestock use is light or otherwise limited by terrain or distance from water, competition between livestock and wildlife for forage and cover would be minimal or nonexistent. Grazing standards and stipulations in riparian areas would help maintain and improve habitat for riparian-dependent wildlife species. The presence of livestock and the trailing of livestock between areas of use would result in the disturbance and displacement of some wildlife species or individual animals from preferred habitats. However, not all pastures would be used at the same time, and areas of undisturbed habitat would be available.

Wild and Scenic Rivers

The outstandingly remarkable values associated with the eligible river segments and suitable Herd Creek segment would be maintained under this alternative. Any adverse impacts from this alternative would be minimal. Livestock grazing management under this alternative would maintain the level of development that resulted in the segments' tentative classifications, and ensure non-degradation of outstandingly remarkable (OR) values, and protect free-flowing characteristics.

Indirect Impacts

Indirect adverse impacts to recreation (reduced enjoyment due to modified plant

communities, fragile streambanks, altered water quality) and to wild and scenic rivers (altered recreational and scenic OR values) may result from grazing impacts on the dependent resources (i.e. riparian, floodplains, water quality, wildlife) although not likely at a significant level. No additional indirect impacts are expected under this alternative.

Cumulative Impacts
Ongoing or proposed actions within or adjacent to the Herd Creek allotment include:

1) Livestock grazing and cropland irrigation on private inholdings located along Herd Creek.
2) Grazing on NF lands.
3) Proposed prescribed burn in Taylor & McDonald Cr. drainages.
4) Various disbursed recreational activities, some commercial outfitting.

Cumulative impacts by other BLM activities (primarily wildlife, recreation, and roads) are generally limited to wild and scenic river OR values, water quality, fish habitat, and riparian zones through the potential for input of sediment into the stream system and potential vegetation disturbances. Continuing the applied grazing use standards would minimize the threat of increased sediment to streams and reduce the potential for adverse impacts to vegetation communities by livestock. Project stipulations applied to any planned NF actions (includes grazing use standards, and burn buffer strips) are designed to minimize the threat of excessive sediment loads into the stream systems. Excessive sediment loads through private land activities and disbursed recreational activities is generally uncontrolled. This alternative would provide adequate protection through maintained aquatic and riparian habitats while contributing limited additional adverse impacts to the water related resources due to the long duration grazing season, standards applied at the end of grazing season, and periodic growing season rest periods.

Summary of Alternative 1 Impacts on Affected Resources
Although impacts to a variety of resources are likely, no significant individual or cumulative adverse impacts are anticipated as a result of this alternative.

Alternative 2: Modification of Permit with Terms and Conditions

Threatened and Endangered Species: Fish: Native Fisheries
Threatened and Endangered Species fish, other fish species, and their associated habitats would be expected to improve under this alternative. Grazing use, even though extended to include periodic fall use periods, would be restricted through the proposed grazing standards in this alternative to avoid heavy grazing, browsing or excessive bank shearing. The 4" and 6" median stubble height standards (depending upon season of use) would ensure herbaceous communities are allowed enough stubble for regrowth and vigor enhancement. The 50% livestock browse standard on seedling and young age class woody riparian species would ensure that sufficient woody vegetation is left intact to allow for stream shading, normal growth characteristics and age structure. The bank shearing standardwould assure that streambanks are left intact with 10% or less bank shearing due to livestock. The combined effects of the above standards are expected to avoid excessive sedimentation to the stream.

Implementing an August 10 exclusion date for cattle use along Herd Creek, or when spawning salmon are present, as-recommended in the Herd Creek Watershed Analysis (1997), is expected to provide ample protection to spawning habitat for both anadromous fish and bull trout.

