U. S. D. A. FOREST SERVICE

COLVILLE NATIONAL FOREST

REPUBLIC RANGER DISTRICT

TONATA C&H ALLOTMENT

MANAGEMENT PLAN

Prepared by Walter Bradley Reed — Range Conservationist — Date 6/24/76

Reviewed by Charles Eder — Permittee — Date 8-76

Reviewed by Charles Eder — Permittee — Date 8-76

Reviewed by _____ — Permittee — Date _____

Approval Recommended by Jack Francis — District Ranger — Date 6-30-76

Approval Recommended by Raymond J Evans — Range Staff — Date 7/03/76

Approved by Robert B Tennis — Forest Supervisor — Date 7/23/76

TONATA CATTLE ALLOTMENT

MANAGEMENT PLAN

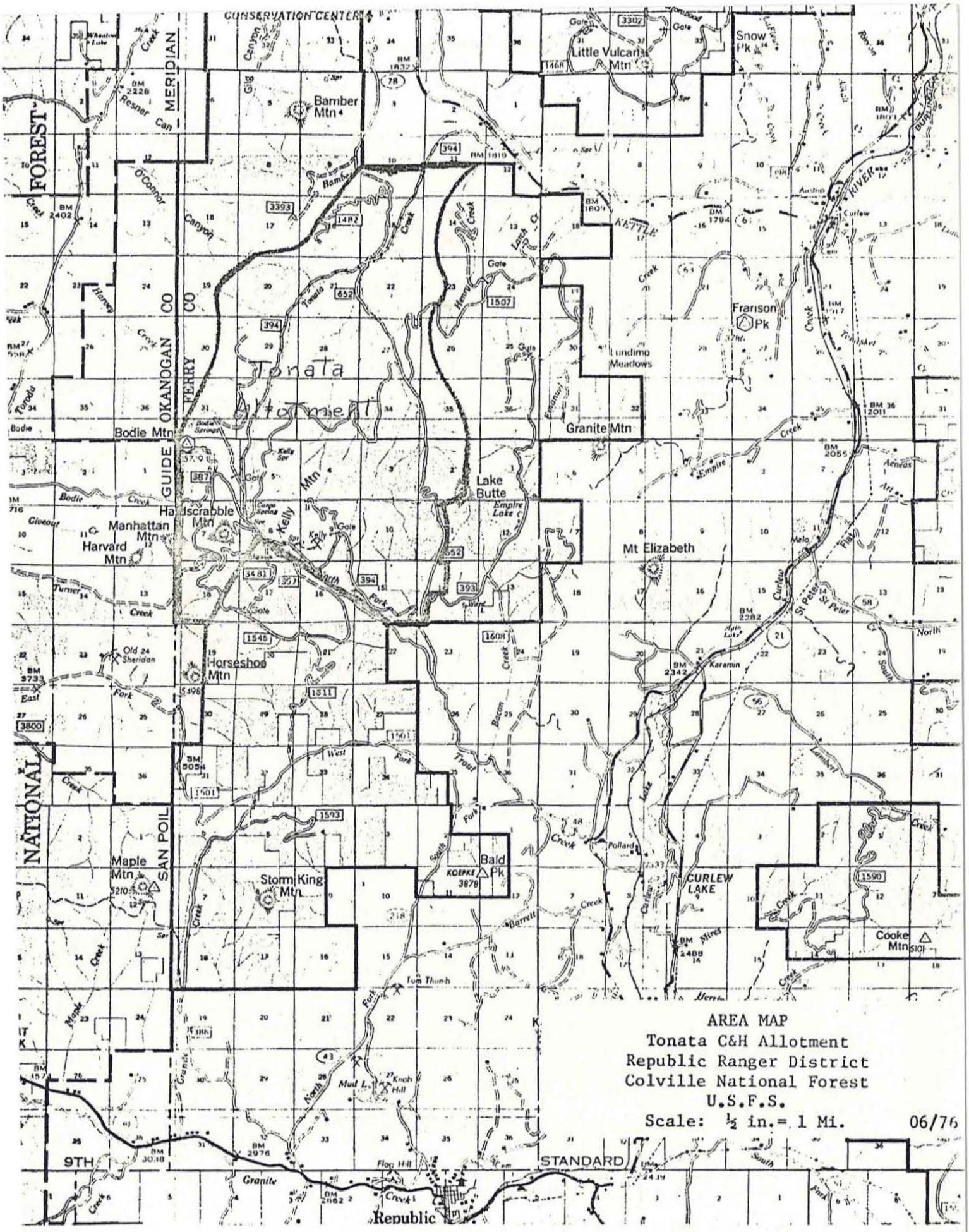
1976

I. INTRODUCTION

The Tonata Allotment encompasses approximately 16,490 acres within the Tonata Creek drainage, tributary to the Kettle River, Ferry County, Washington. The range is primarily composed of moderately dense to open Douglas-fir stands. Creek bottoms are generally heavily timbered, as are many north slopes and old burns. The dominant forage species on these areas is pinegrass (Calamagrostis rubescens). Some areas of open south slope occur on the Allotment. These areas support bluebunch wheatgrass (Agropyron spicatum), Idaho fescue (Festuca idahoensis), and Sandberg's bluegrass (Poa secunda). The aspect of the Allotment is generally north and northeast.

Except for areas of locally heavy livestock concentration, vegetative condition on this range is generally fair to good. At the present time, the main problem confronting proper management of this range is repeated use of the same areas at the same time each year. This, in part, is caused by lack of livestock containment/exclusion facilities and poor livestock distribution.

Prior to 1938 the Tonata Allotment encompassed not only the present Allotment area but also the present Henry Creek and Empire Allotment areas. The present Allotment is managed under a deferred rotation system with no positive means of control, due to lack of fences. Natural pastures are utilized along with riding and salting to implement the system.



AREA MAP
Tonata C&H Allotment
Republic Ranger District
Colville National Forest
U.S.F.S.
Scale: ½ in.= 1 Mi. 06/76

II. INFORMATION SECTION

A. History of Range Use

Recorded history of grazing use on the Tonata Allotment dates back to 1912. At this time the Allotment encompassed not only the present Tonata Allotment, but also the present Henry Creek and Empire Allotments. From 1912, until approximately 1938, both sheep and cattle utilized the area. Sheep generally ranged on the west part of the Allotment and cattle on the east part. In 1933, 246 cattle grazed on the Tonata Allotment from May 1st to October 31st, and 