MANAGEMENT PLAN

EMPIRE C&H ALLOTMENT

REPUBLIC RANGER DISTRICT

COLVILLE NATIONAL FOREST

REGION SIX

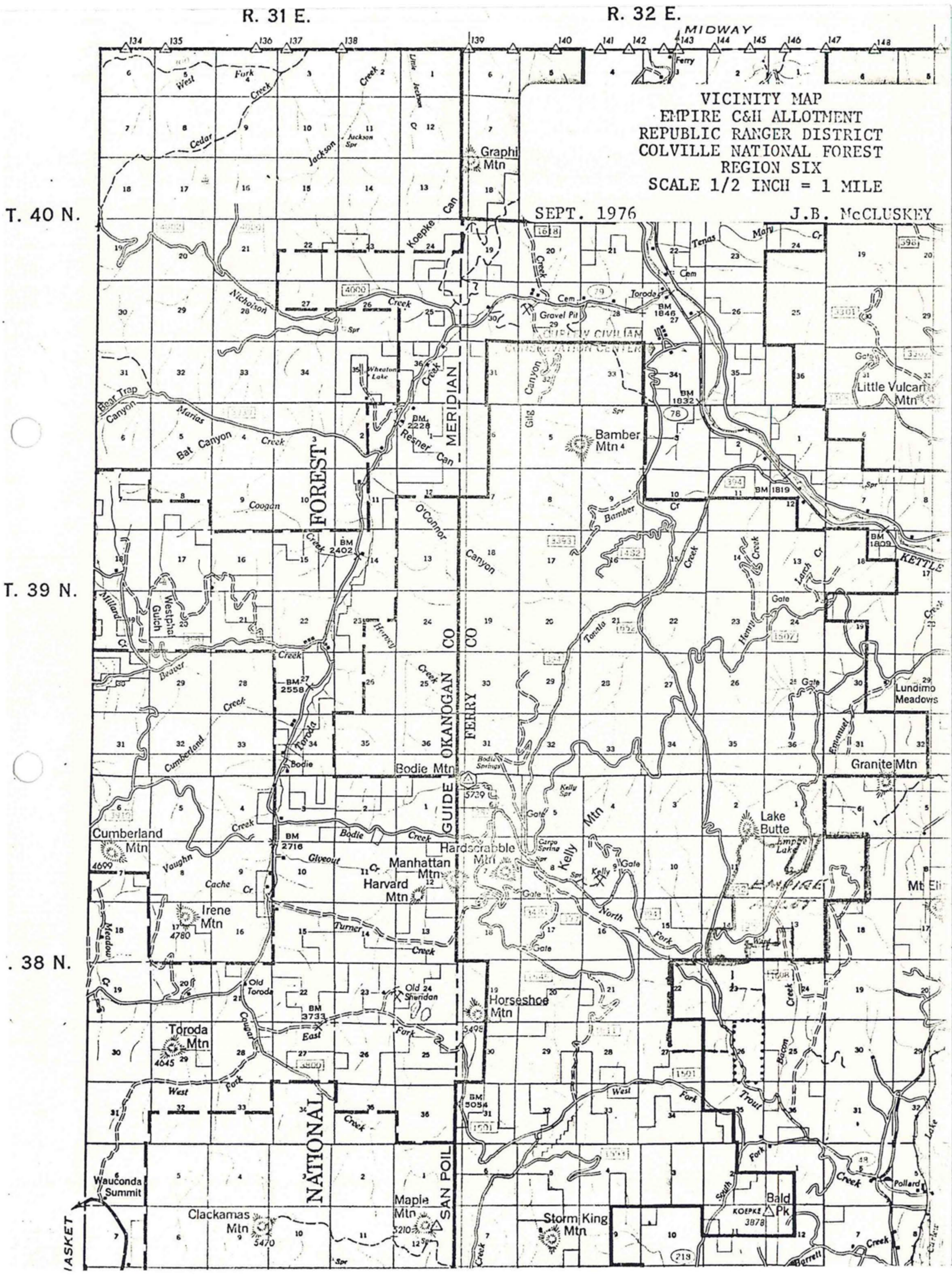
Prepared by: _____ Date Sept 10, 1976
Range Conservationist