Vegetation Types and Rangeland Resources

Upland vegetation types would be maintained or improved with this alternative. Although livestock could be present throughout the growing season, utilization standards would limit livestock grazing to light to moderate. This restriction, coupled with pasture deferment and rest would result in improved upland vegetation communities. Weed distribution is a threat under this alternative paralleling the distribution of livestock. However, weed establishment would be somewhat reduced through upland use standards resulting in reduced potential for localized site disturbances.

Threatened/Endangered/Sensitive (TES) Plants

TES plants and their habitats are expected to be maintained under this alternative. These plants do not provide forage value to livestock and are therefor not grazed at any significant level. With the increased grazing pressure provided by this alternative, trampling of individual plants is possible, however not at a significant level. The applied grazing use standard would reduce this threat by limiting repeat grazing and localized areas of heavy grazing.

Soils

Soil cover and stability is expected to be maintained or improved under this alternative due to the limited scheduled grazing. With light to moderate grazing early in the growing season, soil cover from litter would increase overall. Some compaction may occur from livestock grazing while the upland soils are moist. This situation would be a localized event (i.e. north slopes) and minimal in extent. With the resulting improved soil cover accelerated soil erosion is not expected.

Although a longer grazing season is provided with this alternative strict conformance to no more than moderate use levels would provide the adequate soil cover and protection from accelerated soil erosion.

Water Quality

Water quality would likely improve under this alternative. Limited livestock use and presence through the application of grazing standards would improve woody and herbaceous plant communities and stabilize streambanks. Stream shading and sediment yield would be improved resulting in positive impacts to water quality.

Wilderness Study Area

Proposed livestock numbers, herd rotation, seasons of use, and resource use standards are expected to help enhance naturalness and opportunities for solitude within the Jerry Peak and Jerry Peak West Wilderness Study Areas. Improvement in natural vegetative communities is expected to occur.

Recreation
Recreational values would be maintained or improved under this alternative. Conflicts between recreationists and livestock would be minimal due to the applied grazing standards and defined deferment/rest grazing schedule that provides opportunities to avoid livestock interactions.

Cultural Resources
Cultural sites are expected to be maintained or improved under this alternative due to regulated livestock grazing use on upland and riparian habitats. Cultural sites associated with upland wetland spring areas are expected to be maintained under this alternative. Only slight improvement can be expected on these areas as a result of applied upland grazing use standards. Grazing impacts associated with riparian areas along perennial streams may have a direct effect to cultural sites, but these would be lessened under the grazing use standards proposed in this alternative.

Economic/Social Values
Individual ranch economies would likely be adversely impacted by this alternative due to the additional livestock handling requirements needed to successfully meet the grazing standards during the scheduled periods of use. Hiring additional riders or re-distributing the ranch personnel would likely be needed. These additional operating costs are not likely to be significant. The added expenses could be dealt with by both operators collectively, which would possibly alleviate or re-distribute some of the cost burden.

Floodplains/Wetlands/Riparian Zones
Floodplains and riparian zone conditions are expected to be enhanced due to the application of the grazing use and bank shearing standards that would apply during the scheduled grazing period, coupled with the deferment/rest grazing schedule. These standards would ensure riparian vegetation is not excessively grazed or browsed and is provided the opportunity to improve vigor, growth form and age distribution. Undesirable plant communities (i.e. bluegrass) would gradually succumb to desirable hydric plant communities. Stream systems currently in functional-at-risk would become properly functioning with improved plant compositions and balanced sediment/energy dissipating stream systems. Wetlands associated with upland springs and seeps would be maintained under this alternative with grazing standards only applied to upland utilization levels and not specifically to wetland sites.

Wildlife
Same as Alternative 1, except: utilization limits on bluebunch wheatgrass during the critical growth period is expected to provide more herbaceous cover and forage for wildlife. In addition, the stubble-height, woody use, and streambank shearing standards may help to maintain and improve habitat for riparian-dependent wildlife species more than the standards under Alternative 1. Reduced levels of livestock use in riparian areas would also result in less disturbance and displacement of wildlife from riparian habitats.