1000 sheep grazed on the Allotment from May 16th to August 15th. These numbers and dates seem to be typical of the use the Allotment received during the period beginning in 1912 and ending in 1937. In 1938, the Tonata Allotment was reduced to approximately its present size and boundaries, and use was limited to 364 cattle from May 1st to October 31st. In 1942, use dates were adjusted to May 16th to October 15th. At this time three permittees, Alex Bremner Sr., A. H. Bremner, and John Eder and Sons were permitted 400 cattle for a total of 2400 animal unit months use. In 1946, the season of use was again adjusted. The opening date was moved back from May 16th to May 21st. Livestock numbers fluctuated between a high of 465 and a low of 300 from 1946 to 1969. In 1970, cattle numbers were stabilized at 369 and the season of use was established from June 1st to October 25th. Permittees at this time were the present permittees, Charles Eder, Charles Eder Jr., and Fred Call. No significant changes in management of the Allotment occurred until 1975 when a deferred rotation system was implemented utilizing three, more-or-less, natural pastures to effect livestock containment/exclusion. Prior to that time, season-long or continuous use management was practiced. Permittees relied on riding, salting and water developments to effect proper livestock distribution.

B. Ranch Operations and Status of Permits

Presently, three permittees are permitted to graze a total of 369 cattle on the Tonata Cattle Allotment from June 1st to October 25th. They are Charles Eder, with a 300-head permit, Charles Eder Jr., with a 63-head permit, and Fred Call, with a 6-head private land permit. The Eders are involved in diversified farming and ranching in the Oroville area of the Okanogan Valley. The cattle portion of their operations are primarily cow-calf operations. Only a portion of their cattle graze on the Tonata Allotment during the summer season. The remainder of their cattle are pastured on owned or leased lands. In addition to their home ranches in the Okanogan Valley, the Eders own or otherwise control, lands adjacent to the west boundary of the Allotment which they use for spring and fall range for their

permitted cattle. The Eders have no commensurability problems, they rely on National Forest for their summer range.

Fred Call is a retired gentleman who keeps cattle for supplemental income and personal use. His six-head permit is based on 320 acres of private lands that he controls within the Allotment. Mr. Call owns and operates a small farm near Republic. He relies on his controlled lands within the National Forest for summer range.