Reviewed by: _____ Date Sept 10, 76
Permittee

Recommended by: _____ Date 9-16-76
District Ranger

Recommended by: _____ Date 9/30/76
Range Staff

Approved by: _____ Date 10/1/76
Forest Supervisor


VICINITY MAP
EMPIRE C&H ALLOTMENT
REPUBLIC RANGER DISTRICT
COLVILLE NATIONAL FOREST
REGION SIX
SCALE 1/2 INCH = 1 MILE
SEPT. 1976
J.B. McCLUSKEY
R. 31 E.
R. 32 E.
T. 40 N.
T. 39 N.
. 38 N.
MIDWAY
Ferry
Graphi Mtn
Koepke Can
Nicholson
Cedar Creek
Jackson Spr
Tenas Mary Cr
Toroda
Cem
Gravel Pit
BM 1846
BM 1832
Little Vulcan Mtn
Bear Trap Canyon
Marias Creek
Bat Canyon
Resner Can
BM 2228
Bamber Mtn
Bamber Cr
Gilg Canyon
O'Connor Canyon
Coogan
BM 2402
BM 1819
BM 1809
KETTLE
Larch Cr
Gate
Westphal Gulch
Millard Cr
Beaver Creek
Toroda Creek
BM 2558
Cumberland Creek
Lundimo Meadows
Emanuel
Granite Mtn
Bodie
Bodie Mtn
Bodie Springs
5739
Kelly Spr
Kelly Mtn
Lake Butte
Empire Lake
Cumberland Mtn
4699
Bodie Creek
BM 2716
Vaughn
Gloveout Cr
Manhattan Mtn
Harvard Mtn
Hardscrabble Mtn
Cargo Spring
Cache Cr
Irene Mtn
4780
Turner Creek
North Fork
Mt Eli
Meadow Cr
Old Toroda
Old Sheridan
BM 3733
East Fork
Horseshoe Mtn
5498
Toroda Mtn
4645
Cougar
West Fork Creek
BM 5054
Trout
Bacon Creek
Wauconda Summit
Clackamas Mtn
5470
Maple Mtn
5210
Storm King Mtn
South Fork
Bald Pk
KOEPKE
3878
Pollard
Barrett
Lake
TONASKET
FOREST
NATIONAL
MERIDIAN
OKANOGAN CO
FERRY CO
GUIDE
SAN POIL

I. Management Objectives

A. Implement range management which avoids unacceptable resource damage.
B. Optimize usable forage production and utilization in coordination with other resources.
C. Maximize permittee participation and responsibility in planning and executing the allotment management plan.

II. Management Requirements

A. Establish a rotational grazing system.
B. Adhere to the livestock management requirements.
C. Implement and maintain needed structural and non-structural range improvements.
D. Monitor and evaluate requirements towards meeting management objectives.

III. Allowable Use Criteria

A. Unacceptable resource damage is defined as:

1. Basic Resource Damage due to livestock grazing is soil loss, soil displacement, or soil compaction that impairs productivity of soil and water below the level restored naturally during the grazing cycle.

Definitions of terms used above:

a. Soil Loss - Soil which has entered the stream channel, whether permanent or intermittent or permanently removed by wind.
b. Soil Displacement - Soil which has been redistributed without entering the stream channel or being redistributed by the wind.
c. Soil Compaction. Is an increase in the bulk density which extends beyond one grazing cycle. (Vertical displacement).
d. Examples of acceptable areas where damage limits may not apply i.e.:
   1. Water developments
   2. Trails
   3. Corrals

2. Damage to Resources Other Than the Basic Soil Resource occuring when resource management objectives are not met. For the purpose of this definition, damage to vegetation is limited to too much or unplanned use.

B. Range readiness based on the soil conditions and growth stage of key plants. See Section IX, Evaluation supplementry.

C. Optimum use (% utilization), deferment or rest based on key plant physiology requirements for forage productions, vigor, regrowth, and reproduction. See Section IX, Evaluation supplementry.

D. Domestic livestock grazing is limited to cattle under this plan.

IV. Allotment Area and Estimated Capacity

The Empire Cattle allotment is a small coniferous type range with considerable past and present logging activity and cut over lands. The planned Allotment is comprised of 3,420 acres, gross not including 160 acres of privately controlled (City of Seattle) fenced lands within the National Forest boundary nor 320 acres of State Lands being sought. See Table 1 and Appendix I for a summary of Allotment lands.

Table 1. Summary of Allotment Lands

Ownership	Gross Acres	Suitable Acres	Indicated CM
National Forest	2460	1980	301
Romie Hilderbrant	960	575	84
Sub total	3420	2555	385
Lands with Potential Affiliation			
City of Seattle	160	120	20
State DNR S.26	320	205	30
Sub total	480	325	50
Total (all lands)	3,900	2,880	435

Non affiliated lands will not be included for carrying capacity or for recommended stocking and permits.