Wild and Scenic Rivers (W&SR)
The outstandingly remarkable values associated with the eligible river segments and suitable Herd Creek segment would be maintained or improved under this alternative. This alternative

would ensure that outstandingly remarkable values such as the anadromous and native fisheries and cultural resources, are maintained and enhanced by the additional protection afforded within the W&SR corridor, through the application of stubble, browse, and bank shearing grazing use standards, coupled with the deferment and rest grazing schedule presented in this alternative. These type of prescriptive livestock grazing actions have also been analyzed in the Challis Proposed Resource Management Plan (PRMP), and have been found compatible with Wild and Scenic Rivers, Goal 1: number 1 (a). Livestock grazing management under this alternative would maintain the level of development that resulted in the segments' tentative classifications, ensure non-degradation of outstandingly remarkable (OR) values, and would protect free-flowing characteristics.

Indirect Impacts
No additional indirect impacts are expected under this alternative.

Cumulative Impacts
Cumulative impacts under this alternative are likely to be similar to those described in Alternative 1. However, the application of additional grazing use standards would reduce livestock induced stream sedimentation and provide opportunities for habitat protection and improvement. Adverse impacts from cumulative sediment loads from other actions would be minimal.

Summary of Alternative 2 Impacts to Affected Resources

Positive individual and cumulative impacts are anticipated as a result of this alternative. No significant individual or cumulative adverse impacts are anticipated as a result of this alternative.

Alternative 3: Livestock Controlled Timed Grazing

Threatened and Endangered Species (TES) Fish; Native Fisheries
Impacts of permit issueance under the terms and conditions of use described for this alternative are expected to be very similiar as those described for the proposed action, alternative 2. TES fish, other fish species and their habitats would be expected to improve under this alternative. Livestock grazing on accessible streams is permissible but, the very short time frames followed by extensive rest periods would provide for vegetative regrowth and streambank stabilization. The applied terms and conditions would prevent excessive livestock grazing impacts from occurring on the grazed paddocks. Specific sub-watersheds or drainages with critical fish habitat or unacceptable conditions could be avoided under this alternative grazing strategy for extended periods through improved livestock control practices providing additional opportunities for rapid, site specific improvement.

Vegetation Types and Rangeland Resources
Upland vegetation types would be maintained or improved under this alternative. Utilization is expected to be light to moderate with this type of grazing system since the livestock are encouraged to move rapidly through the scheduled paddock avoiding opportunities to re-graze

individual plants or to concentrate for extended periods of time. The relatively light grazing use and extended rest periods would ensure regrowth opportunities for improved plant vigor and seed production. Added flexibility allows means to avoid areas of low production, fragile soils, or other sensitive areas. of concern. Livestock concentration areas where soils are left bare and susceptible to weed invasion are minimized under this alternative. Weed distribution and establishment is similar for this alternative as indicated in Alternative 2. However, localized disturbed areas and weed infestations can be avoided through controlled livestock herding. Individual paddocks or drainages can be totally avoided for extended periods to allow weed treatment activities to succeed.

Threatened/Endangered/Sensitive Plants
Same as Alternative 2.

Soils
Soil plant and litter cover and soil stability are likely to be improved under this alternative due to the limited grazing utilization, improved regrowth potential, and the extended rest periods being provided. Soil compaction is possible on the early grazed areas with large numbers of livestock, where soils are still moist. This situation is likely to be localized (north slopes) and minimal in extent. Areas with exposed soils (low production areas) and fragile soil sites can be avoided with improved livestock control practices reducing the threat of accelerated soil erosion from these locations. Livestock concentration areas where soils are left bare and highly susceptible to accelerated erosion would also be minimized under this alternative.

Water Quality
Same as Alternative 2. Although livestock use would occur on most stream segments under this alternative, the short duration, extended rest periods, and applied terms and conditions would improve water quality through improved streambank stability and improved woody and herbaceous plant communities.