It is unlikely that this permit will be considered for reissuance after Mr. Call no longer uses it.

C. Current Status of Management

A deferred rotation system of use was initiated in 1975. This system was designed to defer part of the Allotment until after seed-ripe time each year to allow for increased plant reproduction and vigor. No internal management fences exist at this time. Three natural pasture units, along with intensive riding and salting are used to effect livestock control. Only moderate success has been achieved by these methods thus far. There is an apparent need for strategically located management fences to insure positive livestock control.

D. Condition and Trend of the Resource

Range Allotment analysis was updated in 1975. Vegetative condition was generally found to be fair to good. However, significant areas in poor condition were found, particularly in the bunchgrass types on the west side of the Allotment. Increased plant vigor was noted on the deferred unit in 1975. Continuance of the deferred rotation system of use is expected to bring about an upward vegetative trend with a result of greatly improved vegetative condition.

E. Estimated Grazing Capacity

A summary of the grazing evalutation of Area (acreage) and Forage Production Condition classification, attached (Appendix I) has been compiled from the attached Range Vegetation Map (Appendix II) and Range Forage Production by soil types (Appendix III). 1/ The Potential Forage Production (P.F.P.) expressed in animal unit months (AUM's) is based on the daily dry weight forage requirements (34 pounds) for a 1,000 pound cow with a 350-pound calf at side and a 50% utilization factor class as per the following table:

1/ Soils of the Republic and Kettle Falls Ranger Districts, Colville National Forest, Washington, November 1969.

Table 1: Potential Forage Production Classes

Class	Pounds Per Acre	Acres Per C.M.
Good	500 lbs. +	4
Fair	300 - 500	4-8
Low	300 or less	8

The potential forage production for the Tonata Allotment is 2110 AUM's. This is considered a conservative figure and a benchmark that must be tested and confirmed.

Current estimated grazing capacity, based on vegetative condition and current management is 1650-1750 AUM's. Actual use data, impact studies, utilization studies, observations, judgment, and past experience will be used in determining proper stocking rates.

Deferred rotation management is expected to improve vegetative condition and carrying capacities.

Appendix IV contains Allotment actual use data since 1943.

F. Existing Range Improvements

Existing range improvements consist of 16 spring developments, approximately five miles of Allotment boundary fence,* and four cattleguards. Improvements are in various states of repair and effectiveness. All range improvements, with the exception of the cattleguards, are maintained by the permittees. A list of the existing range improvements is found in Appendix V.

G. Importance of the Allotment

The Tonata Allotment is used for a variety of services. The three permittees rely on this area for summer range to round out their livestock operations. The area is important from the standpoint of timber production, water production and quality maintenance, and recreation opportunities in the form of sight-seeing, hunting, and outdoor experience. The Allotment is tied socially and economically to Okanogan and Ferry Counties, the State, and the Nation.

Livestock operators using this area are quite stable. Permit transfers are very few and commensurability is not a problem.

*This includes only fence between Forest Allotments. An additional 4+ - miles of fence exists between Forest and private lands.

H. Special Problems and Conditions

Several critical areas are present on this Allotment. A planned deferred system of management and permit administration should encourage improvement of plant vigor and regeneration of plant cover on these sites. However, this system will not substitute completely for good administration and methods of distribution such as salting away from these areas and dispersing animals when they congregate in these locations.

III. MANAGEMENT GOALS

The management objectives for this Allotment are to develop and manage the forage resources as follows:

A. To achieve site stability and maintain productive potential.

1. Increase both plant density and litter cover in the open innerspaces on the used native range areas to prevent sediment discharge.

2. Achieve a distribution of livestock that avoids congregating on key areas, along streams, roads, and cattleguards.

B. To obtain an appropriate mix of output values.

1. Coordinate livestock grazing with potentials and objectives with timber management.

2. Design a system of grazing that will minimize livestock handling requirements.

3. Include wildlife numbers in future stocking levels.

4. Deliver high quality water to the forest boundary.

C. To utilize available forage values after the above prerequisities and constraints have been met. The available forage will be used to maximize AUM's.

D. Basic resource damage, vegetative resource damage, and unauthorized livestock use will not be allowed or tolerated.

IV. ANALYSIS SECTION

A. Site and Use Requirements and Limitations

The management program for this Allotment will take into

consideration the physiological and phenological requirements of plants. An opening date of June 1 should allow for adequate growth of all plants. By this time, development and vigor establishment would be well advanced. All suitable range areas should have a ground cover percentage over 60 percent. Soil disturbance should not exceed 15 to 20 percent. Cattle should not lose weight while in any unit. These requirements can be monitored while making range inspections and impact studies.