Animal Unit Months (cow months) are based on up to 50% utilization of acres of potential forage production (PFP) and the daily, dry weight forage requirement (34 lbs) for a 1,000 pound cow with a 350 pound calf at side.

Classes of potential forage production (PFP) acres (see appendix I for acres) required per annual unit months (cow month) are shown in Table 2.

Table 2: Class/Potential Forage Production/Acres per CM

Class	PFP Pounds per acre	Acres Per CM
Good	500+	4
Fair	300-500	4-8
Low	less than 300	8+

Approximately 50 acres surrounding the Empire lakes is closed to domestic grazing and is partitioned off by natural barriers and/or drift fences with cattleguards on the main access road F.D. Rd. No. 393. See Vicinity Map on Appendix map____.

The smallness of the existing allotment does not enhance partitioning of the allotment into two or more units. To continue the present continuous grazing system would require permitted stocking and use under the key area concept. In lieu of establish key area data, using the indicated primary range (79% of suitable acres) capacity, the estimated capacity 262 CM at 100 % efficiency; estimating an 80-85% efficiency the projected carrying capacity would be 223 CM (262 X 85% = 222.7 CM.) or approximately 45 cattle for 5 months or 50 head for 4½ months grazing period. However, it must be brought out that this is a fairly liberal projection pending hard key area and capacity data which may result in a lesser capacity. There fore it is considered more desirable to affiliate the existing allotment with other contiguous lands to afford a simple rotational system. The indicated sub-total carrying capacity for National Forest and permittee controlled affiliated lands is 385 annual unit months (cow months). However, this is considered only an indicator or benchmark. Further it is estimated that only 80 - 85% of the actual suitable acres will be realized in any one year period (385 CM X 85% = 327 CM). So the estimated capacity would approximate 327 CM.

V. Management System, Recommended Stocking & Permits

The grazing system will be a simple 2 unit deferred rotation (alternation) system of 153 days annual grazing period from June 1st to October 31st.

Table 3: Deferred Rotation System

Cycle Year	Grazing Periods and Unit Sequence Early Season	Late Season
First (odd yr.)	1	2
Second (even yr.)	2	1

Repeat Cycle

All permitted cattle are to be in the same unit at the same time.

A summary of units and tentative or planned use are shown in Table 4.

Table 4: Summary of Units and Planned Use

Item	Unit 1	Unit 2	Totals
Gross acres (N.F.)	2,300	160	2,460
Gross acres (pvt.)	-	960	960
Sub total (all)	2,300	1,120	2,420
Suitable acres(N.F.)	1,980	160	2,140
Suitable acres(pvt.)	-	575	575
Sub total	1,980	735	2,715
Indicated CM (N.F.)	275	26	301
Indicated CM (pvt.)	-	84	84
Sub total	275	110	385
Planned Cattle	65	65	65
Planned Days	110	43	153
Planned CM	238	93	331
Planned S.A./CM	8.32	7.90	8.2

Adjustments will be made as needed.

Contingent on the deferred rotational system being fully operational and the current permitted use substantiating and indicating an upward forage condition and trend, the recommended stocking and permit are shown in Table 5.

The present permitted use for the sole permittee, Romie Hilderbrant is 58 cattle, term June 1st to October 31st for 290 CM (fiscal) (actually 295 CM, 58 cattle X 153 days ÷ 30 =295).

Table 5. Recommended Stocking and Permits

Permittee	Number of cattle by permit				Total Grazing AUM		
Name	Term	Temp	on/off	Pvt land	No	Season	(CM)
R. Hilderbrant	50	-	-	15	65	6/1-10/31	331

This represents and arbitrary reduction of 8 Term Cattle and redistribution of 15 head under a Grazing Permit on account of Private Land. It would also be in line with the recommended stocking and permits under the alternative grazing system.

Affiliation of the 320 acres is State,DNR land S. 26 would qualify for an additional 5 head under a private land permit for an allotment total of 70 cattle June 1st through October 31.

VI. Livestock Management Requirements

A. All permitted cattle must bear a State of Washington registered brand and be one of brands declared on the permittee's grazing application.

B. All permitted cattle must bear a Forest Service approved ear tag and/or accounted for as per Forest Service requirements. See attached Appendix IV.

C. The number and breed of bulls placed on the Allotment range must conform the appropriate association rules and/or state statutes governing such matters.