Wilderness Study Area
Same as Alternative 2.

Recreation
Recreational values would be maintained or slightly decreased under this alternative. Although upland, riparian, and aquatic habitat conditions are likely to be improved under this alternative, recreational values may be hindered due to the lack of a structured livestock grazing schedule. Recreationists desiring a "livestock free" recreational experience would be forced to coordinate their activities around the annual operating plan. Although potential impacts may exist, they are not considered significant.

Cultural Resources
Same as Alternative 2, except cultural sites associated with upland wetland spring areas are expected to be maintained or possibly improved under this alternative due to the short duration of livestock presence and reduced potential for livestock concentration resulting in reduced soil compaction and site disturbance. In addition, sites of special concern can be

avoided altogether through controlled livestock herding.

Economic/Social Values
Same as Alternative 2. In addition, livestock control measures may need to be enhanced when paddocks or other areas are closed to grazing either seasonally or yearlong for other resource concerns. This requirement may necessitate hiring additional handlers or further redistribution of ranch personnel at additional expense.

Floodplains/Wetlands/Riparian Zones
Same as Alternative 2. In addition, application of use standards coupled with extended grazing rest periods in the short duration grazing system would be expected to accelerate improvement. Applying standards would ensure riparian vegetation is not excessively grazed or browsed and is provided the opportunity to improve vigor, growth form and age distribution. Undesirable plant communities (i.e. bluegrass) would be replaced by hydric plant communities. Stream functionality would be restored with improved plant compositions and balanced sediment/energy dissipating stream systems. With the added livestock control and flexibility, areas of concern can be removed from grazing for extended periods until conditions indicate grazing can resume. Wetlands associated with upland springs & seeps would be maintained or improved under this alternative through reduced livestock concentration and soil compaction reducing site disturbance.

Wildlife
Same as Alternative 2, except: It is expected that livestock numbers would be greater per unit area of land (higher density of livestock) in smaller paddocks or pastures. Higher livestock numbers in smaller areas would increase the potential for disturbance and displacement of wildlife within the paddock.

Wild and Scenic Rivers
Same as Alternative 2.

Indirect Impacts
No additional indirect impacts are expected under this alternative.

Cumulative Impacts
Same as Alternative 1. In addition, the application of grazing use standards during the scheduled grazing periods, the increased ability to control livestock to avoid areas of concern, and the limited durations of grazing in any paddock would be expected to provide more protection to sensitive riparian habitats and also may provide good opportunities for site specific upland watershed and riparian/stream reach habitat improvement.

Private, state and county interests are interspersed within the allotment, and are not managed by BLM. Private lands actions include upland grazing, diversions of parts of most streams onto private land for agricultural irrigation, riparian zone use for grazing purposes (water, feed, shade), and private residences. Uses for recreational purposes include fishing, hunting, hiking, sightseeing, and camping. County actions within the allotment include road

maintenance, telephone and power line maintenance along county and private road rights-of-ways and occasional use of materials sites in upland areas. All of the aforementioned activities hold the potential to increase natural geologic erosion rates, and deposit sediment into stream systems. The additive effects of authorized livestock grazing in accordance with the terms and conditions proposed in this alternative are not expected to be significant.

Summary of Alternative 3 Impacts to Affected Resources
Same as Alternative 2.

Alternative 4: Emphasis on Conservative Grazing Use

Threatened and Endangered Species (TES) Fish; Native Fisheries
Same as Alternative 2, except that more rapid improvement of riparian vegetation and fish habitat would be expected as a result of lower livestock numbers and more stringent grazing use standards. Population numbers, viability, and productivity of fish populations would be expected to show a gradual long term trend of improvement, possibly more easily detectible under this alternative than under any of those previously described. There would be a high probability that riparian vegetation and fish habitats would improve to a healthy, functional state within a shorter time-frame. Trampling, wood gathering and associated disturbance of riparian vegetation due to an expected increase in recreational activities could possibly result in erosion & sedimentation of aquatic habitats at localized sites during periods of high use (hunting season, etc) if the expected increase in recreation use was unregulated.