B. Management and Development Opportunities

The grazing formula planned for this Allotment is one of planned deferment. A rotating system of deferment is built into the system. Consideration has been given to ease of livestock movement. As it is arranged, only two moves are necessary throughout the season.

Reconstruction of water developments and the development of others and fence construction are opportunities remaining on this Allotment.

C. The exact possible increase or decrease of carrying capacity will be determined by actual use studies associated with impact analysis and general observations over the next several years. At present, the Allotment capacity appears to be about 2,110 AUM's. This figure is considered conservative. The estimated potential capacity would indicate that the Allotment is stocked at between 80 and 90 percent of capacity at this time. Improvement of conditions and increased capacity is expected to occur annually with quality management. With soil and moisture relationships as desirable as they are, potentials are favorable for improved conditions.

D. Relationship with Other Uses and Activities

The environmental analysis report (Appendix VI) for the Allotment describes these relationships.

E. Economic Analysis of Opportunities

Any future improvement requests will be accompanied with an economic analysis. Grazing of livestock on this Allotment is economically justifiable as forage is a resource.

V. ACTION SECTION

A. Management Objectives

1. Implement range management which avoids unacceptable resource damage.

2. Optimize usable forage production and utilization in coordination with other resources.

3. Maximize permittee participation and responsibility in planning and executing the allotment management plan.

B. Allowable Use Criteria

1. Unacceptable resource damage is defined as:

a. 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:

1. Soil Loss - Soil which has entered the stream channel, whether permanent or intermittent or permanently removed by wind.

2. Soil Displacement - Soil which has been redistributed without entering the stream channel or being redistributed by the wind.

3. Soil Compaction.- Is an increase in the bulk density which extends beyond one grazing cycle. (Vertical displacement).

4. Examples of acceptable areas where damage limits may not apply i.e.:
   1. Water developments
   2. Trails
   3. Corrals

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

2. Range readiness based on the soil conditions and growth stage of key plants. See Section H, Evaluation supplementary.

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

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

C. Selected Management Prescription

The management system will be a three-unit, two-year cycle deferred rotation system. The sequence and periods of use are shown in Table 2.

Table 2: Deferred Rotation System

Year	Early	Mid-Season	Late
1	(units) 1	2	3
2	(units) 3	2	1

This system is designed to meet the physiological requirements of plants. One unit is deferred each year until after seed-ripe time.

A summary of units and planned use are shown in Table 3.

Table 3: Summary of Units and Planned Use

	Unit 1	Unit 2	Unit 3	Totals
Gross Acres	5665	6118	4707	16,490
Suitable Acres	5240	5205	4310	14,525
Indicated AUM's	760	730	620	2,110
Planned Cattle	369	369	369	369
Planned Days	49	48	48	145
Planned C M	595	595	594	1,784
Suitable a/AUM	8.81	8.75	7.26	8.14

Range readiness and proper use of key areas will continue to be monitored to determine actual allowable use.

Adjustment in the system will be made as necessary.

D. Proposed Improvements

Properly located internal management fences and cattleguards will be necessary to fully implement a successful deferred rotation management system. Ultimately, all non-restrictive portions of the unit boundaries will have to be fenced to obtain positive livestock control. To meet current range management objectives of obtaining quality management, this should be accomplished as soon as possible. The exact number of miles of fence required is

not known at this time. Four additional cattleguards are needed. Further study needs to be done to determine the ideal locations of the fences and cattleguards. An economic study needs to be done to determine the feasibility of the fencing program. A construction program will be scheduled when these studies are completed. Cattleguards and wing fences will be the first step in the fencing program.

Opportunities still remain for livestock watering facility development and redevelopment. Specifically, Bottle Spring, and Bear Spring are in poor condition and should be redeveloped in 1977 and 1978 respectively. Further water development and redevelopment will be scheduled as opportunities present themselves.

Seeding with adapted forage species to offset and complement the palatability problems of pinegrass is an opportunity present on future timber sales. Coordination with timber management will be necessary to meet the needs of all resources. See Appendix VIII.