D. It is the responsibility of the permittees to effect livestock movements and distribution in accordance with the prescribed rotation grazing system, annual plan of use, stock salting system and/or by instructions of the Forest Office in charge. The success of the systems depends on the effort and efficiency of the permittees.

E. Stock salt shall not be placed on or in the immediate proximity of roads, stock watering places or other areas of cattle concentrations. The "Drop" Salting system will be used.

THE "DROP" SALTING SYSTEM: This system puts the salting phase of range management in the hands of the user of the range. The system is flexible to fit the aspects of the individual range and the changing of the seasons. The name "drop" was given to it simply because the salt is dropped or placed in different areas depending on range management needs.

Salt should be placed where there is adequate forage. As that area becomes properly utilized, the salt should be moved, drawing the livestock into the lesser utilized areas. Salt should not be placed on water courses, watering places, main roads and other areas of other concentrated uses.

The range should be salted in amounts in proportion to the number of stock or at least one block for each ten head of cattle.

The first distribution should be made prior to the grazing season or at the time of entering on the range.

F. Construction and maintenance of Range Improvements as per following tables will be carried out in a timely manner for maximum effectiveness. Tables of existing and proposed range improvement construction and maintenance programs are to be revised and/or superceded as status, needs or changes warrant.

TABLE 6

VII RANGE DEVELOPMENT PROGRAM
EXISTING IMPROVEMENTS

Date	IMPROVEMENT Number	Name and Location	CONSTRUCTION RESPONSIBILITY Material	Equip.	Labor	Maint.	FACILITY Type	Capacity-Quantity	Co
1940		Bacon Spring SE s.12 T38N R32E	F.S.	F.S.	F.S./	permittee	plank	200 gal	50(
1960		Empire Spring SE S. 13 T38N R32E	F.S.	F.S.	F.S./	permittee	plank	200 gal	50(
1960		Ward Spring SW S.14 R34E T38N	----------	Romie Hilderbrant		----------	steel	600 gal	50(
1973		Ranger Hogan Spring SW SE S. 11 T38N R32E	F.S.	-----Romie	Hilderbrant	---------	galvanized steel	150	30(
1974		Romie's Spring	----------	Romie Hilderbrant		----------	tank	100	20(
		Fences & Cattleguards							
1967		Empire/Tonata cattleguard SW S.14 T38N R34E	F.S.	F.S.	F.S.	F.S.	8'X14' steel deck treated TBR base	H 20 loading	50(
1967		Goodrich Rd. Fence S.11 & 14 T38N R32E	F.S.	F.S.	F.S./	Tonata % Empire %	4 wire/steel post	1.25 mi	10(
1968		Empire Lake cattleguard SE S.12 T38N R32E	F.S.	F.S.	F.S./	permittee	8'x 14' steel deck treated TBR base	H 20 loading	50(
1968		Empire Lake Fence	F.S.	F.S.	F.S./	permittee	4 wire steel post	0.4 mi	40(
1975		7 Drift Fence S. 7 T38n R32E	F.S.	----------	permittee	----------	4 wire, steel post	0.2 mi	25(

Table 7

RANGE DEVELOPMENT PROGRAM
PROPOSED IMPROVEMENTS

Date	IMPROVEMENT Number	Name and Location	CONSTRUCTION RESPONSIBILITY Material	Equip.	Labor	Maint.	FACILITY Type	Capacity-Quantity	Cos
		New Construction							
		Trout Cr/Empire Fences NE ¼ S. 27 T38N R32E	F.S.	----------	permittee	----------	4 wire Steel post	0.5 mi	1100
		Empire/Henry Cr. Fence, S. 11&12 T38N R32E	F.S.	F.S.	F.S.	F.S.	Allotment Boundry 4 wire, Steel post	0.75 mi	1650
		Reconstruction							
		Water Developments	F.S.	----------	permittee	---------	steel trough 600 gal supply lines, collection ring	5ea @500	2500

VIII. Implementation and Alternatives

Implementation of the 2 unit deferred rotation system is basically a matter of formally commiting the second unit or the private land to the management system under a Grazing Permit on Account of Private Land. The upgrading of the water developments and construction of the proposed new fences on an as needed basis with regard to the natural barrier being deminished by Timber activities would complete the presently planned system.

The recommended alternative is limited to the existing allotment (National Forest lands only) and would be to simply alternate use every other year until establishing an upward trend and a good or better forage condition until such time as key area and key species are firmly established and stocking and permitted use can sustain a good or better condition by the continuous or season long grazing practice annually. The grazing system for the enterim period is shown in Table 8 and the existing allotment is depicted on Appendix Map V and is represented as Unit one only.