Vegetation Types and Rangeland Resources
Same as Alternative 2, except upland plant communities are expected to improve more rapidly as a result of more restrictive grazing management (i.e. 30-50% utilization criteria, shorter grazing periods, rest treatments applied to all pastures, etc.). Upland plant communities in less than satisfactory condition near livestock water sources, adjacent to riparian areas, and on gentle slopes would receive less grazing pressure and would be likely to show improvement in vigor, vegetative cover and general health. Increased recreation activities may impact upland plant communities in terms of disturbance from off- highway vehicle use and potential for wildfire.

More residual forage would be left on the uplands, increasing the fine fuel load and thus the risk for higher intensity wildfires, and more acres burned.

Threatened/Endangered/Sensitive Plants
Effects on Special status plants from trampling, grazing and trailing would be the lowest under this alternative due to fewer livestock numbers, shorter periods of grazing use and more frequent rest treatments. Damage to special status plants could result from greater occurrence of motorized vehicle use in riparian areas, although the incidence of occurrence is expected to be infrequent.

Soils
Potential for soil erosion and compaction would be limited to livestock concentration areas, such as springs and stream crossings. Susceptibility of soils to erosion and compaction

would be lowest under this alternative due to the expected improvement of plant vigor and cover on upland sites and on floodplains.

The potential increase in recreation activity that is expected under this alternative may result in soil compaction and increased susceptibility to erosion on heavily used recreation sites on floodplains and riparian areas.

Water Quality

Water quality is expected to improve more rapidly under this alternative as a result of lower livestock numbers, a 6-inch stubble-height standard in all stream areas, and a minimum 3" stubble standard on all upland seeps & springs, and also more frequent growing season rest periods. Fewer number of livestock crossing and watering points would be expected as a result of lower livestock numbers, thus reducing sediment input from erosion and bank shearing & the amount of livestock waste entering streams. Water quality would also be improved by standards that would increase riparian vegetation & limit cattle trampling and nutrient input. Water quality may be slightly limited as a result of the expected increase in recreational activities under this alternative. Hiking, trampling, wood gathering and associated disturbance of riparian vegetation may potentially increase, and may result in erosion and sedimentation at some sites during periods of heavy use (hunting season, etc.).

Wilderness Study Area

Under this alternative naturalness and opportunities for solitude within the Jerry Peak and Jerry Peak West Wilderness Study Areas would be improved with the associated reduction of livestock numbers, and improvement of riparian areas, uplands, & associated springs & seeps.

Recreation

Recreation opportunities and quality would be enhanced greatly by the upward trend of upland, riparian and aquatic habitat conditions expected under this alternative. Numbers of visitor days for primitive camping, backpacking, hunting, off highway vehicle use, horseback riding, and sightseeing would be expected to increase.

Cultural Resources

Cultural resources would be protected from livestock grazing more than under any other alternative as a result of lower livestock numbers, and more frequent growing season rest periods in riparian pastures. As a result of stubble-height standards, most upland springs and seeps would be expected to be maintained or slightly enhanced under this alternative and thus would benefit cultural resources associated with seeps and springs. Cultural resources could be adversely impacted with expected increases in outdoor recreation, due to gathering or destroying artifacts and site disturbance at or near popular recreational sites.

Economic/Social Values

The permittees would be impacted by the reduction in authorized livestock grazing which may reduce the profitability of the operation. It is unlikely that the reduction in herd size would be significant at the regional economic or societal level. The 6-inch stubble-height standard on all riparian areas (including a 3" std. on springs and seeps) would require

substantial riding and herding of cattle by the permittee in order to ensure that stubble-height standards are met.