E. Correlation with Other Use and Activities

Coordination with timber management is needed within the Allotment to make the system work. This is specifically outlined in the Environmental Analysis Report found in Appendix VI of this plan. All fences, corrals, cabins, and cattleguards, both present and proposed should be studied carefully to make sure they do not conflict with other values and uses.

F. Livestock Management Requirements

1. All permitted cattle must bear a State of Washington registered brand which is one of the brands declared on the permittee's grazing application.

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

3. The number and breed of bulls on the Allotment must conform to the appropriate association rules and/or State statutes governing such matters.

4. It is the responsibility of the permittee 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 Officer in charge. The success of the system depends on the effort and efficiency of the permittees.

5. 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 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 area. 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.

6. Construction and maintenance of Range Improvements as per the 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 superseded as status, needs, or changes warrant.

G. Administrative Action Needed to Implement the Program

1. Use the prescribed system beginning in 1976.
2. Continue grazing follow-up studies.
3. Refine grazing system as changes become necessary.
4. Improve permit administration.
5. Do not allow unauthorized use, take immediate actions when found.

H. Evaluation

1. 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 superseded as supplementary or replacement pages to this section.

2. 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. . . . . Percent use.
   4. Resource Damage. . . . . Basic (soil) and other resource.
   5. Range Improvements . . . Construction & maintenance compliance.

3. 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.

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

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

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

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

Evaluation: June 14, 1976

Range Readiness: Initially indicators and criteria are:

Pinegrass	Caru	4"-6" foliage leaves
Sandberg bluegrass	Pose	Seed heads in dough 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 (each bud) leaves unfolded

Soils fairly dry and firm.

Key Areas: Key areas are not now defined and must be determined by subsequent use and utilization pattern studies. Bluegrass bottoms along Tonata and Goodrich Creeks, and open slopes near State, Box, and Hardscrabble Springs are likely key area locations.

Key Species: Kentucky bluegrass (Poa pratensis) is key on the bluegrass bottoms of Tonata and Goodrich Creeks. Bunchgrasses, bluebunch wheatgrass (Agropyron spicatum) and Idaho fescue (Festuca idahoensis) as well as Kentucky bluegrass (where found) are key on the other areas mentioned.

Key species may vary with different key areas and time of season.

Utilization: Initially utilization is to approximate 50% except on bluegrass bottoms where 70% will be allowed. Further evaluation is needed to determine appropriate utilization standards under the deferred rotation system.

Condition and Trend: Generally, the vegetation and soils on the Allotment are in fair to good condition at this time. However, local areas of continued heavy livestock concentration are in poor condition. Vegetative trend is generally not apparent. Use of the deferred rotation system of management is expected to improve vegetative condition to good or better.

Carrying Capacity: Current estimated grazing capacity is 1650-1750 Animal Unit Months. Potential capacity is conservatively estimated at 2110 AUM's. Recommended stocking levels under the deferred rotation system of management are expected to improve range condition, thus increasing the current estimated grazing capacity.

AREA AND FORAGE PRODUCTION/CONDITION SUMMARY

APPENDIX I

Tonata C&H ALLOTMENT

Colville NATIONAL FOREST Republic RANGER DISTRICT

Compiled Feb. 4, 1976 By BR

ITEM	NATIONAL FOREST LANDS			ALIENATED OWNERSHIP LANDS			ALLOTMENT TOTAL LANDS		
Acres		Acres	%		Acres	%		Acres	
CLOSE		15810	100		680	100		16490	100
(Subject to) CLOSURE									
Unusable or UNSUITABLE		1965	12		--			1965	12
SUITABLE		13845	88		680		100	14525	88
PRIMARY (Transitory) (Trans/Sec)		7045	51		490		72	7535	52
		220	2		--			220	2
SECONDARY		6580	47		190		28	6770	46

VEGETATIVE TYPE	%	ACRES BY FORAGE PRODUCTION/CONDITION CLASS								
		Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
P1 715a	9	10	625	40	--	40	--	10	665	40
P5 100a	1	--	20	--	--	80	--	--	100	--
P6 6720a	87	240	2055	4055	--	40	330	240	205	4385
PT7 220a	3	35	5	180	--	--	--	35	5	180
Subt. 7755a	100									
S6 6770a	100	305	2325	3950	--	85	105	305	2410	4255
SUITABLE 14525a	100	590	5030	8225		245	435	590	5275	8660
	%	4	35	57	--	2	3	4	36	60