Table 8: Alternate- Grazing System Interim

Odd numbered year	No grazing
Even numbered year	Season long grazing

Recommended stocking and permit are based on the interim grazing practice as discussed in Section IV of this plan, and are as follows:

Romie Hilderbrant, 50 cattle, term, 6/1-10/15, 225 CM

This represents a reduction in numbers (8 head term) and grazing season (16 days) correlated to the indicated carrying capacity of 223 CM. Ultimately, use adjustments will have to be based and substantiated on hard documented date.

IX. Evaluation

A. Monitoring of the allotment area and evaluation of the information will be necessary to determine whether management requirements will meet the objectives and/or what if any changes are needed.

Specific or subsequent evaluations, i.e.: Range readiness, key species, key areas, carrying capacities, etc., will be inserted and/or superceded as supplementary or replacement pages to this section.

B. Depending on funds and manpower available, data collection will be limited to several recurrent inspections annually by simple visual and/or minimal measurement, and appropriately recorded and/or graphically displayed on maps. Some of the observations measurements may be made coincidentally with each other. Specific items to be checked for include:

1.	Range Readiness	Vegetative and soil condition.
2.	Pattern of Use	Key areas and key plants.
3.	Utilization	per cent use.
4.	Resource Damage	basic (soil) and other resource.
5.	Range Improvements	Construction and Maintenance compliance.

C. Additional data to be gathered as the situation warrants include:

1.	Plant Vigor	Key plants on key areas.
2.	Soil and Vegetation trends	per grazing system cycle using photo point technique.
3.	Production	Forage weight.

D. Range environmental analysis and mapping will be kept current as significant changes occur, i.e.: transitory range, range conditions, etc.

E. Key areas will be determined from successive observations and utilization checks and graphically recorded on an allotment map overlay.

F. Key plants will be defined from observation and study in conjunction with the determining of key areas and other suitable range lands.

G. A Record of Grazing Use (see Appendix V) will be kept to indicate permitted and/or actual use.

Evaluation: September 8, 1976

Range Readiness: Present indicators and criteria are:

Pinegrass	Caru	4"- 6" foliage leaves
Sandberg bluegrass	Pose	Seed heads in drough stage
Bluebunch wheatgrass	Agsp	8" foliage, seed stalks showing
Idaho fescue	Feid	5" foliage leaves
Common yarrow	Acmi	Flower stalks beginning to show
Arrowleaf balsamroot	Basa	Leaf 3/4" developed, beginning to flower
Serviceberry	Amal	Part of blossoms out
Snowberry	Syal	7-8 pairs (cach bud) leaves unfold

Soils fairly dry and firm.

Key Areas: Are not, as yet, specifically defined and should be eventually determined by subsequent use and utilization pattern monitoring and documentation.

Key Species: Key species may vary with the different key areas, and are yet to be determined. Pinegrass, by virtue of its predominance (70-80%), is a key species.

Every opportunity should be taken to manipulate species and improve species composition with grass specie compatible and complementary to the pinegrass. Pinegrass palatability and nutritive value rapidly deteriorate by mid-summer in the general elevations.

Utilization: Recommended utilization for implementing the deferred rotation system is to approximate 50%. Higher utilization may be attainable for a fully developed rotational system.

Carrying Capacity: Anticipated adjustments will depend on the degree of development and efficiency of operating the grazing system, as well as prevaling climate and forage conditions. The basic potential is there and the rotational system should enhance forage condition, volume, and utilization.

Any private land contributions toward formulating a private land pasture unit should roughly equivalent to one of the Forest Service pasture units. Actual permitted stocking would be dependent on the contributed portion.

The alternate grazing system recommended a shortened grazing season to reduce pressure on non-pinegrass forage, brouse species and potential Deer-cattle conflict, also avoidance of the general deer hunting season and a general economic consideration of having to spend the same amount of time caring for the slightly larger number of cattle (50 head vs 45 head) and a savings on nonimal unused grazing fees for the latter half of October.

The Empire Allotment could be combined with the Henry Creek Allotment as a third unit in a 3 unit deferred rotation system (see Henry Creek Management Plan) , but it is not recommended at this time.