Floodplains/Wetlands/Riparian Zones
Floodplain function and hydric vegetation would continue to be influenced by livestock grazing, but at a much reduced level compared to other alternatives because of lower livestock numbers, a 6-inch stubble-height standard and more frequent growing season rest periods.

As a result of stubble-height standards, most upland springs and seeps would improve under this alternative with increased herbaceous and woody vegetation, and less soil disturbance. Recreation activities are expected to increase under this alternative, and may adversely affect floodplain function through increased bank instability and vegetation disturbance from foot, horse, and off-road vehicle trampling and wood gathering. The impacts may become substantial at certain popular sites on Lake Creek and lower Herd Creek during periods of high intensity use (summer camping, fall hunting season, etc.).

Wildlife
Same as Alternative 2, except: Effects of competition would be less than under any other alternative due to lower livestock numbers and more restrictive grazing management. Wildlife species that require herbaceous vegetative cover may increase in abundance.

Wild and Scenic Rivers
Same as Alternative 2, except that reduced livestock numbers and more restrictive grazing use standards would be more likely to maintain or enhance outstandingly remarkable (OR) values by improving the functionality of riparian areas, improving both native and anadramous fish habitat and other aquatic and water quality parameters. Cultural resources are expected to be maintained, even though the risk from human impacts could be greater under this alternative.

Recreation activities are expected to increase under this alternative, and may adversely affect OR values from trampling, streambank disturbance, wood gathering, site disturbance, and gathering or destroying artifacts. The impacts may become substantial at certain popular sites on Herd & Lake Creeks during periods of high intensity use (hunting season, etc.), but such impacts could be mitigated by actions such as signing, and the designation of access points to reduce pressure on known cultural sites.

Indirect Impacts
No additional indirect impacts are expected under this alternative.

Cumulative Impacts
Although cumulative impacts would be similar to those detailed in Alternatives 1 and 2, this alternative would contribute the least cumulative impacts to those occurring from other ongoing or proposed actions due to the lesser degree of impacts expected from fewer livestock.

Summary of Alternative 4 Impacts to Affected Resources

Positive individual and cumulative impacts are anticipated as a result of this alternative. No significant individual or cumulative adverse impacts are anticipated as a result of this alternative.

CONSULTATION AND COORDINATION

Persons and Agencies Consulted: Jim Bennetts, Gary & Jackie Ingram, permittees; Jon Marvel, Glenn Hockett, Lynne Stone, Linn Kinncannon, interested publics; Mike Larkin, Idaho Department of Fish and Game Region 7; Dale Brege, NMFS; Kaz Thea, U.S. Fish and Wildlife Service; Alliance for the Wild Rockies; Idaho Rivers United; The Wilderness Society; Committee for Idaho's High Desert; Idaho Cattleman's Association; Sierra Club; Idaho Wildlife Federation; Custer County Commissioners; Idaho Dept. of Lands; Idaho Dept. of Agriculture; USDA Forest Service Challis Ranger District; Shoshone - Bannock Tribes.

List of Preparers: Russ Riebe, Rangeland Management Specialist; Kate Forster, Fisheries Biologist; Jerry Gregson, Wildlife Biologist; Pete Sozzi, Outdoor Rec Planner/Wilderness Coordinator; Linda Clark, Archaeologist; Bill Diage, Ecologist.