APPENDIX

AREA AND FORAGE PRODUCTION/CONDITION SUMMARY

EMPIRE C&H ALLOTMENT

Colville NATIONAL FOREST Republic RANGER DISTRICT

Compiled September 1976 By

ITEM		NATIONAL FOREST LANDS			ALIENATED OWNERSHIP LANDS			ALLOTMENT TOTAL LANDS	
Acres		Acres	%		Acres	%		Acres	
Gross		2460	100		1280	100		3740	100
(Subject to) CLOSURE					320			320	8
Unusable or UNSUITABLE		480	20	est	500	40+		980	26
SUITABLE		1980	80	est	780	60+		2760	74
PRIMARY (Transitory) (Prime/Sec)		1735	70	est	310	24		2045	55
SECONDARY		245	30	est	470	76		715	19

VEGETATIVE TYPE		%	ACRES BY FORAGE PRODUCTION/CONDITION CLASS Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
P1	100	5	-	50	-	50	-	-	50	50	-
P6	1945	95	50	890	745	-	60	200	50	950	945
SUITABLE Total	2045	100	50	940	745	50	60	200	100	1000	945
S1	20	3	-	20	-	-	-	-	-	20	-
S6	695	97	-	190	35	-	110* 80 *	*155 *125	-	380	315
Sub Total	715	100	-	210	35	-	190	280	-	400	315
SUITABLE	2760	100	50	1150	780	50	250	480	100	1400	1260
		%	2	42	28	2	9	17	4	51	45
					100%						100%

*R.H. **DNR

ALTERNATIVE APPENDIX II
AREA AND FORAGE PRODUCTION/CONDITION SUMMARY

EMPIRE C&H ALLOTMENT

Colville NATIONAL FOREST Republic RANGER DISTRICT

Compiled 1/26/76 By W B R

ITEM	NATIONAL FOREST LANDS			ALIENATED OWNERSHIP LANDS			ALLOTMENT TOTAL LANDS		
Acres		Acres	%		Acres	%		Acres	
Gross		2300	100			100		2300	100
(Subject to) CLOSURE		-						-	
Unusable or UNSUITABLE		480	21					480	21
SUITABLE		1820	79					1820	79
PRIMARY		1735	95					1735	95
(Transitory) (Prime/Sec)		-						-	
SECONDARY		85	5					85	5

VEGETATIVE TYPE	%	ACRES BY FORAGE PRODUCTION/CONDITION CLASS Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
21 50a	3	-	50	-				-	50	-
26 1685a	97	50	890	745				50	890	745
Sub Total 1735a										
		3%	54%	43%				3%	54%	43%
31 20a	24	-	20	-				-	20	-
36 65a	76	-	65	-				-	65	-
Sub total 85a										
		-	100%	-				-	100%	-
SUITABLE 1820	100	50	1025	745				50	1025	745
	%	3	56	41				3	56	41

APPENDIX III

RECORD OF GRAZING USE

EMPIRE C&H Allotment

Republic Ranger District Colville National Forest

Year	Unit or Key Area	Planned/Permitted Use				Actual Use				Proper Use	
		Number	Dates From - To	AUM	% Use	Number	Dates From - To	AUM	% Use	AUM	%
1976											

GRAZING PERMIT - PART 3	Page _____ of _____

RULES FOR EAR TAGS REQUIRED FOR CATTLE GRAZING UNDER

PERMIT ON NATIONAL FOREST CONTROLLED LANDS

1. All permitted cattle, 6 months of age and older, when entering on National Forest controlled lands must bear a Forest Service approved ear tag bearing a sequential number or letter or number/letter character combination identification. Offspring of permitted cattle, under 6 months of age, when entering National Forest controlled lands are not required to bear an ear tag.

2. Permittees will furnish the required ear tags (condition of grazing permit, Part 2, Section 6e) beginning with the 1976 grazing season.

3. Permittees will furnish in writing the identification number of permitted animals put on National Forest controlled lands to the Forest Officer in charge within 10 days of their entry on said controlled lands each grazing permit period.

4. Identification numbers and/or letter characters must be limited to a maximum of four characters, nominally a minimum of one inch in height displayed horizontally on the lower fromt of the ear tag. Line width of characters shall be a minimum of 1/8 inch in a contrasting color to the ear tag color. The required tag must have a display face of a minimum of 2-3/4 inches wide by 2 inches high.

   The permittees recorded brand may also be displayed on the face of the ear tag above the identification number.

   The reverse side (back) of the ear tag may be used for any other identification or data the permittee may wish; name and address, etc.

5. Each permittee must obtain an approved ear tag color from the Forest Service. Colors will be assigned on the basis of the permittees allotment and adjacent permittees, allotments, other adjacent cattle operations and current use of acceptable ear tags.