Reviewed By: Kathe Rhodes Planning and Environmental Coordinator

Kathe Rhodes

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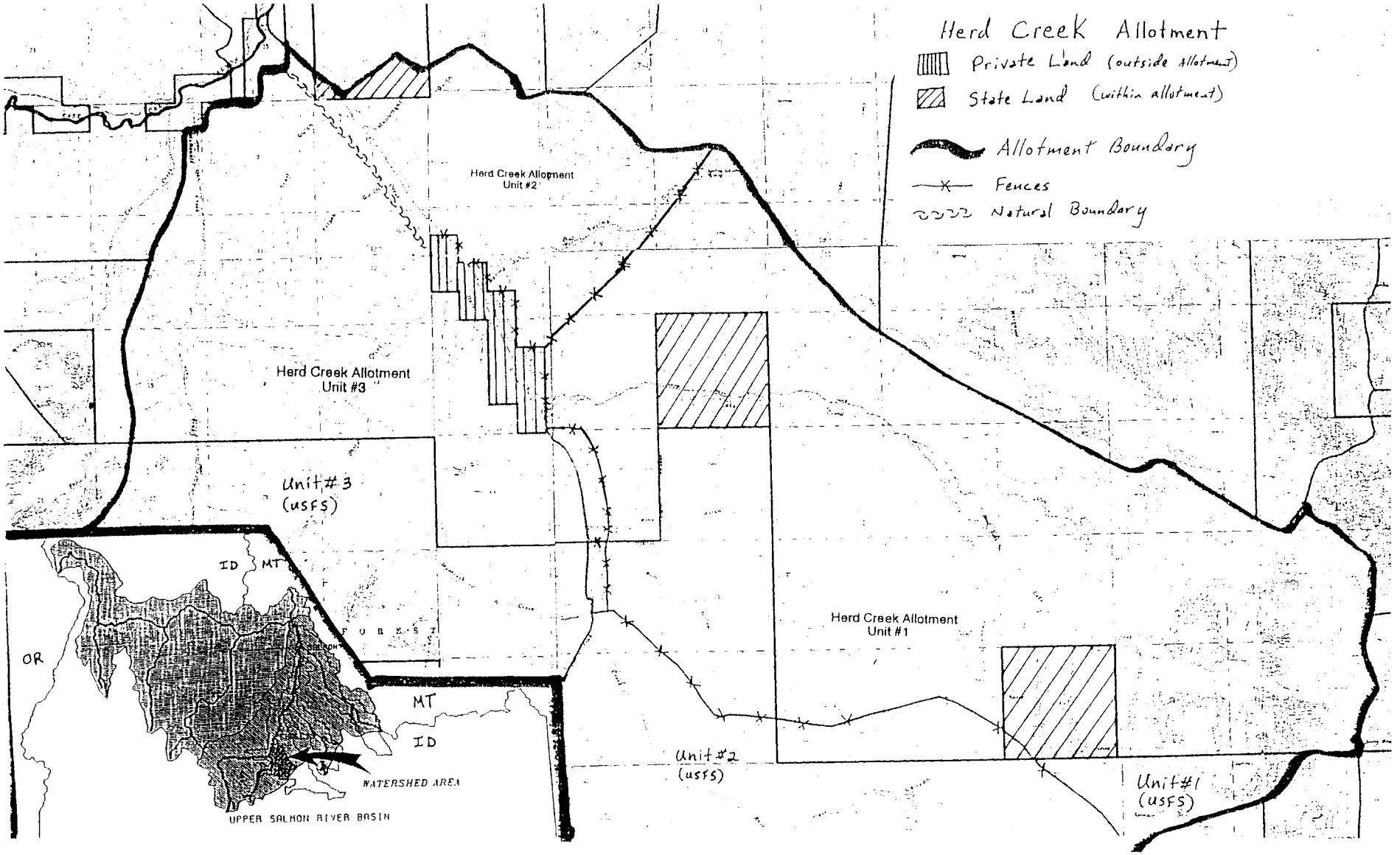
Herd Creek Allotment
Private Land (outside allotment)
State Land (within allotment)
Allotment Boundary
Fences
Natural Boundary
Herd Creek Allotment Unit #2
Herd Creek Allotment Unit #3
Unit #3 (USFS)
Herd Creek Allotment Unit #1
Unit #2 (USFS)
Unit #1 (USFS)
ID
MT
OR
MT
ID
WATERSHED AREA
UPPER SALMON RIVER BASIN